

# **Factors in postgraduate supervision that impact on the quality of research at a selected department at a University of Technology**

By

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# DECLARATION

1. I know and understand that plagiarism is using another person's work and pretending it is one's own, which is wrong.
2. This dissertation is my own work.
3. I have appropriately referenced the work of other people I have used.
4. I have not allowed, and will not allow, any one to copy my work with the intention of passing it off as his or her own.

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Signature

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BRONWYN JONES

## **DEDICATION**

To my mum and dad, Sheila and Des Jones

and

To Aunty Dora

For all your love and support and sacrifices.

# ACKNOWLEDGEMENTS

To my supervisor, Dr. Charmaine Korporaal, thank you for a top quality RATER experience. Your supervisory services have been extremely satisfactory!!!!. (excuse the pun) - I have learnt a great deal from you and I am so grateful for your thoughtfulness, kindness, and support. I highly appreciate your valuable contribution to this dissertation and to my professional skills. Thank you.

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## ABSTRACT

Similar to a production line, the development of a dissertation is a process within a research dyad that is affected by many factors. On completion, the customer / student is either satisfied or dissatisfied with the outcome of the research process. However, errors in the dissertation detract from its quality and this may leave students dissatisfied with the overall outcome of the marking and review process. To improve the product, it is critical that factors contributing to the production of a quality dissertation are understood. The aim of this study was to determine which components of the SERVQUAL model (namely, Responsiveness, Assurance, Tangibles, Empathy and Reliability) contributed to a lower quality dissertation, thereby gaining an understanding of, and implementing factors which enable the production of a good quality dissertation which meets all stakeholders' expectations.

This was achieved through a prospective, mixed-methods study which analyzed the quality of 30 dissertations by means of a Checklist, denoting the quality of the dissertations. Thereafter, the 30 students and 30 supervisors involved in these dyads were asked to each complete separate questionnaires. The questions covered their respective demographics, research knowledge, expectations and perceptions of the research process. The data was then descriptively analysed and presented by way of tables to demonstrate the quality of the dissertation, and the characteristics of the students and the supervisors. The Chi-Squared statistics and Fisher's Exact tests were then computed to determine relationships between these characteristics.

It was revealed that significant differences between the students and the supervisors existed regarding: the length of time to completion of their Masters; the roles of facilitators in the research process; student and supervisor role ambiguity; the reason for and need to complete research and specific knowledge of the research process. It was noted that a lack of communication resulted in a significant impact on reliability of the university service, moderate impact on assurance and responsiveness, with the least impact on empathy. In contrast, both the student and the supervisor perceived the tangibles provided by the university as satisfactory. Then, through the process of triangulation, it was shown that the relationship within the dyad lacked clear communication and common understanding of the research processes which was likely to result in a lower quality dissertation.

It is, therefore, recommended that all students and supervisors that enter into a dyadic relationship need to find mechanisms (for example: learning contract, weekly meetings) to

ensure a consistent and common understanding of the research process throughout its development to allow for the effective production of a good quality dissertation.

Keywords: Postgraduate supervision, knowledge, perceptions, SERVQUAL, satisfaction

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# DEFINITION LIST

**Academic writing:**

An expected style of writing required in academia which the researcher is expected to employ when writing postgraduate research (for example: such writing does not include personal pronouns unless qualitative research has been employed). Instead, the researcher is expected to evaluate and analyse the literature through using other literature to counter or confirm findings (Hofstee 2006: 187).

**Accountability:**

The requirement or liability of a person (for example: a manager) to answer for their actions) (The South African Concise Oxford Dictionary 2002: 7).

**Accreditation:**

To give official approval or recognition to something (for example: a course programme), that it has met the requirements for it to be accepted according to a prescribed national or international standard (*The South African Concise Oxford Dictionary* 2002: 7).

**Allied Health Profession of South Africa: (AHPCSA) Chiropractic:**

The Allied Health Professions Council of South Africa is a statutory body which manages and controls the practice of allied health professions in South Africa (for example: Chiropractic and Homeopathy).

**Assurance:** One of the five factors of service quality attributes that reflect the courtesy and knowledge of a service provider and their skill in inspiring confidence and trust in the service / product they provide to the consumer (Berry, Zeithaml and Parasuraman 1985: 44).

**Attribute:** An essential element or feature of a product or a specific characteristic of a product or service that contributes to its quality (Foster 2010: 381).

**Bias:** A predisposition toward thinking in a certain way without objectively considering alternatives (Mouton 2001: 110).

**Blooms taxonomy:**

A model commonly used in teaching to illustrate the different levels of responses to questions that students are expected to achieve at different stages of their schooling (Veeravagu, Muthusamy and Marimuthu 2010: 205).

**Bottom-Up approach:**

According to Neisser's Perception Cycle, the Bottom-Up approach to perception formation addresses the influence of the environment, (for example: a university), that contributes to how people perceive and interact with other people and tasks they undertake (Hayes 1994: 27).

**Chiropractic:**

A health profession specializing in the diagnosis, treatment and prevention of disorders of the musculoskeletal system and the effects of these disorders on the function of the nervous system and general health. (World Federation of Chiropractic 2009).

**Chiropractic Department:**

An academic structure that houses and implements the Chiropractic programme (Faculty of Health Sciences Handbook 2014).

**Chiropractic programme:**

An academic product that is available to students, approved by the AHPCSA, but managed and maintained by the Chiropractic department within the university (Faculty of Health Sciences Handbook 2014).

**Chiropractor:**

A practitioner registered with the Allied Health Profession Council of South Africa (AHPCSA), who has studied for five years in diagnosing musculoskeletal disorders, specifically of the spinal system, and in providing treatment through the use of manual manipulation (for example: their hands) (World Federation of Chiropractic 2009).

**Cognitive / learning styles:**

The way in which people prefer to learn, (for example: through reflecting, theorising, practicing or being actively involved in a situation) (Armstrong 2004: 41).

**Communication:**

Any means by which a person transfers information to another person. Such forms can be through spoken words, facial features (for example: a smile or frown or through actions such as a handshake). For communication to be effective it needs to be in a language or action that the receiver understands and therefore there may be a need for the communicator to adjust their style of communication to suit the receiver so that they are understood. It therefore also means that both parties need to listen to the other (Berry, Zeithaml and Parasuraman 1985: 46).

**Competencies:**

The abilities, skills, or aptitudes of a person to enable them to do their work effectively (Berry, Zeithaml and Parasuraman 1985: 46).

**Construct validity:**

The extent to which a test measures what it asserts to measure. (Brink 2007: 160).

**Consumer:** Anyone who purchases a product or service for a fee (Berry, Zeithaml and Parasuraman 1985: 46). For this study, a consumer also includes a fee-paying student who is receiving an educational service (Danjuma and Rasli 2012: 100).

**Content Validity:**

A questionnaire has content validity if it contains a comprehensive range of relevant questions to cover the topic (Brink 2007: 160).

**Correlations:** A statistical relationship between two data groups in which an erroneous understanding of the term is that one category is the cause for an outcome. However, the true meaning is that one category may be a probable cause but further proof is required, (for example: smoking (may) cause cancer) (Hofstee 2006: 215).

**Coursework Master's:**

A term used to describe a research requirement of a dissertation that forms part of a compulsory requirement of some qualifications (Drennan and Clarke

2009: 484) for example: Chiropractic. A coursework Master's is the final part of a student's programme in which the student has had to complete a number of modules before starting their research (Hofstee 2006: xix; Department of Chiropractic and Somatology 2014).

**Credible / credibility:**

Any action, declaration or publication that is deemed to be reliable and trustworthy (Berry, Zeithaml and Parasuraman 1985: 46).

**Critical thinking:**

The ability of a person, (for example: a postgraduate Chiropractic student) to collect and assimilate primary and secondary data, weight its importance, compare and contrast the results to known outcomes and evaluate their conclusion and act according to the patient's best interest (Krupat *et al.* 2011: 628).

**Declaration of Helsinki Statement:**

A statement developed by the World Medical Association to provide guidance to practitioners against harming their participant during their participation in research (World Medical Association Declaration of Helsinki 2001).

**Degree:** An academic status conferred by a university to their student after they have successfully completed their examinations to complete their qualification (The South African Concise Oxford Dictionary 2002: 306).

**Demographics:**

A statistical term used to categorise differences within a sample group of a given population, (for example: age, ethnic group, language, gender, economic status, highest level of education) (The South African Concise Oxford Dictionary 2002: 309).

**Dissatisfaction:**

A term used by customers to describe their perceived feelings of disappointment with a product or service (Danjuma and Rasli 2012: 98).

**Dissertation: (thesis / research)**

The words dissertation / thesis and research are often used interchangeably to mean a Master's or a Doctorate (PhD) that the student submits to complete their postgraduate degree (Hofstee 2006: xix). According to *The South African Concise Oxford Dictionary* 2002: 336) a dissertation is 'a treatise advancing a new point of view resulting from research: usually a requirement for an advanced academic degree'. For the purposes of this study, the term dissertation or research are used interchangeably.

**Doctorate:** The highest degree awarded by a university (The South African Concise Oxford Dictionary 2002: 341). A doctorate is also referred to as a PhD (Hofstee 2006: xix).

**Empathy:** Thoughtfulness that is shown from one person to another to indicate they understand their feelings (The South African Concise Oxford Dictionary 2002: 378). It is also one of five service quality dimensions that form part of Berry, Zeithaml and Parasuraman's SERVQUAL model for promoting service quality (Berry, Zeithaml and Parasuraman 1985: 44).

**Environment:**

The surroundings in which a person lives or functions (The South African Concise Oxford Dictionary 2002: 386). In the context of this research, the environment is the university in which the student and supervisor function.

**Evidence-based information sources:**

Such information refers to published articles that have been peer-reviewed in contrast to books or discussing information with colleagues (Suter et al. 2007: 112).

**Evidence-based practice / medicine:**

Evidence-based medicine and evidence-based practice, is defined as 'clinical decision making based on sound external research evidence combined with individual clinical expertise and the needs of the individual patient' (Delaney and Fernandez 1999: 114).



**Expectation:**

A person's assumption that a service or product will be delivered according to their prior experience (Lekalakala-Mokgele 2008: 46).

**Face Validity:** Face validity is the simplest type of validity, which is determined by agreement between researchers and those with a vested interest in, (for example, a questionnaire). In the context of this study, a focus group was convened to confirm that on the face of it the questionnaire tool seems valid, unambiguous and easily interpreted by a lay person (Brink 2007: 160).

**Focus group:** A group of people from similar demographics and professions of that of the sample group who have been targeted as the population under study, who have been requested to share their thoughts on the questionnaire development. For example, a focus group was formed in this study to request them to share their views on the original Checklist and Student / Supervisor questions to ensure they represented face and content validity (Foster 2010: 144).

**Gap analysis:**

A measurement process that an organisation uses to compare expected performance against its actual performance to determine what gaps prevent it from meeting their expectations (Foster 2010: 508).

**Government Gazette:**

A state publication, which is a government's method of communicating to the public on all state regulations (for example: the education level descriptors which students must attain before moving to the next level) (The South African Concise Oxford Dictionary 2002: 478).

**Interaction:** A mutual activity between two or more people, in which the process of communicating and responding to the other or other people, has the ability to influence their thoughts, words or actions (Hayes 1994: 37).

**ISO:** The commonly used acronym, to refer to the International Organization for Standards. ISO is a set of guidelines developed to provide organisations with a recognised set of specifications so they have a means of achieving international quality standards (International Organization for Standardization 2014).

**Knowledge:** In the context of this study, knowledge means the cognitive state of comprehending information or having acquired an understanding through personal experience, listening to others and / or practical experience (Pintrich 2002: 225).

**Learning:** A continuous process of acquiring knowledge or skills through personal and social experience, which in part is achieved through attending school, and listening to other people's experiences (Mountford, Jones and Tucker 2006: 128).

**Learning / cognitive styles:**

A learning style is a person's preferred approach to acquiring knowledge. (Mountford, Jones and Tucker 2006: 129).

**Master's degree:**

A form of postgraduate research, the process of which is to train the student to be a researcher and the successful completion of the process indicates that the student has mastered the skill of researching (South Africa 2011).

**Mean:** A statistical figure to indicate the average of a list of numbers (Nerurkar 2008: 692).

**Mini-dissertation:**

A research dissertation, not unlike that of a full Master's, but the depth and scope of information that is necessary for a full Master's is not required. A mini-dissertation is also referred to as a coursework Master's (Republic of South Africa 2011: 82).

**Mixed-method analysis:**

This term describes the researcher's method of combining different types of research designs, (for example: quantitative, such as a questionnaire or qualitative such as interviews to produce a combination of statistical and observed findings) (Mouton 2001: 154). In the context of this study, mixed-methods indicates the researcher's subjective comments when proof-reading the students' dissertations against the Post-Piloted Checklist which has been analysed quantitatively.

**Mode:** A statistical figure to indicate the number most often repeated in a list of numbers (Nerurkar 2008: 692).

**M.Tech:Chiropractic:**

A degree offered by the Chiropractic department which require students to study for a four-year undergraduate period prior to undertaking their Master's to enable them to practice as practitioners (AHPCSA Act 63 of 1982 (as amended 2001)).

**National Qualification Framework (NQF):**

A national set of guidelines and principles on the South African educational system that reflects a unified framework of students' achievements (South Africa Qualifications Authority 2012).

**N.Dip:Chiropractic:**

An entry-level three-year undergraduate Chiropractic degree which is not seen by the AHPCSA as a professional degree allowing the graduate to practise. In other words, it is a non-exit level degree within the vocational training of a Chiropractor (AHPCSA Act 63 of 1982 (as amended 2001)).

**Ordinal data:** Data that is ranked so that one measure is higher than the next, (for example: the continuum of %strongly disagree . disagree . agree . strongly agree+is a four point scale that is ordinal) (Foster 2010: 143).

**Paraphrase:** Rephrasing original text into own words (Referencing Guide - Harvard Referencing Style 2012).

**Perception:** Is the process by which people select, organise and interpret information to form a meaningful picture of their environment (Hayes 1994: 60). For this study, perception refers to an individual's personal assessment of the quality of a service or product based on their expectations that is derived from their personal experiences.

**Perceptual set:**

The state of awareness, based on previous learning that prepares a person to anticipate what to expect so that they can take effective action (Hayes 1994: 37).

**PG4a:** The title of a document that prospective postgraduate students must complete to show their proposed interest in a research topic (Department of Chiropractic and Somatology 2014).

**Pilot Study:** A preliminary study to assess the validity of an intended future study (Mouton 2001: 103).

**Postgraduate research:**

A term used to explain higher degrees such as a Master's or a Doctorate (Republic of South Africa 2011). In the context of this research, postgraduate students' research refers to students who are compiling their Master's.

**Postgraduate student:**

A student who is undertaking a postgraduate degree, that is, either their Master's or their Doctorate (CHE 2010).

**Postgraduate supervision:**

The overseeing of a student's research by a person in a more knowledgeable or experienced position (The South African Concise Oxford Dictionary 2002: 1178).

**Practitioner:** A qualified person who practices their learned profession (The South African Concise Oxford Dictionary 2002: 917) (for example: a Chiropractor).

**Primary data:** The raw material, as in questionnaire answers, used for statistical purposes (Hofstee 2006: 29).

**Product:** A tangible object that is manufactured and normally sold for a profit (Hill 1995: 10). In the context of this research, the product is sometimes referred to the dissertation that is manufactured by the student, their supervisor with the resources supplied by the university.

**Profession:** A specialised group of people who have acquired through their choice of study, specific knowledge, attitudes, working culture and skills, (for example, the Chiropractic profession in which students are trained in the culture of chiropractic) (Keating 1987: 12).

**Professional:**  
A member of a profession, a specialised group of people, (for example: members of the chiropractic profession) (The South African Concise Oxford Dictionary 2002: 931).

**Proof-reader / proof-reading:**  
A person employed to proof documents, that is, check and correct documents for linguistic errors (Hofstee 2006: 197).

**Psychosocial:**  
The inter-relationship of a person's internal thoughts and actions within their social or external environment that influences their behaviour (Hayes 1994: 37).

**Quality:** An attribute given to a product or service to identify its assumed excellence (Foster 2010: 511).

**Qualification:**  
Any degree, diploma or certificate awarded to a student to show they are proficient in a particular subject (Republic of South Africa 2011: 954).

**Quality Assurance:**

Procedures, (for example: ISO from which checklists are written, and implemented by management to improve the quality of their manufacturing systems to improve the functionality of their organisation) (ISO 2014).

**Referencing:** Acknowledgement by a researcher that the sourced information that they have used for compiling their dissertation, for example: articles, books, interviews is not their own (Referencing Guide - Harvard Referencing Style 2012).

**Reliable:** Dependable or trustworthy person or information. This term is also one of the five service quality dimensions that Berry, Zeithaml and Parasuraman (1985: 46) use in their model to test if customers perceive if their service provider, provides a reliable service (Berry, Zeithaml and Parasuraman 1985: 46).

**Reliability:** Dependable or reliable results as in the reliance of measurements in that if the measurements were to be taken again, the same results will be achieved. (Berry, Zeithaml and Parasuraman 1985: 46).

**Research:** Undertaking research indicates that a student is conducting their postgraduate studies (for example: their Master's or Doctorate) (The South African Concise Oxford Dictionary 2002: 993).

**Research culture:**

The behaviours of a group of people that reflect its identity with regards to promoting research, (for example: the behaviours of a university is to promote education), therefore all teaching and resources are geared toward teaching and learning (Cheetham 2007: 2).

**Research process:**

This term means the process that the student undertakes to complete their research, that is: from receiving authorisation after completion of their PG4a to ensuring ethical procedures have been correctly followed, to carrying out their research, to submitting their completed dissertation (Department of Chiropractic and Somatology 2014).

**Responsiveness:**

One of the five service quality dimensions that Berry, Zeithaml and Parasuraman (1985: 46) uses in their model to measure the willingness of the service provider to be helpful and prompt when providing the service (Berry, Zeithaml and Parasuraman 1985: 46).

**Satisfaction:** The positive emotions that are innately generated on perceiving a product or service has met with expectations (Lee 2013: 3).

**Service/s:** The offering of one party to assist, support or help another (Hill 1995: 10). Services are characterised by their difficulty in being measured because of their intangible nature.

**SERVQUAL:** A survey instrument tool developed by Parasuraman, Zeithaml and Berry to assess service quality along five dimensions, namely: reliability, assurance, tangibles, empathy and responsiveness (Parasuraman, Zeithaml and Berry 1985: 44; Foster 2010: 512).

**South African Qualification Authority (SAQA):**

A legal entity responsible for overseeing the development and implementation of the South African education system as espoused by the National Qualifications Framework (South Africa Qualifications Authority 2012).

**Stakeholders:**

Various persons or entities that have an interest or concern in something, (for example: a student has an interest in their university providing them with the best possible service and the government / employer who have an interest in the quality of the education provided by the university for entrants into the workplace) (The South African Concise Oxford Dictionary 2002: 1143).

**Student throughput:**

The nationally published statistical analysis of the number of students who start and finish their studies successfully within the stipulated number of years allocated to that qualification (Council on Higher Education 2010).

**Student:** A learner (The South African Concise Oxford Dictionary 2002: 1165). In terms of this research, a student is defined as a person who is enrolled in postgraduate studies and is in the process of completing their research. In the context of this study, this term is sometimes used interchangeably with the term postgraduate student.

**Supervision:** The act of supervising or overseeing a student's research (The South African Concise Oxford Dictionary 2002: 1178). In the context of this study, this term is sometimes used interchangeably with the term postgraduate supervision.

**Supervisor:** The person who is responsible for overseeing their student's research, from start to completion (Hofstee, 2006 and Mouton, 2001). In the context of this study, this term is sometimes used interchangeably with the term postgraduate supervisor.

**Tangibles:** One of five service quality dimensions that is proposed by Berry, Zeithaml and Parasuraman (1985: 46) and used in their model to measure employees' perceptions of the physical appearance of their staff, and the resources that the organisation is expected to provide (for example: the offices and related desks and chairs, computers and related software).

**Technikon:** A now defunct name that was only used in South Africa to identify a higher education learning service that offered students vocational studies (for example: bookkeeping), as opposed to universities in which students are taught the theory behind their vocation (Winberg 2005: 190).

**Thesis: (dissertation):**

An explanation or interpretation of a topic through research, to put forward new findings that are requirements for postgraduate degrees. The term thesis is more commonly used by PhD students who are undertaking their doctorate (Hofstee 2006: xix).

**Top-Down approach / theory:**

A term used in explaining perception to indicate how demographic characteristics (for example: age, culture, language, and education contribute to a person's way of perceiving others and their environment) (Hayes 1994: 37).



**Triangulation:**

The analysis of multiple sources of information to arrive at a conclusion. This use of a variety of tools reduces the intrinsic bias or weakness that may stem from the use of one tool or research method. Therefore, triangulation provides a multi-dimension perception of the problem under investigation (Martin and Fleming 2010: 797).

**Undergraduate:**

A university student who is studying toward their first degree (Higher Education in Context 2013).

**University:** A learning institution that houses a number of faculties and departments that is created to offer tertiary education to students that is underscored by theory. Universities also have the authority to award all degrees, specifically postgraduate degrees, (for example: a Master's or PhD) (The South African Concise Oxford Dictionary 2002: 1285).

**University of Technology (UoT):**

A learning institution that offers a more technological or vocational learning opportunity than traditional universities enabling students to obtain a practical and career focused degree (du Pre 2010: 36).

**Validity:** The rigour of an instrument / tool (for example: questions in a questionnaire) to measure what it is supposed to measure. It indicates whether the findings are really about what they should be about so that accurate generalisations can be made. There are five different methods of confirming that an instrument is valid, through measuring content, construct, concurrent, criterion, and face validity (Brink 2007: 162; Hicks 2009: 45).

## ACRONYM LIST

AHPCSA	Allied Health Professions Council of South Africa
APA	American Psychological Association
BA	Bachelor of Arts
BSc	Bachelor of Science
B.Tech	Bachelor of Technology
CASA	Chiropractic Association of South Africa
CHE	Council for Higher Education
CV	Curriculum Vitae
DRC	Departmental Research Committee
DUT	Durban University of Technology
FRC	Faculty Research Committee
IREC	Institutional Research Ethics Committee
ISO	International Organization for Standardization
MeSH	Medical Subject Headings
M.Tech:Chiropractic	Master's in Chiropractic
N.Dip:Chiropractic	National Diploma in Chiropractic
NQF	National Qualification Framework
PhD	Doctorate
RATER	responsiveness, assurance, tangibles, empathy, reliability
SA	South Africa
SAQA	South African Qualification Authority
SPSS	Statistical Package for Social Science
TENS	Transcutaneous Electrical Nerve Stimulation
UK	United Kingdom
UoT	University of Technology
USA	United States of America
WFC	World Federation of Chiropractic

# CHAPTER ONE

## INTRODUCTION

### 1.1 Introduction

Research, an inherent component of postgraduate university degrees (namely, Master's or Doctorate), is undertaken by postgraduate students with the compulsory involvement of a supervisor (Mouton 2001: 8; Lessing and Lessing 2004: 73; Hofstee 2006: xix; Council on Higher Education (CHE) 2009: 15; Mutula 2011: 184). A supervisor's involvement in postgraduate supervision refers to their acceptance of a student's invitation to help them achieve a recognised postgraduate degree (Toncich 2000: 66; Mouton 2001: 8; Lessing and Lessing 2004: 74; Hofstee 2006: 65; Lekalakala-Mokgele 2008: 45; CHE: 15; Drennan and Clarke 2009: 485; Mutula 2011: 4).

Postgraduate students undertake research, initially as their Master's and thereafter, if further study is required, their Doctorate, after having completed an undergraduate degree (discipline related Honours or Bachelor of Technology (B.Tech) degree) (Mutula 2011: 184; Hoffman and Julie 2012: 2). Students' motivational factors for postgraduate research may be diverse, such as: to further an interest in a particular topic; to gain greater personal and business recognition (Ismail, Abiddin and Hassan 2011: 78; Mutula 2011: 185); or, as in the context of this study, as a compulsory requirement for all Chiropractic students who have completed their Bachelor of Technology (B.Tech) in Chiropractic and are wishing to practise as a Chiropractor.

A local university in South Africa offers students the opportunity to study for their postgraduate research in a variety of disciplines (Central Applications Office 2013). In particular, for all students studying toward their Chiropractic degree, of which a Master's is a compulsory and mandatory requirement, for all final year Chiropractic students to successfully complete in order to achieve their degree (Myburgh and Mouton 2007: 212). Without their Master's in Chiropractic, these students are unable to register legally as practitioners of the chiropractic profession with their statutory regulator, the AHPCSA (AHPCSA Act 63 of 1982 (as amended 2001)).

Chiropractic is an Allied Health Profession in which their practitioners believe that a patient's symptoms of dysfunction are a result of their musculoskeletal and nervous system working in disharmony and either system overcompensating for an injury sustained through sport,

accidents, repetitive movements, poor posture (as a result of incorrect sitting and standing positions) and / or stress (Myburgh and Mouton 2007: 212). Chiropractors gain their medical knowledge over five years of study to enable them to diagnose the reason why their patient may be suffering dysfunction. However, in contrast to medical doctors, they do not prescribe medication (Chapman-Smith 2000: 2). Instead, they use non-invasive treatment methods such as manipulation by hand / device, or modalities such as Transcutaneous Electrical Nerve Stimulation (TENS) to restore the musculoskeletal and nervous system to normal function (AHPCSA Act 63 of 1982 (as amended 2001). In addition, chiropractors record their patients' full medical and psychological profile enabling them to offer comprehensive lifestyle advice in order to assist with health promotion and disease prevention (Murphy 2008: 3-6). They also have the authority to refer their patients to medical doctors, if they believe further investigation, surgery or medication is required (World Federation of Chiropractic 2009; Chiropractic Association of South Africa 2014).

Chiropractic has only been licensed under a statutory body since 1982 (South Africa) because of previous concerns that it was a hocus-pocus health profession (Keating 1987: 13; Chapman-Smith 2000: 2; Myburgh and Mouton 2007: 207). Legal battles to recognise the value of its interventions ensued, which resulted in the profession being acknowledged as a validated form of health care (Myburgh and Mouton 2007: 207; Murphy 2008: 7; Triano 2009: 87; Weber and He 2010: 39). To promote its legitimacy, a Master's was introduced to the Chiropractic curriculum as research enhances the credibility of interventions; supports the validity of a profession, and improves patient care (Keating 1987: 13; Suter *et al.* 2007: 110-112; Murphy 2008: 7; Weber and He 2010: 39; Brunarski 2011: 22). So, in 1989, a former Technikon (now known as a University of Technology (UoT)) opened its doors to students wishing to study chiropractic for the first time (Brantingham and Snyder 1999: 55; Till and Till 2000: 132; Myburgh and Mouton 2007: 207).

In the Chiropractic Department, the research component is referred to as a mini-dissertation or a coursework Master's (Department of Chiropractic and Somatology 2014: 17; Republic of South Africa 2011: 82). This research component forms 50% of a chiropractic student's degree (Department of Chiropractic and Somatology 2014: 82), with the remaining 50% achieved from theoretical and practical examinations (Department of Chiropractic and Somatology 2014: 82). The quality required of a mini-dissertation is similar to that of a full research Master's, in that the student has to show competence in their ability to follow and apply the principles of scholarly investigation to produce a dissertation that exhibits the attributes of research (Phillips and Pugh 2000: 53; Toncich 2000: S2; Mouton 2001: 5; Hofstee 2006: xix; Brink 2007: 192; Van Aswegen 2007: 1143; Johnson and Green 2009: 1).

However, the degree of complexity of a mini-dissertation is not expected to be at the same level as that of a full research Master's or a Doctorate (Toncich 2000: S2; Mouton 2001: 5; Lessing and Lessing 2004: 73; Hofstee 2006: xix; Wisker, Robinson and Shacham 2007: 302; Anderson, Day and McLaughlin 2008: 33; Drennan and Clarke 2009: 495).

The hallmark of good quality research is a dissertation that a student produces to outline and apply the principles of research and to highlight the attributes expected thereof (Kiley and Mullins 2005: 246). This indicates that the student has understood and mastered the appropriate concepts of research (Anderson, Day and McLaughlin 2008: 34). The cornerstone of a dissertation includes the research problem (Hofstee 2006: 3; Brink 2007: 192), or statement around which the review of the literature unfolds to answer the problem, so that new knowledge is identified (Hofstee 2006: 3; Brink 2007: 192). The principles of answering the research problem are required to follow prescribed criteria and include: structuring the document correctly; describing a logical account of the research process; clearly outlining the measurement tools, statistical methodology and design used to answer the research question using the correct technical specifications. These principles also include evidence in the form of a Literature Review against which the findings from the Research Methodology are argued and critically analysed in the Discussion; awareness of all the ethical criteria (namely, plagiarism; informed consent; confidentiality and anonymity) and use of correct academic English to present a well-written, concise, yet comprehensive and systematic dissertation. [(Toncich 2000: s3; Mouton 2001; Lessing and Lessing 2004: 74; Hofstee 2006: 21; Drennan and Clarke 2009: 495; Johnson and Green 2009: 1; Republic of South Africa 2011: 82; Wilson 2014: 89)].

In contrast, a low quality dissertation indicates that a student has not followed the prescribed criteria: that they have not included a comprehensive literature review against which to argue or critically discuss their findings; they have not included the services of a statistician to scientifically validate their results; or had their writing proof-read and edited to eliminate syntax errors (Lessing and Schulze 2003: 160; Hofstee 2006: 197). A low quality dissertation may also indicate that their supervisor was perceived to be unhelpful or that conflict occurred due to mismatched roles or a misunderstanding of each other's responsibilities in the research process or that each other's expectations were not met (Lessing and Lessing 2004: 74; Hofstee 2006: 66; Drennan and Clarke 2009: 495; Murphy 2010: 297; Ismail, Abiddin and Hassan 2011: 79).

Although some students, under the guidance of their supervisors, have followed the principles of dissertation writing and have received a good or even an exceptional (cum

laude) pass; recent concerns over other students' low quality research have been articulated by Korporaal, interviewed 10 January 2010, (the Vice President of the Chiropractic Association of South Africa and the then Head of Department for Chiropractic at this particular UoT, South Africa). These concerns were raised because it may indicate that students have not grasped the concept of research writing and the probable negative impact that poor research skills would have on their professional development as a chiropractor (Keating 1987: 13; Nyiendo, Haas and Hondras 1997: 186) and Korporaal (interviewed 10 January 2010). In addition, findings from previous studies have indicated that students' and supervisors' differing perceptions of each other and of their university's research culture may cause feelings of dissatisfaction with each other's services and those provided by their university (Phillips and Pugh 2000: 53; Lessing and Schulze 2003: 160; Armstrong, Allinson and Hayes 2004: 41; Mackinnon 2004; Malfroy 2005: 165; McAlpine and Norton 2006: 4; Cheon *et al.* 2009: 61; Manathunga 2009: 342; Nulty, Kiley and Meyers 2009: 694; Danjuma and Rasli 2012: 96).

Should such dissatisfaction result in or from research that is of low quality, the impact is significant as the student and their supervisor may persuade others not to enrol in postgraduate research (Drennan and Clarke 2009: 495; Al-Alak and Alnaser 2012: 162). The consequence of low quality research submissions may see research subsidies being withdrawn, fewer students enrolling and qualifying as chiropractors and the diminishment of the status to which this particular UoT aspires as a research university (du Pré 2010: 13).

Dissatisfaction may also result from the student and their supervisor perceiving each other differently leading to conflict of expectations (Mouton 2001: 17; Lessing and Schulze 2002: 60; McCormack 2004: 234; Lovitts 2005: 137; Malfroy 2005: 166; Hofstee 2006: 69; Manathunga 2007: 225; Lekalakala-Mokgele 2008: 46-49; Drennan and Clarke 2009: 485). For example, the student may perceive that their supervisor did not, as they expected:

- provide useful feedback on their draft dissertation; listen to their concerns; offer advice on the correct methodology to use to answer the research problem; give guidance as to how to do research; respond quickly to queries; understand their questions or ask questions; check their correct use of referencing methodology; confirm plagiarism has not occurred, offer guidelines for completion times,

or was not:

- experienced; knowledgeable; astute to difficulties; available for pop-in meetings; reliable and attentive to their needs.

Similarly, the supervisor may perceive that their student did not, as they expected (Phillips and Pugh 2000: 53; Mouton 2001: 21; Lessing and Schulze 2003: 160; Lessing and Lessing 2004: 78; McCormack 2004: 234; Malfroy 2005: 166; Anderson, Day and McLaughlin 2006: 157; Hofstee 2006: 68; Lekalakala-Mokgele 2008: 46-48; Tobbell, O'Donnell and Zammit 2010: 263):

- make appointments to see them; hand in a reasonably well-written draft for correction; listen to their advice; follow their guidance; work autonomously; ask questions; read previous dissertations and guidelines on research expectations; thoroughly investigate the literature surrounding their topic; use correct English syntax; use correct methodology; employ the services of a recommended statistician or proof-reader; check their referencing method is correct; confirm that plagiarism has not occurred; allocate enough time for such a vital part of their qualification,

or was not:

- working to their potential; capable of research writing; aware of possible research biases.

The students' and their supervisors' dissatisfaction, may however also, arise from or extend to their university, that may not have, as had been expected, provided the facilities conducive to a research culture (Harvey and Green 1993: 1; Flanagan 2002: 73; Lessing and Lessing 2004: 74; McCormack 2004: 234; Suter *et al.* 2007: 110; Lekalakala-Mokgele 2008: 46; Drennan and Clarke 2009: 496; Brink 2010: 144; Ismail, Abiddin and Hassan 2011: 78; Mutula 2011: 186; Danjuma and Rasli 2012: 96;100), such as:

- a single department specialising and prioritising research, that would be responsible for issuing research guidelines; offering advice on financial assistance, and benefits such as the issue of laptops; memory sticks; names of recommended statisticians and proof-readers; as well as offering language literacy support;
- establishing a postgraduate library service, in which trained librarians focus on helping research students search for books and on-line articles, guidance with referencing methods and help with software specific to research such as EndNote and Turnitin;
- storing previously examined dissertations; installing an inter-library loan practice; restricting loan time for popular resources;
- making space available for research students to use as a postgraduate common room, in which computers, Internet, and printers are installed;
- ensuring printing and photocopying of academic text remains at a low cost;
- promoting an on-line or face-to-face peer support group;

- purchasing the rights for students to access local and international journals on-line;
- ensuring supervisors have sufficient knowledge and skills to undertake their role as a supervisor;
- developing training workshops on supervision skills and establishing a forum time for supervisors to meet to discuss problems related to supervision;
- issuing a guideline / handbook on research expectations and policies concerning plagiarism and ethical procedures and
- promoting research through the various faculties and departments.

Dissatisfaction is usually a result of the perceptual differences students and supervisors develop relative to their research interactions in relation to their expectations which colour the way they perceive each other, their university and ultimately the research process (McCormack 2004: 319). These expectations of each other are influenced by their individual perceptions derived from demographic and psychosocial factors which underpin and shape their personal belief system in their environment and the way in which they interact in it (Mackinnon 2004: 395; Foster 2010: 3; North, Zewotir and Murray 2011: 1417). Behavioural researchers have proposed that the way in which people perceive each other and their environment highlights the uniqueness of each person (Hayes 1994: 27-63; Pearson and Brew 2002: 140; Pillay 2002: 95; Wisker, Robinson and Shacham 2007: 304; Danjuma and Rasli 2012: 98). They also identify how a student and their supervisor may experience the reality of the research process and their personal interaction with each other differently (McCormack 2004: 332; Dann 2008: 338).

In the service marketing sector of commercial services, Parasuraman, Zeithaml and Berry (1985: 44), referred to these perceptual differences as gaps that reflect the differences between a service provider and their customers' expectations and perceptions. These gaps, they asserted, reflect their level of dissatisfaction / satisfaction of an interaction and thus their perception of a low quality of service. To understand the reason for these gaps, they introduced the SERVQUAL model and identified five relationship factors of a service that they believed influenced a service provider and their customers' perceptions of each other. They referred to these factors by the acronym of RATER . responsiveness, assurance, tangibles, empathy and reliability (Parasuraman, Zeithaml and Berry 1985: 44). RATER factors have been more widely used in commercial services as a factor analysis to identify relationship factors that could be causing gaps between perceived and expected service quality (Angell, Heffernan and Megicks 2008: 237; Stodnick and Rogers 2008: 115; Gallifa and Batalle 2010: 160; Shekarchizadeh, Rasli and Hon-Tat 2011: 67). In addition, Darlaston



Jones *et al.* (2003) successfully applied the Parasuraman, Zeithaml and Berry (1994a: 44) model to a selected group of high school / undergraduate and postgraduate students to identify factors that may impact on group or dyadic relationships.

Therefore, this study aimed to identify and measure if the RATER relationship factors influenced students as well as their supervisors' feelings of satisfaction and dissatisfaction with their perceived experience of the research process and how these factors may have had an impact on the quality of a student's postgraduate research.

## **1.2 Research Aim and Objectives**

The aim of this study was to investigate factors in the student and supervisor relationship that impact on the quality of student's research.

The First Objective was to develop a Checklist of Research Requirements, to provide a quality measurement tool.

The Second Objective was to profile, by means of a questionnaire, the students at the Chiropractic Department with respect to:

- Demographics;
- Previous research experience;
- Knowledge of the research process (requirements, roles, and interaction);
- Perception of the research process and
- Expectations of the research process (requirements, roles, and interaction).

The Third Objective was to profile, by means of a similar questionnaire, the supervisors at the Chiropractic Department with respect to:

- Demographics;
- Previous research experience;
- Previous supervision experience;
- Knowledge of the research process (requirements, roles, and interaction);
- Perception of the research process and
- Expectations of the research process (requirements, roles, and interaction).

The Fourth Objective was to compare knowledge, expectation and perceptual differences of students and their supervisors.

The Fifth Objective was to determine associations between the outcomes of the Fourth Objective and the quality of the research (as measured against the Checklist of Research Requirements derived from Objective One).

### **1.3 Rationale and benefits of this study**

Claude Watkins (circa 1901/2-1977), the father of chiropractic research, advocated that all chiropractic students should engage in research to refute claims that the profession is based on intuition (Keating 1987: 13). The Chiropractic Association of South Africa (CASA) took up this challenge and now postgraduate research in chiropractic is a compulsory requirement for all South African postgraduate students to complete before they receive their licence to practise (Myburgh and Mouton 2007: 207; Chiropractic Association of South Africa 2014). However, not all students submit quality research, which may contribute to other professions' perceptions that Chiropractic research lacks validity and credibility (Keating 1987: 13; Myburgh and Mouton 2007: 2007). This knowledge is of great concern to CASA who have strived to improve Chiropractic's image within the Allied Health Professions domain (CASA 2014). The problem is further complicated through literature findings that the reason for such poor submissions may be as a result of dissatisfaction between the student and their supervisor and / or their relationships within their university environment (Anderson, Day and McLaughlin 2008: 34; Cheon *et al.* 2009: 61).

Such dissatisfaction is understood to reflect relationship factors that may be detrimental to the research process (Lessing and Lessing 2004: 73). In contrast, students' and supervisors' feelings of satisfaction with each other and the research process often result in quality research (Beecham 2009: 138). Therefore, this research attempted to clarify which relationship factors are important to students and supervisors so that quality research may be achieved consistently.

Another reason for this research is that as a fledgling UoT, this particular university has resource, developmental and human resource challenges, even though it strives to produce quality research (du Pré 2010: 13). Furthermore, universities focus on quality research outputs to achieve recognition through a published university ranking system (Danjuma and Rasli 2012: 100). On this basis, financial subsidies are granted to universities (Garvin 1987: 107; Harvey and Green 1993: 1; Lekalakala-Mokgele 2008: 45; Stodnick and Rogers 2008: 115; Beecham 2009: 139; Brink 2010: 139). In turn, the greater the outputs, the greater the government funding (Lessing and Lessing 2004: 74; Angell, Heffernan and Megicks 2008:

237; Danjuma and Rasli 2012: 99), which may attract more students and in so doing further increase research output (Garvin 1987: 109; Toncich 2000: 54; Lessing and Schulze 2002: 162; Manathunga 2007: 212; Gallifa and Batalle 2010: 157; North, Zewotir and Murray 2011: 1416; Danjuma and Rasli 2012: 100). This bestows the specific university with greater recognition as a university that produces quality research (Lessing and Schulze 2003: 160; Gallifa and Batalle 2010: 156). Factors surrounding quality issues in research have, therefore, become extremely important to universities to promote accountability; quality assurance; university rankings and student throughput (Nyiendo, Haas and Hondras 1997: 186; Brink 2007: 139; Engebretson *et al.* 2008: 4; Lekalakala-Mokgele 2008: 45; Stodnick and Rogers 2008: 115; Iacovidou, Gibbs and Zopiatis 2009: 161; Meseke, Nafziger and Meseke 2010: 19; North, Zewotir and Murray 2011: 1416). Therefore, with this UoT aspiring to achieve these university outcomes, it behoves it to consider the factors that promote quality research (du Pré 2010: 13).

Similarly, Donaldson and McNicholas (2004: 349) point out that students will look for evidence of service quality before enrolling with a university and, therefore, it is in the university's best interest to measure the quality of service they provide so to attract more students, especially postgraduate students who attract higher funding. (Department of Education 2003; Moore and Bowden-Everson 2012: 68). However, previous studies have found that postgraduate students are often not prepared for the research process (Lovitts 2008: 298) and that their perceptions are seldom recorded (McAlpine and Norton 2006: 4; Moore and Bowden-Everson 2012: 66). Therefore, this study gave Chiropractic students the opportunity to voice their perceptions of the research process. This latter assertion is important as according to Drennan (2008: 488), there is a paucity of knowledge surrounding coursework Masters postgraduate students' research journey (which is a compulsory and mandatory component of the Chiropractic degree), and therefore, this knowledge may promote a greater insight into their experiences and how they perceive the supervisory process.

In addition and in the context of the Chiropractic Department, quality research is vital for the continuing progress of the profession so that patients continue to receive the best possible evidence-based care, which in turn informs future health care policy decisions (Nyiendo, Haas and Hondras 1997: 186; Sawyer *et al.* 1997: 169; Haas, Bronfort and Evans 2006: 695; Brink 2007: 13; Brunarski 2011: 22).

Research data gathered from the students and supervisors provided valuable insights into each other's styles of communication, behaviour and attitudes. This has enabled understanding and development of their dyadic relationship in the context of this research.

The benefits of the study were to ascertain Chiropractic students and supervisors perceptual factors that may facilitate or detract from students achieving quality research (Mouton 2001: xii; Hawk, Cambron and Pahmeyer 2008: 301; Gallifa and Batalle 2010: 157). Another benefit was to gain an insight into the possible contributing factors, such as the students' and supervisors' innate characteristics and psychosocial factors that may impinge on their perceptions (Lessing and Lessing 2004: 82-84; Kiley and Mullins 2005: 246; Nulty, Kiley and Meyers 2009: 695-698; Gallifa and Batalle 2010: 157; North, Zewotir and Murray 2011: 1424-1427). The sum of these results would be of benefit to the Chiropractic Department so that they would be able to identify students and supervisors who may be at risk of misunderstanding each other and thereby increasing the risk of the student potentially submitting low quality research and damaging the department and university's reputation (Gallifa and Batalle 2010: 157). Another benefit would be to identify the need for additional supervisor training or for offering peer support / workshops to students (Lessing and Lessing 2004: 81). These demographic and psychosocial factors could, therefore, be addressed in order to alter perceptual differences so that the quality of research can be continually improved and the department's and university's reputation promoted (Stodnick and Rogers 2008: 115; Gallifa and Batalle 2010: 158).

Added to this, the Chiropractic profession would benefit because quality research would promote a more thorough understanding of the evidenced-based treatments offered by chiropractors (Nyiendo, Haas and Hondras 1997: 186; Mrozek *et al.* 2006: 770; Weber and He 2010: 39).

Therefore, by conducting this study, the hope was to identify the differences between Chiropractic students' and supervisors' perceptions and expectations that may represent gaps in their postgraduate supervision relationship (Lessing and Schulze 2003: 74). This analysis could provide data for addressing these gaps and by doing so provide findings for further research in relationship factors attributing to quality research.

## 1.4 Limitations of the study

1. This study was limited to the dyadic relationship between Chiropractic students and their supervisors who had compiled their research within the context of a UoT postgraduate environment. Therefore, the results of this study may not be generalised to other contexts and universities or to full Master's degrees (Al-Alak and Alnaser 2012: 130).
2. As participation was voluntary for the student and their supervisor, their participation in completing the questionnaire may indicate bias toward improving the supervision process and the quality of research (Weber and He 2010: 40). If all students and supervisors were required to complete the questionnaire, the results may have been different (Weber and He 2010: 40).
3. As this study represents students and their supervisors from one department out of six Universities of Technology, it may not be possible to generalise results across departments or to national or international Chiropractic Departments (Brink 2007: 193).
4. As this is a small-scale study during the 2011 / 2013 year, the results may not be generalised to the entire profession or other professions (Weber and He 2010: 40).
5. Although the questionnaire was subjected to a Focus and Pilot Group to restrict misunderstandings with interpreting the questions, it cannot be assumed that all participants interpreted the questions equally (Weber and He 2010: 40). However, it was assumed that all participants answered the questions honestly, according to their perceived reality (Brink 2007: 31).
6. As the researcher is a current student as well as registered with the Postgraduate Research Department as a proof-reader, it must be considered that a degree of bias may unknowingly be portrayed in this dissertation (Brink 2007: 126; Myburgh and Mouton 2007: 213), although all measures were put in place to limit any possible bias (namely, Focus Group and Pilot Group discussions).

As a result of the above limitations, the outcomes of this study define a specific group of people, which may limit the ability to extrapolate the findings to other settings, but they validate the context, i.e. the students and supervisors knowledge, perceptions and expectations of each other within a specific department at a UoT.

## **1.5 Outline of Chapters**

Chapter One provided an outline as to the literature as well as the rationale, aims and objectives to this study. Chapter Two discusses literature surrounding knowledge, perceptions, expectations and satisfaction in the context of the research process. This is followed by Chapter Three, which describes quantitative, cross-sectional, mixed-method research methodology that was employed in this study. The results and discussion are highlighted in Chapter Four. The conclusion and recommendations follow in Chapter Five.

# CHAPTER TWO

## LITERATURE REVIEW

### 2.1 Introduction

The primary factor for poor quality research is unfulfilled student and supervisor expectations of each other and that of their university environment (Armstrong, Allinson and Hayes 2004: 42; Lessing and Lessing 2004: 74; McCormack 2004: 320; Kiley and Mullins 2005: 247; Lekalakala-Mokgele 2008: 44). The reason is that the student and supervisor come into their supervisory relationship with often unknown, unrealistic, and / or non-standardised expectations (Lessing and Schulze 2003: 164; Malfroy 2005: 165; Lekalakala-Mokgele 2008: 45; Cheon *et al.* 2009: 53). If these expectations remain unclear, dissatisfaction and conflict often result (Malfroy 2005: 165; Cheon *et al.* 2009: 56). These feelings of dissatisfaction are often the consequences of the student or supervisor perceiving a situation differently and which has not matched their respective expectations (McCormack 2004: 321; Lekalakala-Mokgele 2008: 45; Danjuma and Rasli 2012: 98). These differences create a negative knock-on effect on the quality of the students' research because unresolved issues detract from people working to their full potential (Lekalakala-Mokgele 2008: 49).

Brink (2007: 2) proposes that research is the lifeblood of all professions, because quality research promotes the validity and credibility of their interventions. Therefore, it is important to investigate reasons for student and supervisor dissatisfaction (as well as reasons for their satisfaction), as such factors have an impact on the quality of research (McCormack 2004: 321; Cheon *et al.* 2009: 53). This study therefore focused on postgraduate supervisory relationships to investigate what factors have an impact on the quality of postgraduate students' research; specifically that of Chiropractic students' research at a specific University of Technology.

### 2.2 The impact of satisfying students

Satisfaction, defines a person's emotional perception of a product or service that generates positive feelings (Beecham 2009: 138; Sumaedi, Bakti and Metasari 2011: 90; Danjuma and Rasli 2012: 101). It is also a term that relationship-marketing analysts use regularly to explain that their customers return because they have satisfied their expectations (Berry,

Zeithaml and Parasuraman 1985: 47; Bowden and D'Alessandro 2011: 36; Danjuma and Rasli 2012: 98; Moore and Bowden-Everson 2012: 68; Lee 2013: 1).

Educational researchers also highlight the importance of satisfying students' expectations because numerous studies indicate that satisfied students remain at their university (Lessing and Lessing 2004: 73; McCormack 2004: 332; Tan and Kek 2004: 17; Stodnick and Rogers 2008: 118). As such, these studies have shown that satisfied customers and satisfied students share many similarities in what they want from a service organisation (McPhail and Erwee 2000: 81; Angell, Heffernan and Megicks 2008: 88; Dann 2008: 337; Stodnick and Rogers 2008: 118; Bowden and D'Alessandro 2011: 37; Sumaedi, Bakti and Metasari 2011: 90; Danjuma and Rasli 2012: 96; Moore and Bowden-Everson 2012: 66).

The importance of satisfying expectations was highlighted in a study undertaken by Garvin (1987: 103) who showed that, like satisfied customers who will often return to the organisation to repurchase; satisfied students are also more likely to remain at their chosen university to further their studies (Beecham 2009: 138; Danjuma and Rasli 2012: 97; Moore and Bowden-Everson 2012: 68). Similarly, like business customers, the way students perceive their university service has a profound effect on the financial well-being of the organisation (Bowden and D'Alessandro 2011: 36; Danjuma and Rasli 2012: 101). This is because student and business customers base their choice of returning, recommending or opposing others from doing business with that particular service industry on their positive or negative perception of the service they received (Bowden and D'Alessandro 2011: 36). In addition, like satisfied customers, students also translate their satisfaction through positive word-of-mouth (Al-Alak and Alnaser 2012: 2; Danjuma and Rasli 2012: 100; Moore and Bowden-Everson 2012: 66). Such recommendations have a positive impact on the organisation's reputation, status and ranking and greater financial standing from incoming sales / fees (Danjuma and Rasli 2012: 100). Hence, students are often referred to as customers of their university because like business customers (Toncich 2000: 23; Lessing and Schulze 2002: 162), students in exchange for a fee, purchase a service, an educational service in which they hold various expectations that the service would satisfy their needs (Gallifa and Batalle 2010: 161).

For this reason, satisfied customers / students provide evidence to organisations which reflect that they have delivered the expected quality product or service (Harvey and Green 1993: 2). An added benefit to the university is that students, who complete their research, promote the university's throughput rate (North, Zewotir and Murray 2011: 1416; Hoffman and Julie 2012: 2). Throughput is the nationally published statistical analysis of the number



of students who start and finish their studies successfully. This number is also translated into financial gain as the university receives government funding on all successful dissertations and society gains from qualified students who have learnt the necessary skills to add knowledge in their respective careers (North, Zewotir and Murray 2011: 1416).

In the context of a university environment, the Ives and Rowley (2005: 552) study showed that students who are satisfied with the university services and their relationship with their supervisors, progress successfully with their research without too many misunderstandings. Similarly, McCormack (2004: 319) highlighted that students who are satisfied with their supervisory relationship perceive that it positively influenced their progress toward successfully completing their research. Recently, Letcher and Neves (2010: 2) reported that psychologists have found that satisfied students are more self-confident and self-confident students are able to build on skills and learn more easily than dissatisfied students who are more likely to submit poor quality work.

Therefore, the importance of satisfying their students' expectations are factors that need to be considered by a university because it has a positive impact on their reputation and status (Danjuma and Rasli 2012: 96). This is because their students' success is evidence that they have matched their expectations (Harvey and Green 1993: 2). In addition, students may progress with their studies because their university has instilled an interest in studying (Straus and Sackett 2012: 367). Their interest is often translated into better job opportunities and financial well-being for the student which promotes the country's economy; as well as increased financial gain and ranking for the university (Al-Alak and Alnaser 2012: 2). Furthermore, satisfied students encourage and motivate their supervisors to continuously improve the quality of their service and thereby the quality of research produced at the university (Straus and Sackett 2012: 367).

### **2.3 The impact of dissatisfying students**

In contrast to the term satisfaction, the term dissatisfaction is a word used by customers to describe their negative feelings that they are disappointed with a product or service (Danjuma and Rasli 2012: 98). Foster (2010: 129) identified that in business, dissatisfied customers are more likely to advise four times more people of their poor experience than if they had received a good service.

In the context of a university environment, dissatisfaction arises when students and their supervisors perceive each other and the service that their university may offer differently to what they expect of each other (McCormack 2004: 320). If such dissatisfaction remains

unresolved, for example: unavailability of the supervisor or student, the supervisor's / student's lack of commitment or one or other parties' lack of understanding of the other (Mutula 2011: 187; Pilcher 2011: 34), the consequences may have a negative spiral effect in that:

- students may not continue with their research, which negatively affects the university's throughput rate (Moore and Bowden-Everson 2012: 66);
- students may discourage others from enrolling at the university which reduces the number of registered students during the following academic year (Bowden and D'Alessandro 2011: 36);
- the university receives less subsidies (Lessing and Lessing 2004: 73; De Villiers and Steyn 2009: 1) which may increase the fees the following year (Shah 2009: 135);
- fewer students continue with their studies, especially if service remains poor and fees increase (Shah 2009: 135);
- more students continue to discourage others from enrolling which further reduces the number of students who enrol for the next academic year, further increasing fees to sustain the staff's salaries and facilities (De Villiers and Steyn 2009: 15);
- staff leave the university because of poor salaries and poor academic culture (De Villiers and Steyn 2009: 14);
- therefore, less experienced staff may then be employed to fill vacancies which may add to greater student dissatisfaction because less experienced staff are unable to fulfil students' needs; and
- the university receives a poor reputation and with a lower throughput rate, their status and ranking are reduced which again impacts on the university's ability to attract good staff, which in turn reduces student enrolment, and increases fees (Danjuma and Rasli 2012: 98; Moore and Bowden-Everson 2012: 66).

The totality of such a negative spiral creates a less competitive and culturally enriched environment in which students and staff can optimally function (Al-Alak and Alnaser 2012: 5). Therefore, an underlying tenet to a successful university is meeting their newly enrolled postgraduate students' expectations of research so that they perceive their university's service as satisfactory (Bowden and D'Alessandro 2011: 36).

However, numerous studies have indicated that feelings of satisfaction and dissatisfaction are a result of the student and supervisor having similar expectations or perceiving each other differently (King's College London 2013). Therefore, the process of perception needs to be understood so that reasons for their feelings can be established.

## 2.4 Perception as a contributing factor to a satisfactory or dissatisfactory relationship

A person's (for example: a student or supervisor) perception of their environment is a product of their previous experiences that has taught them their own unique way of thinking, communicating and interacting with other people or toward tasks in different situations (Berry, Zeithaml and Parasuraman 1985: 47; Pillay 2002: 94; Meyer, Shanahan and Laugksch 2007: 416). Therefore, perceptions that they have, are formed from previous memories or emotions that have been learnt from previous experiences within their psychosocial environment to form a perceptual set (Hayes 1994: 37). These sets are internalised to form an internal filter which directs the way in which people recognise and respond to familiar or unfamiliar events around them (Berry, Zeithaml and Parasuraman 1985: 47; Hayes 1994: 37; Eysenck and Keane 1995: 81; Armstrong, Allinson and Hayes 2004: 50; Meyer, Shanahan and Laugksch 2007: 416). As perceptions are influenced by their owners' personal filters, people may have different perceptions even though they may be describing the same event (Pillay 2002: 94; Foster 2010: 4). These differences are because perceptions are influenced by their owners' unique demographic or psychosocial histories . viz. their age, gender, culture, education, learning styles, self-efficacy and life experiences that lead them to expect a certain form of behaviour or responses from other people (Hayes 1994: 27-63; Pearson and Brew 2002: 140; Pillay 2002: 95; Wisker, Robinson and Shacham 2007: 304; Danjuma and Rasli 2012: 98). These inherent personality factors shape how people perceive other people or situations and the importance they place on them (Hayes 1994: 60; Cheon *et al.* 2009: 54). It also indicates that a student's initial beliefs may be the result of incorrect learning (Murtonen 2005: 265). This process influences the way in which people respond to others, tasks or events which behavioural psychologists refer to as the 'Top-Down' approach to promoting the formation of perceptions (Hayes 1994: 27). Similarly, the psychosocial environment, (for example: a university research culture) in which a student and supervisor function also plays a vital role in affecting perceptions (McCormack 2004: 320; Murtonen 2005: 265). Hayes (1994: 27) refers to this aspect of perception formation as the 'Bottom-Up' approach which also contributes to how a student and supervisor may perceive and interact with each other and other people, or the tasks they undertake (for example: research). Hayes (1994: 22) and Eysenck and Keane (1995: 80) further add that the 'Top-Down' approach and the 'Bottom-Up' approach form a predisposition for people to develop certain expectations about themselves, their interactions with other people as well as thoughts about their different tasks that they have

set out to do. In the context of this study, an example is the students' and supervisors' expectations of each other and that of their university and how their demographic and psychosocial factors may promote or detract one or other party from perceiving their postgraduate research experience with satisfaction.

This theory has been demonstrated through the Neisser's Perception Cycle. This indicates that the way in which people learn about themselves, other people and the environment in which they function is a continuous 'Top-Down' and 'Bottom-Up' cycle of perceiving and responding to the demands of their daily tasks and the support that their environment offers them (Hayes 1994: 61; Eysenck and Keane 1995: 80) (Figure 2.1). This theory also reflects the degree to which a person's expectation and their perception may or may not fit with the perceived task or another person's perceptions or expectations of the role that they undertake within the environment in which they both function (Hayes 1994: 61; Howard, Carver and Lane 1996: 227). Similarly, it may also indicate that some people may hold faulty perceptions based on biases, and prejudice (Eysenck and Keane 1995: 93).

In the context of this study, the extent to which perceptions affect the way in which postgraduate chiropractic students and their supervisors respond to each other is discussed in accordance with the Neisser's Perception Cycle. Accordingly, their personality traits such as: communication, responsiveness, reliability, trust, empathy toward others are influenced by (Berry, Zeithaml and Parasuraman 1985: 45):

- their unique 'Top-Down' demographic factors  
(for example: age, gender, ethnic group, language, support status) and  
psychosocial factors  
(for example: learning / teaching styles, motivation, previous experiences,  
and expectations)
- within their 'Bottom-Up' environment  
(for example: university).

These factors contribute to the way in which students' and supervisors' perceive each other's role and the service their university provides which influences their feelings of satisfaction or dissatisfaction (Hayes 1994: 22; Eysenck and Keane 1995: 80; Moore and Bowden-Everson 2012: 66). Consequently, these feelings have an effect on the way in which a student and their supervisor interact with each other in their university environment which is said to have an impact on the quality of the student's research dissertation (McCormack 2004: 320; Mutula 2011: 187; Pilcher 2011: 34; Danjuma and Rasli 2012: 96).

Therefore, a university environment that satisfies their students' expectations is paramount in aiding their students to achieve success (Moore and Bowden-Everson 2012: 66).

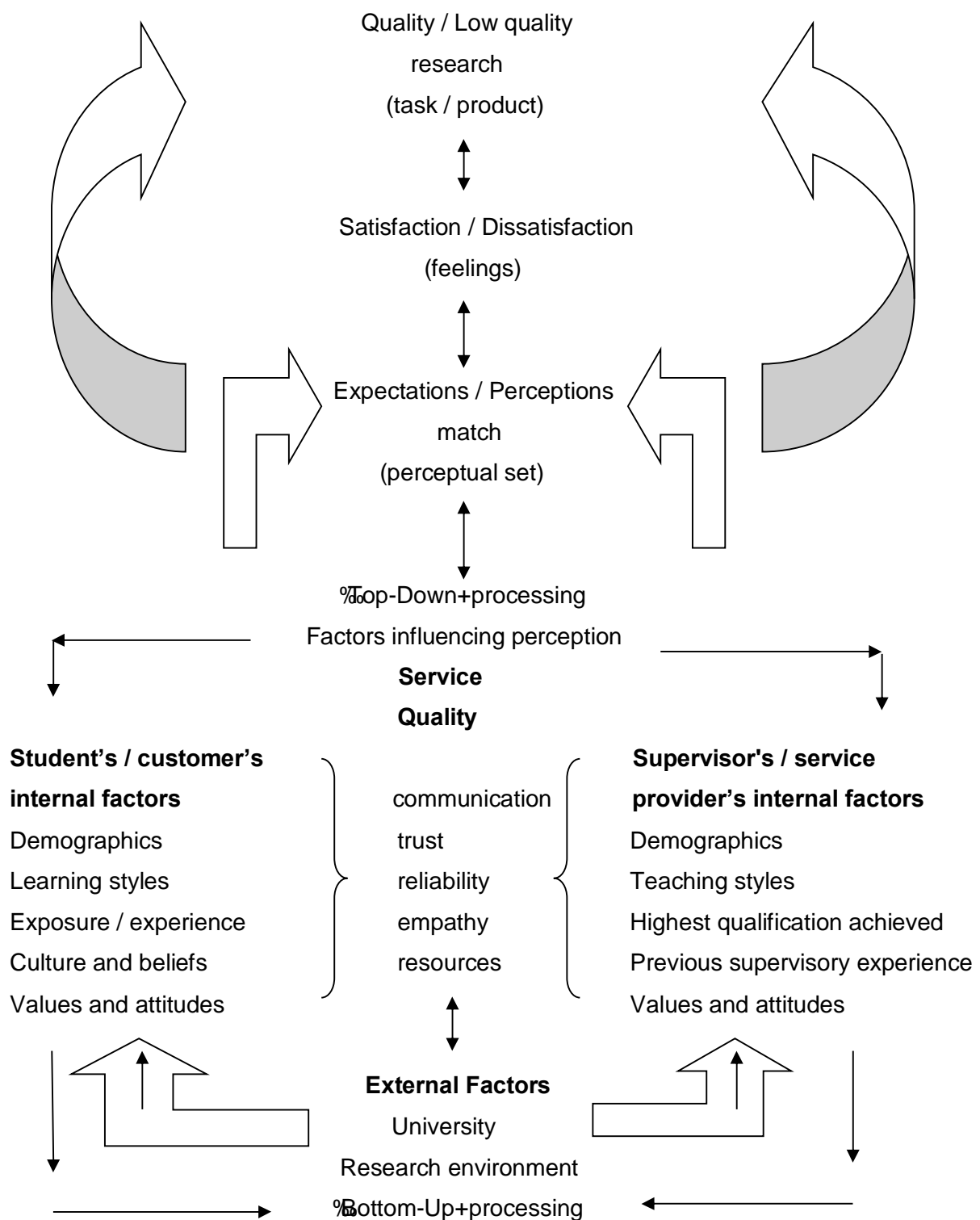


Figure 2.1: Flow diagram showing Bottom-Up+and Top-Down+continuous interactive cycle  
Adapted from: Parasuraman, Zeithaml and Berry (1985: 44); Danjuma and Rasli (2012: 101).

## 2.5 The expected university environment

A university is a conduit for students, usually over the age of 17 years, to further their studies from school level (Central Applications Office 2013). According to Bloom and Krathwohl (1956), learning is a systematic progression from lower order cognitive skills, such as remembering to higher order cognitive skills, for example: evaluation and critical thinking (Figure 2.2). It is these latter skills that are required for postgraduate studies (Howard, Carver and Lane 1996: 227; World Health Organisation 2005: 13).

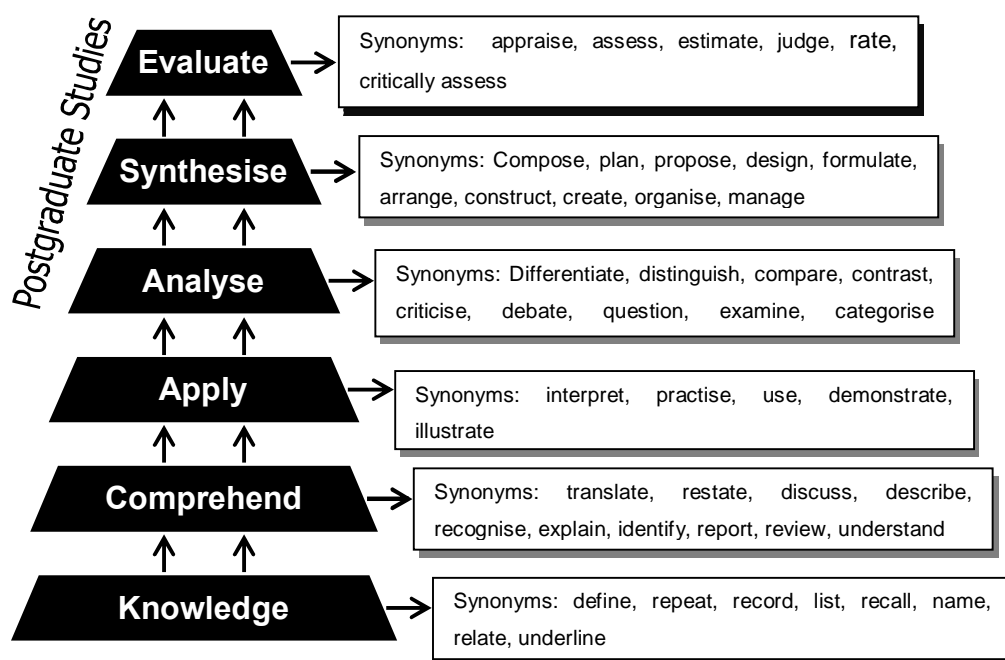


Figure 2.2: Blooms taxonomy

Adapted from: Howard, Carver and Lane (1996: 228).

A university therefore offers an undergraduate and postgraduate educational service to enable fee-paying students to complete a tertiary degree to enable them to optimally function with and purposively contribute to the workforce (Mutula 2011: 186). Through such an offer, the university has promised their students that they will continue to satisfy their expectations through the employment of skilled staff and installation of appropriate resources that are of an acceptable standard (for example: offices, a well-stocked library, computers with the appropriate software, and / or printers) (Lekalakala-Mokgele 2008: 48; General Handbook for Students 2014).

The university environment forms a major part of their postgraduate students' and supervisors' perceived feelings of satisfaction or dissatisfaction (Mutula 2011: 186; Moore and Bowden-Everson 2012: 66). This is because a university is a medium through which students and supervisors gain higher order knowledge and if they perceive their university lacks concern for their academic well-being, they become increasingly dissatisfied and may drop-out of their studies or submit low quality work (Lekalakala-Mokgele 2008: 44).

Therefore, as the university forms the foundation for a student and supervisor interaction (Lee and Green 2009: 615), the way in which they come together often reflects reasons for student / supervisor satisfaction or dissatisfaction (Beecham 2009: 136; Cheon *et al.* 2009: 54; Meseke, Nafziger and Meseke 2010: 20). Within postgraduate supervision, there is a specific process that students and supervisors need to follow and it may be within this process or supervisory interaction that either party may perceive that their expectations have not been met (Lessing and Schulze 2002: 141; 2003: 161; Ssegawa and Rwelamila 2009: 294; King's College London 2013). However, in order to contextualise these supervisory interactions, it is first important to understand the postgraduate processes.

## **2.6 The postgraduate process – in brief**

Postgraduate research is governed by university policies that define specific rules and procedures including ethical and plagiarism procedures, and the duration of study time (McCormack 2004: 320). A student who has undertaken their Master's, which is the initial step on the postgraduate ladder, has a maximum three (full-time) . five years (part-time) to complete their dissertation (CHE 2009). A Doctorate is the final step on the postgraduate ladder, yet the expectations required of students producing a thesis are similar to the underlying principles of a Master's dissertation (Toncich 2000: 29; Lessing and Lessing 2004: 73; Hofstee 2006: xix). However, it is a more advanced form of research (South Africa 2011) and therefore students have an extra year for full-time and part-time respectively to complete their thesis (Research and Postgraduate Support 2014).

A student who is wishing to undertake postgraduate research needs to follow their chosen university's procedures and apply to their preferred university postgraduate department with a proposed topic (Research and Postgraduate Support 2014). This department will direct the student to the relevant programme department to which the topic applies (Research and Postgraduate Support 2014). If the topic is accepted and the university deems the student worthy of the academic challenge of undertaking their Master's, the student may then register with them (Department of Chiropractic and Somatology 2014). The department then

introduces their new student to a postgraduate supervisory pool for them to invite their preferred person to supervise their research (Department of Chiropractic and Somatology 2014). Once a supervisor has accepted a student's invitation, their initial steps into postgraduate research begin (Department of Chiropractic and Somatology 2014).

In the context of the Chiropractic Department, students have already been with their department for a minimum of four years, and are familiar with their university environment and department's staff members and supervisors (Department of Chiropractic and Somatology 2014). As per the Research Handbook that is issued to them, they are expected to find a topic that addresses a particular research question in the literature related to the chiropractic discipline (Department of Chiropractic and Somatology 2014). These questions represent unanswered problems that may be addressed by appropriate aims and objectives which collectively must be submitted to their Departmental Research Committee (DRC) for approval (Department of Chiropractic and Somatology 2014). According to information written in the Research Handbook, students are permitted to ask for help in formulating their topic and in completing the appropriate forms (Department of Chiropractic and Somatology 2014). Once approved, the student may then invite from the pool of available chiropractic supervisors, their preferred person to supervise their research (Department of Chiropractic and Somatology 2014).

This second step involves the student submitting a proposal (referred to as a PG4a) to the Faculty Research Committee (FRC) / Research and Higher Degrees Committee (RHDC) (Department of Chiropractic and Somatology 2014: 16; Research and Postgraduate Support 2014: 8). This proposal explains their roadmap of what they plan to achieve through their research (Department of Chiropractic and Somatology 2014: 9; Research and Postgraduate Support 2014: 5). It involves, albeit briefly, a review of the literature, and an explanation of what methods (for example: quantitative or qualitative) the student will use to investigate their topic (Department of Chiropractic and Somatology 2014: 9; Research and Postgraduate Support 2014: 7). Once the FRC / RHDC accepts the student's proposal, and they have received ethical clearance from the Institutional Research and Ethics Committee (IREC), they may then commence data collection (Department of Chiropractic and Somatology 2014: 17; Research and Postgraduate Support 2014: 28).

It is during this journey, that the student and their supervisor reflect on each other's abilities and skills which is the foundation against which each party measures whether the other has lived up to their respective expectations (Ssegawa and Rwelamila 2009: 316). These expectations culminate with the supervisor, in their skill in approving their student's research



before they advise their student that they can submit for examination purposes (Lessing 2009: 256). Therefore, because of their supervisor's approval, the student may have high expectations for receiving a good pass (Hofstee 2006). Hence, they expect that their supervisor is competent to appraise their dissertation so that there is a positive congruence between their evaluation and the examiners' assessments (Lessing 2009: 256). Thus, any discord may cause confusion and on the student's part, questioning their supervisor's skill (Lessing and Schulze 2003: 161). This may add to their already tenuous feelings toward their supervisor and intensify their feelings of dissatisfaction with a subsequent lack of trust toward their supervisor and undertaking research (Murphy 2010: 57; Park and Lee 2014: 154).

Three months prior to submission, the supervisor selects a local and external examiner (Department of Chiropractic and Somatology 2014: 22; Research and Postgraduate Support 2014: 15). Two examiners are chosen so to maintain standards of quality and to ensure the quality of the research that is submitted for examination purposes is of international standards (Department of Chiropractic and Somatology 2014: 23). The examiners mark the dissertation according to pre-set criteria to maintain standardisation in: language proficiency, statistical analysis, ethical adherence, plagiarism acuity, structural adherence, correctness of information and grasp of research methodology (Mouton 2001: xii; Hofstee 2006: 3; Johnson and Green 2009: 1; Department of Chiropractic and Somatology 2014: 22; Research and Postgraduate Support 2014). These criteria reflect the values espoused by the National Qualification Framework (NQF), which is a sub-section of the South African Qualification Association (SAQA) that is underwritten by the Government Gazette (South Africa Qualifications Authority 2012). This official document asserts that students need to show mastery of their subject, in that they have followed ethical procedures; written scientifically; demonstrated their technical competence in computer literacy; produced a dissertation that is structurally correct and shown their ability to investigate and discuss information through the medium of the English language (Toncich 2000: 29; Mouton 2001: xiv; Kiley and Mullins 2005: 246; Hofstee 2006: 242; McCoy 2008: 143; Johnson and Green 2009: 1).

The final step in the research process (even if the student is successful) often involves correcting any concerns that the examiners have highlighted (Department of Chiropractic and Somatology 2014: 23; Research and Postgraduate Support 2014: 16). Then, with their supervisor's acceptance that the corrections will meet the examiners' specifications, signing off that the corrections are correctly completed (Department of Chiropractic and Somatology 2014: 23; Research and Postgraduate Support 2014: 16).

Thereafter, the university formally advises the student of their success (Department of Chiropractic and Somatology 2014: 23; Research and Postgraduate Support 2014: 18). The university receives government funding in consideration for all successful submissions and the student receives their degree at a formal graduation (De Villiers and Steyn 2009: 20; Research and Postgraduate Support 2014: 20).

## **2.7 The postgraduate supervision relationship - in brief**

Postgraduate supervision is an educational service that research universities offer students as they undertake their research (Lekalakala-Mokgele 2008: 44). To facilitate the process of research completion the university employs supervisors to help students achieve their postgraduate degree (Nulty, Kiley and Meyers 2009: 693). In most cases, students have the freedom to invite their preferred person to supervise their dissertation (Department of Chiropractic and Somatology 2014). In South Africa, the most common supervisory relationship is a one-on-one dyad which takes place in the supervisor's office and is therefore a private meeting (Wisker, Robinson and Shacham 2007: 301; Nulty, Kiley and Meyers 2009: 693). However, the relationship also extends to other service facilitators whose job it is to assist students in smoothing the progress of their research (Nulty, Kiley and Meyers 2009: 693). These facilitators include research deans, the Postgraduate Department, co-supervisors, technical readers, research administrators, librarians, departmental secretaries, statisticians, and / or proof-readers (Nulty, Kiley and Meyers 2009: 693). But, it is the relationship between the student and supervisor within their university environment that has received the most attention as the cause of poor quality research (Mouton 2001: 17; Hofstee 2006: 65). This is because numerous researchers describe supervisory relationships as problematic, messy and frustrating (Rodrigues, Levay Lehmann and Fleith 2005: 117; Ismail, Abiddin and Hassan 2011: 79). Many researchers assert that the cause is because each party has differing perceptions of what they expect of postgraduate research and if their perceptions do not match their expectations, one or both parties feel dissatisfied with the other (Hayes 1994: 27-63; Eysenck and Keane 1995: 80; Pearson and Brew 2002: 140; Pillay 2002: 95; Wisker, Robinson and Shacham 2007: 304; Danjuma and Rasli 2012: 98). The consequence of their perceived feelings of dissatisfaction has a negative impact on their relationship, which in turn may negatively affect the quality of their research because such feelings restrict their ability to function optimally (Moore and Bowden-Everson 2012: 69). Conversely, a student and a supervisor who share similar expectations and perceptions are more likely to feel satisfied with the way in which each carries out their responsibilities and such feelings often result in the production of a quality

dissertation (Hofstee 2006: xvii; Beecham 2009: 136; Meseke, Nafziger and Meseke 2010: 20).

## **2.8 Postgraduate research and the Chiropractic profession**

In South Africa, Chiropractic is a non-allopathic health care profession in which practitioners believe that spinal adjustment or manipulation restores the health of their patients. It is the most popular Allied Health Profession utilised by the public (World Health Organisation 2005). However, a lack of research and limited university representation has created a profession that is still regarded by other professionals and some members of the public as an Allied Health Profession that lacks evidence (Sawyer *et al.* 1997: 172; Chapman-Smith 2000: 2; McCoy 2008: 146). Evidence, in the form of published literature is important to any profession because it forms the basis for fact-finding or learning against which new research can refute or accept previous accepted findings (Delaney and Fernandez 1999: 115; Mrozek *et al.* 2006: 762; Hawk, Cambron and Pahmeyer 2008: 302; Johnson and Green 2009: 1; Triano 2009: 87; Weber and He 2010: 35). The consequence of such evidence has a positive impact on clinical practice and improves professional service delivery (Zhang 1996: 448; Sawyer *et al.* 1997: 172; World Health Organisation 2005).

To promote evidence-based care, the Chiropractic Association of South Africa (CASA) and the AHPCSA introduced the compulsory requirement of research in the South African curriculum (AHPCSA Act 63 of 1982 (as amended 2001); CASA 2014). This requirement was advocated to reduce the paucity of research, which has resulted in the profession's lack of ability to demonstrate its credibility (Chapman-Smith 2000: 2; Flanagan 2002: 193; Hawk, Cambron and Pahmeyer 2008: 302). However, chiropractors' attitudes toward research vary, which results in different degrees of interest, and disinterest (Zhang 1996: 448). As such, chiropractic students who look toward chiropractors for motivation and enthusiasm in undertaking research may find their interest thwarted and in turn emulate such responses (Zhang 1996: 448; Flanagan 2002: 194). In addition, they are less likely to add rigour to the literature, or to learn the skills necessary to evaluate results of new interventions. According to McCoy (2008: 146), by not doing so, their attitude may confirm the public and other professions' perceptions that chiropractic is not evidence-based and based instead on intuition. Therefore, reasons for such attitudes among chiropractors need to be explicit so that factors can be implemented to eliminate incorrect perceptions and foster positive research growth.

In this manner, Suter *et al.* (2007: 111) highlighted that 93.5% of their participants indicated that research is important for promoting the Chiropractic profession's credibility; however, fewer participants (66.6%) showed actual interest in undertaking research. Despite such differences in opinion, a more recent study by Weber and He (2010: 39) indicated that 99% of their participants indicated research as a necessary component in the Chiropractic curriculum.

## **2.9 The postgraduate student / supervisor relationship**

Berry, Zeithaml and Parasuraman (1985: 44), investigated how to best satisfy and retain customers. In this context, they describe the progression of a relationship as one in which each party attracts, maintains and enhances their working relationship through understanding each other's needs. Grönroos (1994: 9) adds that the success of the relationship centres on meeting the objectives of each party involved which is achieved through mutual exchange and fulfilment of promises.

Therefore, it is a supplier's responsibility to promote customer relations through satisfactorily responding to their customers' needs (Moore and Bowden-Everson 2012: 66). By contrast, the customer's responsibility, as the person who wants the service or product, also has a role to clearly communicate their requests so as to help the supplier best understand their needs (Moore and Bowden-Everson 2012: 66). Similarly, like a good supplier / customer relationship that promotes business, it is expected that the synergetic role between the student and their supervisor enhances the quality of their relationship and therefore the product they are creating (namely, research that the student submits for examination) (Moore and Bowden-Everson 2012: 69). Therefore, a supervisor and student have expected roles to undertake to satisfy each other's needs so to achieve the required research outcomes (Moore and Bowden-Everson 2012: 69).

### **2.9.1 The supervisor's role in satisfying their students' expectations of postgraduate supervision**

The South African Concise Oxford Dictionary (2002: 1178) defines supervision as the capacity of a person, - the supervisor or manager, to oversee the work of a subordinate. In a university environment, supervision is additionally understood to include a supervisor being responsible for overseeing or managing their student's research process (Lessing and Lessing 2004: 73). This definition implies that the supervisor - subordinate / student is a

hierarchical relationship, in which the supervisor is more knowledgeable than their student with regards to research and how to optimise their work output (Straus and Sackett 2012: 368).

Numerous researchers suggest that supervision is the highest form of teaching (Mouton 2001: 17; Lessing and Lessing 2004: 74; Anderson, Day and McLaughlin 2006: 159; Hofstee 2006: 65). Accordingly, supervision includes standards of teaching that incorporate adhering to their university's guidelines on research requirements and helping their student achieve their postgraduate degree (Lessing and Schulze 2002: 140; Thomas and Mengel 2008: 308). These standards also involve assessing their student's competencies as well as a commitment in *showing* their student how to master the skills of conducting quality research (Engelbreton *et al.* 2008: 4). The role of the supervisor therefore, includes factors that if not adhered to, will have an impact on their student's development and therefore the research process and overall product (Straus and Sackett 2012: 367).

These factors include the supervisor's need:

### **2.9.1.1 To assess their student's abilities and skills**

An effective supervisor's responsibility at the outset of the student / supervisor relationship is to assess their student's understanding of a Master's degree and what is required of the methodology (qualitative or quantitative design) in order to answer the posed research problem (Engelbreton *et al.* 2008: 4). This assessment attempts to gain a range of information on their student's ability to utilise information technology, academic literacy / language proficiency skills and interpersonal skills, which are vital for achieving quality research (Engelbreton *et al.* 2008: 4; Hoffman and Julie 2012: 3). The consequences of such an assessment enables the supervisor to recommend appropriate developmental strategies, provide support and seek out required assistance, so that the student has the ability to overcome any deficits and develop personally through the research process (Engelbreton *et al.* 2008: 5). An example of this would be for the student to develop the ability to produce a technically sound document by appropriately utilising computer software, thus contributing to the quality of the dissertation. Similarly, students who do not know how to access information on-line will struggle to present current information, thereby presenting an outdated, limited and possibly biased literature review, which further reduces the quality of a dissertation (Anderson, Day and McLaughlin 2006: 154).

### **2.9.1.2 To discuss each other's role and responsibilities**

The roles and responsibilities of a supervisor are defined through the university's policies and procedures (Severinsson 2012: 221). This information which is provided to students as a guideline, provides a basis for a negotiated contract that both the student and supervisor agree to and in some instances are required to sign (Abiddin and West 2007b: 7; Severinsson 2012: 221). This contract therefore protects both the student and the supervisor in the relationship, much like an employee / employer contract. Lekalakala-Mokgele (2008: 49) highlights that such a learning contract, signed by each party is a way of ensuring that neither party is confused as to their responsibilities and may include information such as who is responsible for:

- organising meetings;
- checking for plagiarism;
- confirming all ethical requirements are adhered to;
- checking of references;
- checking that content is correct;
- establishing that the structure of the dissertation is correct and is neither too long nor too short;
- confirming the technical aspects of the dissertation (for example: line spacing and font size are appropriate and consistent) and
- checking that page numbers match with the Table of Contents, all appendices are cited and attached and all preliminary pages are included.

Such a contract therefore promotes student and supervisor accountability (Sawyer *et al.* 1997: 173), stability and minimises role confusion and ambiguity that are often cited as factors that cause frustration, irritation and dissatisfaction between the student and supervisor in the research process (Zeithaml and Berry 1988: 35).

Thus, to the student, a supervisor's role represents the behaviours expected of a person in the position of authority in overseeing their research. This authority, coupled with the fact that supervisors are the face of their university, means they also need to link the university's mission and values with their students' expectations (Severinsson 2012: 221). Conversely, a student's role is to heed the advice of and to accept the support given by their supervisor, as without their input, they are less likely to submit a quality dissertation (Department of Chiropractic and Somatology 2014).

### **2.9.1.3 To advise on the importance of organising meetings**

According to Zeithaml and Berry (1988: 38), face-to-face meetings are an effective means of aligning management and employees thinking. This is because questions can be answered immediately and subtle nuances (for example: facial and hand expressions that are hidden by written messages) are more easily perceived (Zeithaml and Berry 1988: 38). According to Manathunga (2007: 212), regular meetings are especially important for new postgraduate students, so that they and their supervisor can discuss what is expected of each other and align their expectations with their university's policies (for example: plagiarism and ethical procedures). Additionally, it also allows for the student and supervisor to set appropriate timelines, completion strategies and discussion of work allocation (Abiddin and West 2007b: 7). This was highlighted and it was indicated that students and supervisors report satisfaction with regular meetings in which they both were prepared, and based on agreed to workloads and agreed to preparations. Similarly, Lessing (2009: 79) noted from their study that a lack of contact was cited as a common complaint for student / supervisor dissatisfaction.

### **2.9.1.4 To offer a reliable service**

An important attribute of an employee and an employer is to keep to their promises in that they carry out what they said they would do (Berry, Zeithaml and Parasuraman 1990: 29). According to these researchers, keeping promises leads to trust in a relationship, with decreased questioning of advice and / or skill on both the part of the employer and employee. Similarly, in respect of the student and the supervisor relationship, keeping promises also means that work will be covered effectively and efficiently. It also means that the %agreed to+meetings become times of productivity which build enthusiasm and trust for the development of a strong, well defined research document that accurately reflects the keen interest of both parties (Lessing and Lessing 2004: 80; Unsworth *et al.* 2010: 874). This interaction, therefore, also forms a basis for knowledge sharing (Park and Lee 2014: 154) and a positive learning environment for the student, who is more likely to develop in the positive encounters than a peer that does not have the same relationship with their supervisor.

### **2.9.1.5 To warn against poor ethical standards**

Research needs to be ethically sound for a number of reasons (Hofstee 2006: 58; Brink 2007: 30). These reasons include, but may not be limited to: patient (animal or human) protection; data and outcomes protection and adherence to the ethical principles that underpin the publication of data that may change the manner in which knowledge is developed in time to come (Hofstee 2006: 211; Brydon and Fleming 2011: 16). Therefore, ethical standards permeate all research processes and need to be incorporated at the appropriate levels of the research process (Brink 2007: 35). As an example, ethical principles include the participants' right to receive full disclosure (prior to participation in the research) about the research, their right to remain anonymous and their right to withdraw at any time during the research intervention without recourse (Brink 2007: 34). These principles offer participants protection or peace of mind that their participation in a research investigation will not lead to physical or mental harm (Brink 2007: 35).

To ensure that these principles permeate the research process and result in a quality research dissertation, a supervisor needs to have the knowledge of how ethics impact on their student's research as the student will fail without including such requirements (Hofstee 2006: 211; Brink 2007: 30-43). Additionally, the student will also not benefit from the learning processes where these principles are absent (Department of Chiropractic and Somatology 2014). The initial and foremost requirement that the supervisor needs to ensure, is that the Institutional Research and Ethics Committee (IREC) grants permission allowing the student to proceed with their research (Department of Chiropractic and Somatology 2014). This letter is a required appendix to the final dissertation and it is the responsibility of either the student or supervisor to confirm its inclusion (dependent on the contract between the student and supervisor) (Hofstee 2006: 118).

In terms of the ethical process, the supervisor then needs to ensure that the researcher discloses to his / her participants the complete nature of their research (Brink 2007: 35). This process involves issuing all members of their research, inclusive of the patients, focus and pilot group members with (Mouton 2001: 101; Hofstee 2006: 211; Brink 2007: 36; Department of Chiropractic and Somatology 2014):

- a Letter of Information and Consent Form;
- an Informed Consent Form and
- a Code of Conduct and Confidentiality Statement,



explaining the need for such research and why they are invited to participate; what their participation will involve; how they will be protected during the research process and what their subsequent role may be in the long term (Brink 2007: 35). To display that these outcomes have been met, the student and supervisor are required to ensure that a copy of these letters are attached as appendices, as evidence that the researcher has communicated the research procedures to them (Department of Chiropractic and Somatology 2014).

### **2.9.1.6 To warn against plagiarism**

Part of the ethical requirement that is part of the research, not directly associated with patients or participants, is that a supervisor has the responsibility to educate their student about plagiarism (what it is, how to avoid it and also how it can be detected), in addition to warning their student against the consequences of plagiarism (Department of Chiropractic and Somatology 2014: 14; Research and Postgraduate Support 2014).

Simply, plagiarism is the use of another author's words, sentences, or larger pieces of text, without referencing it appropriately as a citation, quote, or excerpt. In other words, it is the fraudulent copying of material and not giving appropriate credit to the author and thus implying as opposed to openly stating that information is one's own work (Brink 2007: 40). The art of research writing is paraphrasing and synthesising the information written by another author and applying it to answer the research question (Lessing and Schulze 2003: 164; Hofstee 2006: 173; Brink 2007:40). In instances where the supervisor finds that their student does not have the requisite skills to convert relevant text into their own words, it is the responsibility of the supervisor to seek alternative assistance for their student (Schutz, Gallagher and Tepe 2011: 6). This is particularly so if the supervisor is unable to provide the academic writing / language proficiency skills to assist their student in completing their dissertation successfully.

Even once the abovementioned advice have been addressed and paraphrasing is utilised, the student is required to reference each sentence, referred to as in-text referencing, using the specific universities preferred referencing system, such as Harvard referencing (Referencing Guide - Harvard Referencing Style 2012). These referenced names need to be listed under the Reference List and the method of listing has to be in accordance with the Harvard Referencing guidelines (Referencing Guide - Harvard Referencing Style 2012). This form of crediting the work of others, includes all information related to retrieving information from a variety of sources such as books and e-books, journal articles, interviews,

on-line sources and secondary sources of information so that the reader may find and search the book / article for the stated information (Referencing Guide - Harvard Referencing Style 2012). It may be time-consuming and monotonous with the tedium of checking correct spelling of surnames and initials, and the necessary punctuation marks (for example: commas, full stops, colons, and the required italics for the book or journal title), as well as remembering to insert all in-text references against factual information. Therefore, a supervisor may recommend the use of a computer referencing software programme such as EndNote. This software programme correctly inserts the authors names and page numbers in-text and automatically updates the reference list with the required information according to the choice of referencing style. (Hofstee 2006: 173; Thomson Reuters 2014).

In addition to the complexities of remembering to reference and remembering to use the correct punctuation, examiners usually deem students are careless if any of the referencing information has been captured incorrectly or is only cited through a secondary source without reference to the original source of information (Hofstee 2006: 173). This is because these technical errors detract from the quality of their dissertation (Hofstee 2006: 213; Johnson and Green 2009: 1). One reason for this is that incorrect referencing may imply (rightly or wrongly) that information presented is incorrect or inappropriate; as it restricts the reader from finding the information; credit is given to another author or not at all; or there is a lack of interest to confirm that the information is correct (Hofstee 2006: 173).

Therefore, succinct and appropriate academic writing / language proficiency and the use of appropriate referencing software, forms an important research tool because these assist the student in creating a good impression that adds to the quality of their dissertation (Hofstee 2006: 215). Such a student may feel more satisfied with their research experience than other students whose supervisor may not have the knowledge or skills to provide the student with the appropriate learning opportunities to develop both personally and to produce a dissertation that is of a high quality.

An effective means by which the supervisor can check that the student has been accountable to their learning contract, is to make use of a software package that determines whether plagiarism has occurred (for example: Turnitin) (Referencing Guide - Harvard Referencing Style 2012: 1). Such a tool, confirms that the student has not mistakenly or intentionally, copied from the sourced information by highlighting any text that is the same or similar to the text written by the student (Referencing Guide - Harvard Referencing Style 2012: 1; iParadigms LLC. 2014). These similarities are also converted to a percentage offering a quantitative number to indicate the degree to which plagiarism may or may not

have taken place (iParadigms LLC. 2014). Therefore, the use of this tool reduces the chance that the examiners may reject the dissertation out of hand based on issues related to plagiarism. Students may also request that their work be processed through such software programmes so they have the opportunity to revise their text within their dissertation prior to their work being submitted for examination.

Access to such software, through the supervisor or proof-reader, protects both the student and their supervisor from any problems that may arise through the marking process, or at any later date should plagiarism be detected (Department of Chiropractic and Somatology 2014). It, therefore, offers them peace of mind when they sign the reference and plagiarism declaration (a statement included within the text on the cover page or a separate page filed after the cover page) without fear that they will be held accountable for any later assertions that work has been copied (Department of Chiropractic and Somatology 2014: 71).

#### **2.9.1.7 To warn against falsifying primary data**

The supervisor needs to inform the student that the primary data forms the cornerstone of research and thus forms the basis for addressing the aims and objectives, which collectively address the research question (Hofstee 2006: 30). In health sciences, addressing research questions may affect the lives of patients, as research outcomes may be implemented in clinical practice (Brink 2007: 69). As a result, if primary data is not measured correctly, recorded correctly or reported correctly; this mis-information may impact negatively on the livelihood of patients (Brink 2007: 69). Therefore, because of the critical value placed on research results, unreliable data or the falsification of data is not only deemed ethically unsound but also morally incorrect and thus disqualifies the research student from qualifying, as they will have committed fraud (Department of Chiropractic and Somatology 2014).

The impact is even more serious for Chiropractic students, who require the M.Tech:Chiropractic qualification in order to practice (AHPCSA Act 63 of 1982 (as amended 2001)). Therefore, if a student is found to falsify data, it would not only deny them a qualification, but also a livelihood as well as make null and void all prior periods of study which they had completed up to that point (AHPCSA Act 63 of 1982 (as amended 2001); Faculty of Health Sciences Handbook 2014).

Thus, a supervisor needs to clearly discuss all research procedures with their student/s; make sure that they are able to record the required data accurately and that they adequately capture the data and request the appropriate tests for analysis (Engebretson *et al.* 2008: 12).

This process not only ensures that the student understands the process, but that they also apply the correct principles at each step along the way.

### **2.9.1.8 To advise on the benefits of employing the services of a proof-reader / or an editor and a statistician**

Most universities allow research students to access a wide variety of support services to complete their research (Hofstee 2006: 242; Department of Chiropractic and Somatology 2014; Research and Postgraduate Support 2014). These support services, outside of the research supervisor and co-supervisor, include persons such as the research deans, the Postgraduate Department personnel, academic development personnel, technical readers, research administrators, librarians, departmental secretaries, statisticians, and proof-readers / editors (Hennig-Thurau, Langer and Hansen 2001: 331; Research and Postgraduate Support 2014). These support personnel are equipped in various capacities to assist the student with developing language proficiency; completing and understanding statistical analysis; ensuring ethical adherence; allowing for plagiarism acuity; maintaining structural adherence and correctness of information as well as ensuring the student has understood the technicalities required of the research methodology (Lessing and Schulze 2003: 164; Department of Chiropractic and Somatology 2014; Research and Postgraduate Support 2014).

However, supervisors need to ensure that the roles of these various stakeholders are clarified adequately to their student (Zeithaml and Berry 1988: 36). This ensures that there is no conflict between what the supervisor and student expect from these various role players and it also ensures that the supervisor is aware of the role of each player in the student's research (Zeithaml and Berry 1988: 37). It is also the supervisor's responsibility that the appropriate role player is identified at the right time in the dissertation development process, as ineffective or untimely use of inappropriate support may create a greater obstacle to developing a quality dissertation (for example: overloading their student with too much information too soon with the result that their student is ~~overburdened~~ and because they have not reached that stage in the research process, such information often is forgotten or becomes meaningless) (Mountford, Jones and Tucker 2006: 128).

All students undertaking quantitative research are recommended to employ the services of a statistician to assist with the analysis of their questionnaire/s (Hofstee 2006: 215; Brink 2007: 192). However, it is still the domain of the student to analyse the data from the

questionnaire/s; critically review and discuss these outcomes and contextualise them within the context of the literature provided in Chapter Two of the dissertation (Hofstee 2006: 215; Republic of South Africa 2011: 82; American Statistical Association 2014). The statistician, may however, be asked for guidance on further analysis, review the manner in which the data is presented or guide the student in developing further research tools based on this data (American Statistical Association 2014). Therefore, a student who takes their supervisor's advice regarding a particular support service may produce an improved research dissertation to the satisfaction of both the student and the supervisor.

#### **2.9.1.9 To advise on time management**

Given that students have three years to complete their research dissertation (CHE 2009), it is necessary that the supervisor and student need to be aware of what deliverables are required within the allocated time available to complete the dissertation (Anderson, Day and McLaughlin 2008: 33). This mechanism may be achieved in several ways: a timeline, a Gantt chart and / or a scheduled weekly meeting at which goals are set for a subsequent meeting (Hofstee 2006: 12; Ssegawa and Rwelamila 2009: 315). These processes are largely driven by the supervisor at the start of the supervisory relationship, and may even be included in the contract between the student and the supervisor (Engebretson *et al.* 2008: 12). However, as the relationship develops, it is the responsibility of the supervisor to inculcate that responsibility in the student, as the student takes greater control of the dissertation (for example: data collection and write-up), particularly if the student is no longer available in the same locale as the supervisor (Lessing and Schulze 2003: 160).

#### **2.9.1.10 To provide guidance on research writing and the preferred methodology to use**

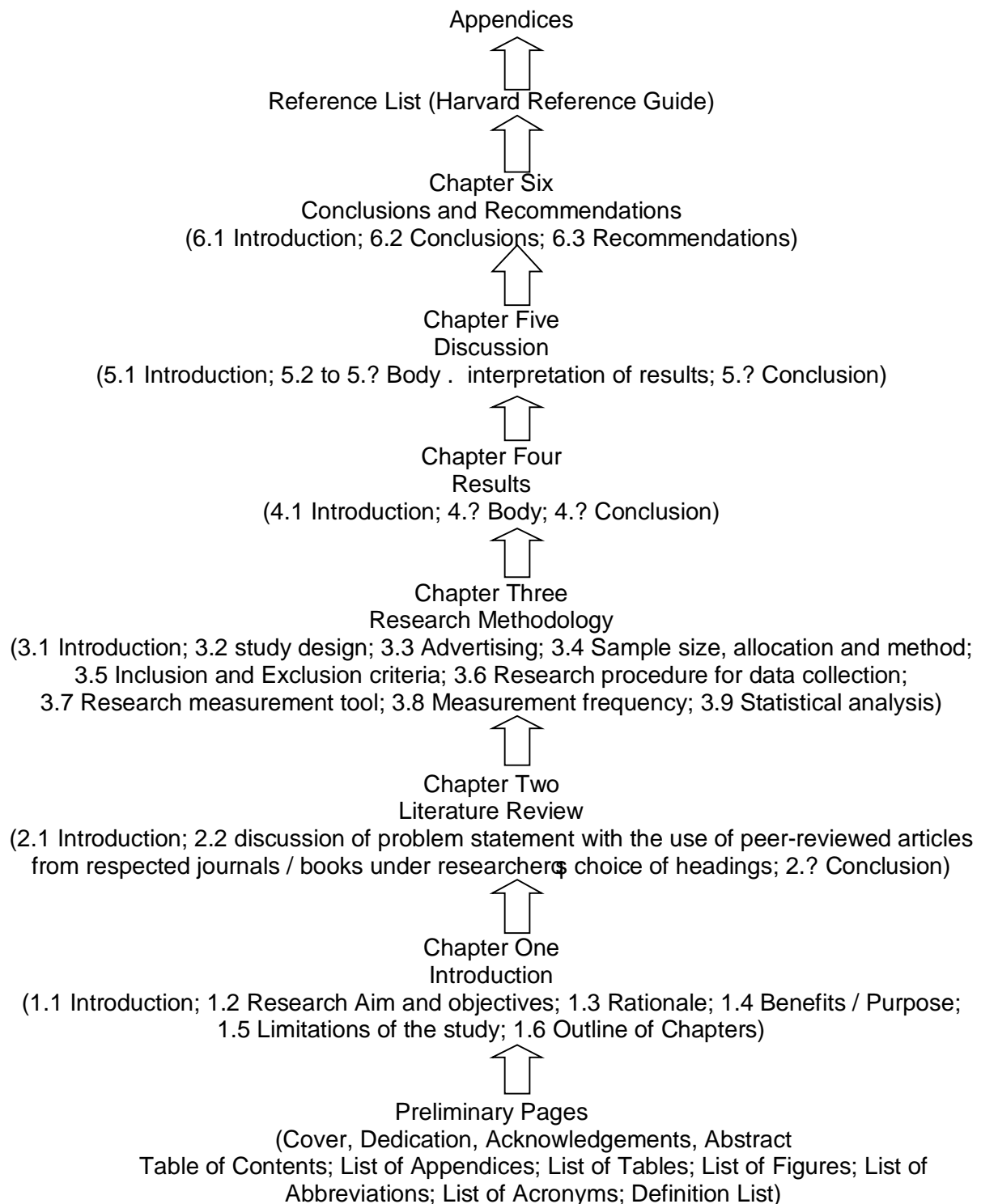
Postgraduate writing includes higher order cognitive skills of appraising and evaluating the work of others and paraphrasing that knowledge to answer the posed research problem (Kiley and Mullins 2005: 246; Anderson, Day and McLaughlin 2006: 154; Hofstee 2006: 187; Lessing 2009: 258). However, at times, lower order skills of defining or describing terminology is also required (Kiley and Mullins 2005: 246). Nevertheless, the bulk of the writing requires critical analysis of information in answering the research question so that the information is contextualised and related to the topic (Hofstee 2006: 3; Ssegawa and Rwelamila 2009: 296). Supervisors often refer to such logical representation as the golden thread of writing (Kiley and Mullins 2005: 246). Research writing also portrays the authors

skill in conveying such information in a scientific manner while also being accessible to the layman+ (Republic of South Africa 2011: 83). In order to achieve this, the supervisor is required to critique the work of the student (Mouton 2001: 18). This is sometimes an area which needs to be handled sensitively as students often feel that they have grasped the required skill and perceive their work differently from the way in which the supervisor may wish them to portray it (Lessing and Schulze 2003: 164; Dysthe, Samara and Westrheim 2006: 311). Thus, feedback is a powerful and influential communication tool, which if used correctly by supervisors can help their students with their learning and align their research studies to that of their profession (Eraut 2006: 111; Baker *et al.* 2013: 260). In the same way, effective feedback is also a powerful tool used by managers in a service organisation to help their employees align their work performance to that of the organisation's / team's goals (Eraut 2006: 111; Baker *et al.* 2013: 260). Therefore, the way in which feedback is managed, is instrumental to encouraging or disheartening a student or employee from their optimal performance.

A supervisor therefore needs to deliver their feedback in a manner that allows their student to learn and improve their learning (Eraut 2006: 112). This, therefore, requires that the supervisor is astute in understanding their student's learning style as well as using the best interpersonal approach so not to alienate him or her from the dyadic relationship (Eraut 2006: 111). This is important as Baker (2010: 260) highlighted that managers who include carefully selected and appropriately delivered feedback as part of their management processes, have a competitive advantage because their employees (or in this context, their students) are better equipped and more willing to understand how to work toward their organisation's or team's goals (Eraut 2006: 111). Conversely, misdirected teaching and inappropriate delivery of their feedback often alienates the student and results in the student entertaining unrealistic perceptions of themselves and their supervisors or the supervisor perceiving their delivery as poor. This gap between the student and the supervisor may lead to the student and / or their supervisor misunderstanding each other (for example: the student may think their supervisor is useless and the supervisor may think their student is intellectually incapable of undertaking their Master's), leading to a communication breakdown and failure of the research process. This inevitably leads the student to attempt to complete the research in isolation and invariably a poor quality dissertation will be the result, unless the student has the ability and knowledge to effectively utilise available support services to substitute for the lack of a helpful supervisor (Wisker, Robinson and Shacham 2007: 301).

### **2.9.1.11 To provide guidance on the structure of a dissertation**

According to numerous researchers, the structure of a dissertation contributes toward a quality dissertation (Toncich 2000: S2; Mouton 2001: 90; Hofstee 2006: 241; Brink 2007: 192). This is because the structure promotes the flow or the golden thread of the document (Kiley and Mullins 2005: 247). Structure also gives the dissertation an order, that is, a logical and systematic sequence to what information should follow the next (Ssegawa and Rwelamila 2009: 300). A typical structure expected of a dissertation is shown in Figure 2.3 (Hofstee 2006: 241; Brink 2007: 192; Department of Chiropractic and Somatology 2014; Research and Postgraduate Support 2014). As a result, the supervisor needs to outline to the student what is expected within each chapter, based on the most appropriate combination of information for the type of study that the student has undertaken. This process may therefore require the student and the supervisor to review similar dissertations that effective universities keep on their library shelves or on-line (within their university website), so to arrive at a final quality product (Phillips and Pugh 2000: 53). However, the final guidance is required from the supervisor who needs to check that the work is well presented, logical, coherent and appropriate (Mouton 2001: 18).



**Key:** ? indicates section numbers that run consecutively to complete the required information needed to answer the research question / topic

Figure 2.3: General structure of a dissertation

Adapted from: Hofstee (2006: 35); Brink (2007: 192); Ssegawa and Rwelamila (2009: 296).



### **2.9.1.12 To empathise with students**

The supervisory relationship may extend over a significant period of time, for example three years (CHE 2009). During this time, life circumstances may change for one or both the supervisor and the student, either positively or negatively (Sayed, Kruss and Badat 1998: 282). Therefore, it is important for the supervisor to consider re-negotiating the supervisory contract at periodic intervals to ensure that the best outcomes can be obtained through mutual participation. Additionally, if circumstances are such that the student is unable to continue with the research, it is the supervisor's role to advise the student on options of:

1. Deregistration / a termination of studies or
2. An interruption of studies / suspension of studies,

depending on the nature of the life circumstances of the student at that time. The opposite is also true; the supervisor has to guard against the student applying for inappropriate extensions to study, where no reasons for such exist.

Outside of the direct relationship, it is also important for the supervisor to assist the student with concerns that relate to the research, particularly if there are patients involved. These types of scenarios may include adverse reactions to care, which need to be handled effectively and efficiently, but with due regard for the patient's best welfare. These instances may leave the student feeling responsible for harm to the patient, which the supervisor needs to address and assist the student in overcoming so as to limit the impact of this negative event on the remainder of the study (World Medical Association Declaration of Helsinki 2001).

Based on the above, it can be seen that the role of the supervisor includes being a technical advisor, a content advisor, a facilitator of learning and a confidante for their students, as they progress through the ups and the downs of the research process (Mouton 2001: 17; Lessing and Schulze 2003: 164). It is through such a process, that it is hoped, that the student achieves their potential, resulting in their personal growth and as such, their academic development (Malfroy 2005: 175; Lovitts 2008: 307).

### **2.9.2 The students' role in satisfying their supervisors' expectations of postgraduate supervision**

In contrast to the supervisor's role, the responsibility of all postgraduate students is to produce a structured document to demonstrate they have mastered the ability to:

systematically review the current literature that surrounds their topic; analyse and evaluate the credibility of this information; apply it appropriately to their topic; use an appropriate research design (qualitative or quantitative) to investigate their topic area; correctly document their results and discuss their findings in the context of their research topic and in the framework of their review of the literature. [(Toncich 2000: 28; Lessing and Schulze 2002: 140; Lessing and Lessing 2004: 78; Anderson, Day and McLaughlin 2006: 157; Hofstee 2006; Ssegawa and Rwelamila 2009: 299; Department of Chiropractic and Somatology 2014; Republic of South Africa 2011: 82)].

Throughout this process, the student's role is:

### **2.9.2.1 To paraphrase sourced information**

All postgraduate students are expected to read, synthesise and evaluate the literature germane to their topic and paraphrase the necessary information to build their own dissertation (Department of Chiropractic and Somatology 2014; Research and Postgraduate Support 2014). Paraphrase means that the student has to rephrase the source document in such a way that the gist of the information stays the same but the new author has used their own words and contextualised them consistently in their research (Referencing Guide - Harvard Referencing Style 2012). In addition, this process avoids plagiarism but hinges on the student applying the most appropriate referencing technique specific to their university's preferred referencing system, for example, this particular UoT's choice of referencing is institution specific to the Harvard Referencing style (Department of Chiropractic and Somatology 2014).

### **2.9.2.2 To efficiently manage their role in the research process**

This includes being considerate of their supervisor's time and that of other staff members whose services they are likely to use (i.e. librarians, secretaries, statistician, proof-reader, and other staff, students and participants who may form part of the study) (Berry, Zeithaml and Parasuraman 1990: 38; Dysthe, Samara and Westrheim 2006). Therefore, the student needs to heed pre-set arrangements, such as: being punctual and prepared for meetings so they give the impression they are organised and ready for constructive meetings. These processes will ensure that the submitted dissertation improves in quality as all persons can effectively contribute to the process of aiding the student achieve their overt, intended and structured outcomes (Langworthy and Smink 2000: 438). Open communication with various

service providers also allows conflicts to be resolved early, effectively and efficiently, particularly if the advice of the supervisor is sought at the appropriate time (Zeithaml and Berry 1988: 37; Wisker, Robinson and Shacham 2007: 315; Severinsson 2012: 220).

In addition to this, Hofstee (2006: 45) advises that a student needs to efficiently manage their storage and retrieval of information systems, both from within the accumulated literature (printed or electronic), as well as the statistical data and management of the referencing system. This requires that the student regularly saves their documents to more than one electronic data system or makes duplicate copies of printed data, so if one copy is lost, the information can be retrieved (Mouton 2001: 17).

Numerous authors on effective relationships indicate that if a supervisor perceives that their student carries out these responsibilities effectively and is seen to take responsibility for the management of their research dissertation, they . the supervisor - are more likely to be satisfied with their student's attempt in mastering the research process (Sayed, Kruss and Badat 1998: 280; Phillips and Pugh 2000: 1; Lessing and Schulze 2002: 140; Hofstee 2006: 7; Department of Chiropractic and Somatology 2014). Consequently, these supervisors may perceive that their student has attempted to fulfil their academic requirements and are more likely and willing to assist the student when they reach points at which they are uncertain or require direction (Jussim and Harber 2005: 131). This positive interaction between the student and their supervisor is often cited as positively meeting each other's expectations and hence each report a satisfactory experience (Beecham 2009: 138; Sumaedi, Bakti and Metasari 2011: 90; Danjuma and Rasli 2012: 101; Moore and Bowden-Everson 2012: 68).

### **2.9.2.3 To work autonomously**

As the Master's degree is a degree in which a particular field of knowledge is mastered by a novice researcher, it requires that the student acquire knowledge through their own abilities and efforts (autonomous learning) (Lessing and Schulze 2002: 140; Lessing and Lessing 2004: 78; Anderson, Day and McLaughlin 2006: 158; Republic of South Africa 2011: 83). This process places greater responsibility on students who are now accountable for their own achievements and their own learning (Lessing and Lessing 2004: 78; Anderson, Day and McLaughlin 2006: 158; Tobbell, O'Donnell and Zammit 2010: 263). However, if the student has not mastered the skills of life-long learning (Wangler and Wiles 2011: 48) or their learning techniques are not congruent with autonomous learning methods, then the student may be required to turn to the supervisor in requesting assistance to develop the skills necessary for completing the research dissertation (McPhail and Erwee 2000: 78). This

support may also come from academic development and / or writing centres as well as through postgraduate courses (Research and Postgraduate Support 2014). Therefore, the student would need to heed advice from their supervisor to make use of any such services or courses that may be available.

A lack of acceptance by the student that they do not have the requisite skill set(s) to tackle research or they are unwilling to push their ability boundaries, may provide a nidus for dissatisfaction on the side of the supervisor (who has identified the need in the student) (Vygotsky 1978: 32; Lessing and Schulze 2002: 139). Further, frustration may develop on the side of the student who perceives their supervisor as being too critical of their work, or over-zealous in their goal of achieving a higher end result than that which the student perceives as being satisfactory (Vygotsky 1978: 32). This mismatch between the student and the supervisor is likely to lead to dissatisfaction, disinterest for both parties and the submission of a dissertation that may not meet the required benchmark (Kiley and Mullins 2005: 246; Cheon *et al.* 2009: 61; Ginns *et al.* 2009: 584; Lessing 2009: 256).

Therefore, as evidenced from the preceding discussions regarding the perspective of the supervisor and the student, it is evident that each of these role players tackle the research relationship with a predefined opinion of their expected role (Lessing and Schulze 2002: 139; Kiley and Mullins 2005: 245; Nulty, Kiley and Meyers 2009: 694). These opinions stem from Hayes (1994: 22) perception that a 'Top-Down' approach may influence the manner in which students and supervisors perceive and interact with one another. This interaction is potentially fraught with possible areas of conflict, and areas not accounted for by either party where there is limited common ground that has the potential to lead to misunderstandings (Cheon *et al.* 2009: 61). In converse, the greater the degree of common ground, the greater the likelihood of the student and their supervisor agreeing with each other and as such, the more likely they are to feel satisfied within their relationship which most often produces a quality product (Cheon *et al.* 2009: 62).

## **2.10 The impact of different perceptual sets on the student / supervisor relationship**

Maund (1999: 440) explains that a perceptual set enables an individual to perceive the world around them in a particular way. Therefore, any unexpected difference in people's perceptual sets causes a different view of a particular event or a particular product (Berry, Zeithaml and Parasuraman 1985: 47). This disparity, either results in them addressing the

differences to improve the product, or it results in them disagreeing with each other and potentially being dissatisfied with the outcome of the interaction (Hayes 1994: 37). In terms of a dissertation, a student and / or their supervisor may perceive each other's roles and contributions differently (Lessing and Schulze 2002: 148; 2003: 167). This will challenge their respective perceptual sets, which may either be amenable to accepting the opposing view or result in conflict (Cheon *et al.* 2009: 54). Conflict between two people that are working towards the same intended goal of producing a quality dissertation, may result in frustration, misunderstandings and a resultant dissatisfaction with each other and the related processes that are required to be followed (Cheon *et al.* 2009: 54). This disharmony may ultimately affect the quality of the student's research dissertation (Cheon *et al.* 2009: 55; Ismail, Abiddin and Hassan 2011: 163).

The above relationship is critically important, as according to Hofstee (2006: 7), postgraduate research is probably the largest academic document that a student has had to construct, develop, collate and produce on their own with only guidance from a supervisor at periodic intervals. This standard of education is in accordance with the Higher Education Quality Sub-Framework in which the Master's degree is allocated a level 9 out of 10 possible levels on the Government Gazetted Framework (Republic of South Africa 2011). In the Chiropractic context however, because this research component is a compulsory requirement for registration as a practitioner (AHPCSA Act 63 of 1982 (as amended 2001)), and that they are required to engage the services of a supervisor (Department of Chiropractic and Somatology 2014); students may be under the impression that they need a great deal of supervisory assistance to satisfactorily complete their work (Lessing and Lessing 2004: 45). On the other hand, supervisors, for example Chiropractic supervisors, may perceive that their student has the intellectual capabilities (Anderson, Day and McLaughlin 2006: 154) to undertake research because the university has accepted them onto the postgraduate programme following their achievement of their B.Tech:Chiropractic degree (Department of Chiropractic and Somatology 2014).

Therefore, it is important to understand the reasons for the differences in perceptual sets, as these sets are unique to each person's memory box, which is responsible for storing previous experiences (psychosocial interactions), memories and thoughts that direct how people will respond to another person or to a task in the future (Cheon *et al.* 2009: 61). These differences are often the result of each other's demographic and psychosocial factors that according to Hayes (1994: 37), are inbuilt characteristics that cause people to see their environment or relationships in which they are involved differently. As a result, each of these

factors will now be discussed to contextualise their effect on the students' and their supervisors' perceptual sets which have the likelihood of affecting their interaction.

### **2.10.1 Demographic data and factors affecting “Top-Down” approach to perceptual development**

Demographic data includes a population's characteristics, for example: their age, gender, preferred language, ethnic group, disabilities, education level and employment status and are inherent in the study population prior to the researcher's study (Brink 2007: 194). Researchers use such data for statistical analysis / comparison to identify trends or relationships between people, their lifestyle, and for example, diseases (Hofstee 2006: 215). These associations assist in defining relationships between seemingly disparate factors, which can then be further investigated with additional research, to determine causality and directions of causality (Hofstee 2006: 215).

In respect of this study, demographic data included such personal factors that may impact on a student's / supervisor's 'Top-Down' approach to their perceptual development and thus their relationship.

#### **2.10.1.1 Age**

Age represents a chronological number, represented in years, that a person has been living. There are certain expectations of people according to their ages, for example, people between the ages of 17 and 22 years are often expected to be full-time students, with part-time work, mostly unmarried and mostly without children (Blauth *et al.* 2011). People older than 22 years of age are often expected to be in full-time work, with a diploma / degree or studying part-time, in a relationship, or married and with the view to having children (Blauth *et al.* 2011). According to Boucher and Smyth (2004: 346), students over the age of 21 years are classified as mature students whereas, in contrast, Redshaw and Frampton (2008: 99) indicated that mature students meant they were older than 40 years of age. Fleming and McKee (2005: 230) pointed out however, that such mature students were at a disadvantage because they had been out of the learning culture and therefore may have lost skills required for studying (for example: putting time aside to study; balancing work, social and study time, as well as coping and time management skills). In addition, older students often have more responsibilities than younger

students and therefore take longer to complete their research (for example: students less than 30 years of age may take 2.4 years to complete their Masters, whereas students between the ages of 30-39 or 40-49 may take 3.1 and 3.4 years respectively) (CHE 2009: 14). Furthermore, Blauth *et al.* (2011: 10) points out that mature students may have difficulty interacting with their younger colleagues because of different expectations and perceptions that come with age progression.

Such age progression represents different levels of responsibility and different life experiences which according to Yelkikalan and Ayhun (2013: 20), forms a generation of people with similar attitudes, abilities, beliefs, cultural trappings and assumptions of the world in which they function. According to Yelkikalan and Ayhun (2013: 20), people who are born within a similar time span share similar life experiences that give rise to expectations of such generations. Popular views on different generations assert that people born roughly between 1980-1999 form part of the Generation Y+ (Blauth *et al.* 2011: 8). This group of people, born especially circa 1990 are the current entrance age (22 / 23) for undergraduate students entering into postgraduate studies. This scenario mostly represents Chiropractic students, as they have studied for a minimum of four years for their B.Tech:Chiropractic degree, and are thereby approximately 22-24 years of age when they enter into their compulsory postgraduate studies (Rieder 2010: 51). This generalisation however, excludes mature age students that have re-entered the higher education system and may represent another generation of people born between 1964-1980 and who represent an X+ Generation (Blauth *et al.* 2011: 9) and who are often in the position of supervising students (Black 2008: 41; Talmage 2007: 60). These people may not be compatible with the younger Y+ Generation because these people were born into a more computerised technological era and therefore have different knowledge systems, preferences and as such different perceptions and expectations (Yelkikalan and Ayhun 2013: 20). The preferences of Generation Y+ people include:

- prefer email contact to face-to-face contact;
- are confident with various technological applications;
- value involvement in decision making and teamwork;
- prefer to receive help from mentors;
- are confident, ambitious, and are determined to succeed;
- are not afraid to question authority and
- are committed to their work.

Therefore, because of the variances in ages between the students, the supervisors are required to work at multiple age levels with the students they are supervising. This places significant demands on the supervisor as the mechanism by which they supervise each student may be based on their developmental maturity and therefore the supervisor needs to adapt their teaching style to optimise their students' work performance (Mountford, Jones and Tucker 2006: 135). Based on this level of diversity, and to optimise their own workload, it may be a necessity for supervisors to try and aggregate students whom they perceive are of a similar station, with regards to their personal and professional development (Armstrong 2004: 600). Such management skill may reduce their workload, but may not suit their students' learning style and so it is their subjective decision as to how their student may react to a collaborative working environment (Armstrong 2004: 41; Mountford, Jones and Tucker 2006: 133). This unilateral approach to solving their problem, may however, place them in an invidious position when the expectations they have placed on the student do not materialise as the student has a different perceptual set from that of the supervisor who made the decision (Hayes 1994: 37). These, often subtle differences in perceptual sets, are exemplified in the following examples of some supervisors who were born within the Generation %+-era who:

- prefers to work independently;
- may not work according to rules and regulations;
- questions authority;
- finds it difficult to trust others and
- places equal importance on friends and colleagues lives.

This shows that differences related to age, may therefore initiate discordance between the supervisor and student, which is further amplified when overt conflict occurs in the relationship. Such a conflict may arise out of the fact that Generation %+ seeks attention in that they look for regular affirmation and praise as well as expect complimentary feedback, reassurance and guidance on their work performance (Blauth *et al.* 2011: 33). As such, they find constructive feedback / criticism difficult to manage (Li and Seale 2007: 512), which may be the only affirmation that they will receive from a non-Generation %+ supervisor, or a supervisor that has no affinity for or experience with the needs of Generation %+ (Blauth *et al.* 2011: 9).



As such, different ages between a Chiropractic student and their supervisor may have an impact on their relationship. In addition, the student's age may have an impact on their ability to successfully submit their research because a study by Martin, Maclachlan and Karmel (2001) found that students between the age of 25 to 29 years are less likely to complete their studies. Similarly, Wright and Cochrane (2000: 190) indicated that students between the ages of 21 . 26 years of age were more likely than students over the age of 27 years to successfully submit their work. This is significant because most Chiropractic students by virtue of having completed their undergraduate degree are 22 years and older when they start their postgraduate studies (Faculty of Health Sciences Handbook 2014). Therefore, knowledge of how age may indicate a student's probability of successfully or not successfully submitting their research and how age has an impact on people's interactions with each other may help supervisors adapt their teaching style to suit their student.

This literature on the effect of age and that of age progression on completion rates is re-enforced by the statistical data published by the (CHE 2009: 21), where the average age for students enrolling in a Master's is reported as 30 years of age. Therefore, in the Chiropractic context, the students present a range of ages that may or may not be compatible with each other or between the students and their supervisor.

#### **2.10.1.2 Gender**

According to the results published by CHE (2009: 16), more males than females enrol in postgraduate degrees, except for the social sciences in which more females than males enrol in health orientated qualifications (CHE 2009:16). This too, is reflected in the demographics of the Chiropractic programme, where there are more registered female than male students (email communication, Kisten 02 February 2012). This may be because females are more interested in Allied Health Professions and a patient-centred approach, which are both hallmarks of the Chiropractic profession (Newell and Cunliffe 2003: 118). Additionally, a career in Chiropractic may appeal to females because the nature of the work allows them to work in solo-practice or in partnership with others (Black 2008: 1; Gordon 2012: 15). This, along with the freedom to not be restricted to formal office hours and the ability to dedicate time to family commitments (for example: marriage and caring for their children), may draw females to a greater extent (Chan and Willett 2004: 407). This

context however, contradicts the generally held belief that the Chiropractic profession is a male dominated profession (Chapman-Smith 2000: 2; Black 2008: 29; Keyter 2010: 35; Gordon 2012: 41). This scenario illustrates two fundamentally different perceptual sets that conflict at a macro-level; that of known published statistics on the one hand; and general public perception on the other.

Therefore, when analysing the micro-level relationship of the student and the supervisor, it becomes evident that there may well be a larger pool of male supervisors contrasting with a larger pool of female students. This provides an interesting dynamic where the perception of research by males and females may form the basis for differing perceptual sets and thus expectations within the research relationship (Boureau 2005: 2).

This dynamic may be highlighted in so far as female students may work harder to attain a qualification to dismiss previously held assumptions that females are passive or not academically inclined (Wright and Cochrane 2000: 182). Their attitude may reflect through conscientiously organising and preparing for meetings, completing draft work and handing in work on time so they complete their research quickly to allow for more time with their partner and family (Lekalakala-Mokgele 2008: 48). In contrast, the male supervisor may be resistant to such driven and motivated actions and feel that the female student is trying to manage the relationship (Hammick and Acker 1998: 335). This scenario may be amplified if the supervisor is a younger male trying to exert his authority in the relationship and the student is an older female, who has multiple concerns in her life beyond that of her research dissertation (Boureau 2005: 2). This mismatch in their perceptions and clash of expectations is likely to lead to conflict between them, and a disinterest in resolving such disputes which may lead to the student withdrawing from the programme and negatively commenting on the supervisory service that they received (Hammick and Acker 1998: 335).

Conversely, studies have shown that more females than males are able to empathise with people, whereas more males find discussing emotional issues difficult (Boureau 2005: 3). This may indicate that female supervisors are more able to discuss work and personal issues with their student (male or female) than their male counterparts (Hammick and Acker 1998: 337). In this context, these researchers indicate that such discussions form the basis for a satisfactory relationship that promote a student's confidence, which in turn gives them the self-belief they can undertake research (Van Der Westhuizen, De Beer and Bekwa 2011: 477). However, it may also provide a

nidus for potential problems, particularly if an older male student has a young female supervisor who is not comfortable discussing personal or psychosocial issues that may impact on their student's performance (Hammick and Acker 1998: 336; Phillips and Pugh 2000: 118). This may also occur in other examples of supervisory relationships as Phillips and Pugh (2000: 118) and Hammick and Acker (1998: 337) note that cross-gender supervision, especially between a female student and a male supervisor, may cause problems because the supervisor may shy away from discussing emotional / psychosocial issues for fear of upsetting their student or because they may be seen to be prying unnecessarily into their student's life (Hammick and Acker 1998: 337; Phillips and Pugh 2000: 118).

It can, therefore be seen from the above-mentioned scenarios that gender may provide a basis for discordance based on role stereotyping, emotional development and perceived roles (Hammick and Acker 1998: 337; Phillips and Pugh 2000: 118). However, it may also provide a basis for discordance on a practical level. Meelissen and Drent (2008: 970) found that females were less confident in utilising technology when searching literature, potentially predisposing them to providing inappropriate or limited literature for their research dissertations (Anderson, Day and McLaughlin 2006: 154). This may contrast with a male supervisor who is more proficient and demanding of work that the female student is able to confidently provide. This may frustrate the female student, who perceives the task to be difficult, overbearing and time consuming and would therefore be required to spend more time in the library and away from family commitments. If these frustrations are not addressed by the female student's male supervisor, (who may not grasp their student's problem or know how to effectively manage it), a breakdown in their communication will result in dissatisfaction and unmet expectations (Engebretson *et al.* 2008: 12).

### **2.10.1.3 Ethnicity**

South Africa is home to a diverse range of ethnic populations, with the main population groups categorised as Black, Coloured, Indian and White (Higher Education in Context 2013). Often, but not necessarily so, ethnic groups have a common ancestral and cultural platform (Teferra and Altbachl 2004: 23). This is augmented by common places / areas of living, communal gatherings, similarity of spoken language, tradition and cultural threads. For example, the majority of black people who live in the greater Durban area speak isiZulu (Lekalakala-Mokgele 2008: 47), whereas coloured people live predominantly in the Western Cape and most

commonly speak Afrikaans (Mdepa and Tshiwula 2012: 20). In contrast, the Indian population is based predominantly in KwaZulu-Natal and adhere to Islamic, Hindu or Christian religious belief systems and strong ties to India (Teferra and Altbachl 2004: 23). The white population however, is more widely spread out and is predominantly identified by their affiliation to either the English or Afrikaans spoken languages and an ancestry that stems from Europe (Teferra and Altbachl 2004: 23).

Many more black students are now entering into postgraduate studies than in previous years (Lekalakala-Mokgele 2008: 45; CHE 2009: 12). They would have been born in the post-apartheid years, and as such, many of them are still the first in their families to have entered higher education and attained a level of education allowing them to study for their Master's degree (Mdepa and Tshiwula 2012: 20). This is irrespective of the fact that their schooling may still have disadvantaged them and placed significantly more obstacles in their way as compared to students of other ethnicities (Schlebusch and Thobedi 2004: 47). This may mean that a black student at a Master's level, may not have been exposed to appropriate learning or coping skills (for example: time-management / study skills) that are required to successfully negotiate postgraduate studies (Schlebusch and Thobedi 2004: 36). Therefore, whilst a supervisor may expect that all their Master's students have the same level of academic training and personal development, for example: are fluent in the English language, learnt higher order cognitive skills, as well as acquired study and time management skills, this may not be true of their black student. The reason according to Schlebusch and Thobedi (2004: 36) is because black students in South Africa are more likely to speak one of the nine official black languages such as isiZulu, if born in Kwa-Zulu Natal, and / or may not have been exposed to a similar schooling as their white counterparts because of the lower standard of schooling system (Mdepa and Tshiwula 2012: 20). They may therefore require more assistance than another student of another ethnicity who understands the nuances of the English language (McKenna 2004: 277). This latter ascertain may be predominately reflected in the Chiropractic programme in which the majority of students are white or indian and therefore have English as their first language (Grant 2006: 56; Keyter 2010: 51; Rieder 2010: 148; Gordon 2012: 63).

This scenario, although outlined for a particular ethnic group, may be applicable to any student entering the Chiropractic Master's programme (as interviewed Korporaal 15 April 2012). As such, it therefore becomes imperative that the supervisor advise and assist any of their students lacking in English writing and academic literacy / language proficiency and other skills that may be required (namely, time

management / interpersonal skills) to successfully negotiate the Master's programme (McKenna 2004: 277). This advice may not be compatible with some students who cannot understand their social differences and if not explained with respect, the advice may come across as rude and insulting creating a further break-down in the relationship with resulting feelings of dissatisfaction (Ellis 2001: 41; McKenna 2004: 277; Blauth *et al.* 2011: 6).

On the same line of thought, a male student may resist being told that he does not have all skill sets to successfully complete the task and a female student may accept the challenge but take longer to benefit from the help provided by their supervisor (Howard, Carver and Lane 1996: 227; Mountford, Jones and Tucker 2006: 133). This may be because of a belief system that females are required to help in the home and males are to be more respected as they take on a more dominant and decision-making role than females (McKenna 2004; Meelissen and Drent 2008: 972; Mdepa and Tshiwula 2012: 19).

These challenges are further complicated by the views that different cultures hold of age, gender and authority. Stereotypically, an older African male student may have difficulty taking advice from a younger female supervisor, and although authority may be seen as important in some cultures, a male supervisor may be inappropriate for female students in other cultures (Mdepa and Tshiwula 2012: 19). This may be because difficulties in authoritarian management may cause conflict if the female student believes her role is equal to her supervisor (Snyder, Tanke and Berscheid 1977: 656). These interpersonal beliefs are also compounded by commonality of language where simple elements of greeting, interpersonal discourse and communication may pose a problem between supervisors and students, where comments by one party that are meant genuinely are misconstrued as being inappropriate by the other (Mdepa and Tshiwula 2012: 19).

These points where cultural, ethnicity, tradition, language and historical belief systems intersect may therefore pose challenges for students and supervisors who do not discuss these differences and deal with them as they arise (McCormack 2004: 320; Mdepa and Tshiwula 2012: 20). Such problems may cause misunderstandings, frustration, and dissatisfaction if one party feels that their values have been swept aside and thus a breakdown of the relationship generally follows (McCormack 2004: 321). This could be avoided by discussing expectations and beliefs in the context of each of the supervisor's and the student's position in life and how these are

anticipated to play a role in the supervision relationship (Engebretson *et al.* 2008: 12). Therefore, it is crucial that the relationship parameters are determined in advance so that misunderstandings are minimised, expectations met and a positive research relationship is established, allowing growth for the student, facilitation by the supervisor and the development of an appropriate research dissertation as a result of the supervisory process.

#### **2.10.1.4 Other qualifications**

According to Mouton (2001: 64), the more students study and achieve their goals, the less likely they will fail in their future endeavours and therefore they are more likely to complete successive qualifications, including research. McKenna (2004: 270) concurs, stating that this is because students have developed coping mechanisms such as time management and / or appropriate academic skills, which are vital for successful studies. In addition, and according to Lessing and Schulze (2002: 140) studying is a cumulative combination of intellectual capabilities as well as the motivation and determination to succeed.

Therefore, supervisors may expect that their student, who already has a Master's degree, is more aware of what to expect of their postgraduate studies and as such focus their attention on other students who are completely new to research. In addition, if the student is a more mature / older female and has a family history of higher education degrees in her family, it is likely that the supervisor will assume that she has the requisite experience and support to complete her dissertation. This could suggest that she would require less of her supervisor's time than that required by a younger, male student, who is the first of his family to enter into higher education. This potentially stereotypical view may negatively affect the student-supervisor relationship if the female student (in the above example) does not perceive her research skill set in the same positive light as her supervisor. This may result in the perception that the supervisor is inattentive and so result in an unsatisfactory experience. Similarly, the male student may have developed competencies that would negate the need for the supervisor to 'micro-manage' the process for him, resulting in frustration that he cannot be more in charge of his research process. Therefore, the supervisor needs to manage these perceptions and integrate them with the student's actual academic ability before deciding on a particular style of supervision and agreeing to their student's learning contract (Mountford, Jones and Tucker 2006: 311). The same can be said of a student when choosing a supervisor.

Their qualification, age, gender, area of study interest, or other supervisory skills should not be taken in isolation when making the decision to choose a supervisor (Boureau 2005: 4; Engebretson *et al.* 2008: 12; Blauth *et al.* 2011: 5). Therefore, a student needs to base their choice of a supervisor on personal compatibility as well as knowledge of their supervisor's reputation before engaging in their services.

#### **2.10.1.5 Marital status**

Being in a partnership or married has been identified as a factor that may hinder achieving quality research because of increased family responsibilities (Rendón, Jalomo and Nora 2000: 129). This is particularly relevant to the husband, who will often feel obliged to provide for his family (Kozina 2002: 82). This emotional hindrance is usually less onerous for the wife as she is often not the breadwinner, and can utilise more flexible times for research, particularly if she is only employed part-time or is a full-time home executive. However, some researchers indicate that family may play a role in helping their family member achieve a degree because of encouragement and of understanding what research entails, especially students whose other family members had previously undertaken a postgraduate research degree (Wintre and Yaffe 2000: 10).

Therefore, a supervisor may expect that, if their student is married or living with another and receives financial and interpersonal support, they may have a higher likelihood of successfully completing the research component of their postgraduate degree (Lessing and Lessing 2004: 79; Anderson, Day and McLaughlin 2008: 42). If a supervisor can identify these enablers / influences, the supervisor may assist in managing their student more effectively, where the student's support system is stable. The degree of stability may also assist in negating negative perceptions of a husband / father or wife / mother who feels that he or she is neglecting his / her family because of the difficulties they may be experiencing with balancing work and research and family time, especially if their cultural beliefs dictate that they should put family first. Therefore, a supervisor who understands their dilemma may provide for a more satisfactory environment and hence enable a family orientated student to complete their research by not insisting on stringent deadlines, and being more flexible to their needs.

In contrast, a single student (as in the majority of Chiropractic students (Grant 2006: 58; Rieder 2010: 56)) may provide a greater risk for the supervisor as they may not

necessarily have the requisite support required to complete their research. The supervisor, however, needs to be sensitive enough to determine whether the individual case scenarios follow the stereotypical patterns portrayed in the literature, as dissatisfaction on the side of the student or the supervisor may result in incorrect assumptions and a supervision strategy that alienates their student (Yelkikalan and Ayhun 2013: 22).

#### **2.10.1.6 Subject failure / academic progress**

According to Kim *et al.* (2010: 114), students who previously achieved high marks for their undergraduate studies, went on to achieve a high result for their research dissertation. The converse, according to Kim *et al.* (2010: 114) was also true; students who achieved low results in their previous subjects had difficulty with their dissertation or took longer to complete it. These implications suggest that low achievers have not acquired the requisite skill sets to manage or follow through on a project as outlined and required by a Master's dissertation. This outcome is, however, highly dependent on the assumption that their undergraduate studies actually prepared the students adequately for the research process. High performers in the undergraduate qualification who are not provided with the requisite skill sets for research (for example: academic writing), may falter as much as the students who either did not use the opportunities provided or did not develop the skill sets required for research.

This means that supervisors need to be careful, as assumptions regarding student skill sets can easily lead to misunderstandings. If the supervisor allocates spelling, grammar, technical layout and referencing to their student as their principle responsibility in the presentation of the dissertation, and they do not have the requisite skill sets to effectively complete these allotted tasks, then the end result will either be a dissertation of low quality or it will lead to a point of frustration for the supervisor who perceives their student as *lazy* or *careless* (Hofstee 2006: 213). The student by contrast is inevitably left frustrated as they are not in a position to understand their shortcomings until such are pointed out.

The above scenario is compounded by the fact that supervisors may become frustrated in that they may be required to increase their time spent with their student in showing them how to master research skills. Similarly, if they are supervising



several students, they may not have the required time to do so, or alternatively other students may lose out on their supervision time.

### **2.10.1.7 Language**

In South Africa, English is the medium in which postgraduate research is generally written (Lekalakala-Mokgele 2008: 47; Hoffman and Julie 2012: 4). It is also the medium of instruction at the Chiropractic Department and at this UoT (Research and Postgraduate Support 2014). The hallmark of a quality dissertation is research that is well-written in which students display their skills in academic writing / language proficiency and correct use of grammar and spelling (Hofstee 2006: 199). Examiners, through use of their marking checklist, have been given the authority to negatively or positively comment on poor academic writing / language proficiency and syntax skills, as well as incorrectly spelt words (Lessing 2009: 263). According to Veeravagu, Muthusamy and Marimuthu (2010: 211), students who are proficient in English are more likely to achieve success at their universities in which English is the medium of instruction. However, in South Africa, there are eleven official languages, and at this particular UoT, any one of these or other international languages could be spoken on campus (Mdepa and Tshiwula 2012: 21).

Therefore, English speaking supervisors, especially if they are skilled in academic writing may perceive that students whose home language is English will also be proficient in academic writing. Supervisors with such academic and linguistic skills may not realise that some students may find academic writing / language proficiency far more difficult than other students and therefore may not realise that English writing is in fact a learnt skill (Veeravagu, Muthusamy and Marimuthu 2010: 211). If supervisors do not detect their students' difficulty, their student may feel very isolated with their problem, overly criticised when they receive feedback, lost in their inability to produce the required material and ultimately feel that their supervisor does not care about them (Li and Seale 2007: 512). The problem may be more pronounced with non-English speaking students, in which they attempt to take on a large project and do not have the English language skills that enable them to understand grammar rules or to work out correct spelling of words (especially differences between USA and SA / UK English) (McKenna 2004: 269; Mdepa and Tshiwula 2012: 20).

### **2.10.1.8 Living with dependants / persons with disabilities**

Living with children / elderly or disabled members of the family places a great deal of stress on a student, especially if the student is the sole breadwinner for the family (Kozina 2002: 83). This is more pronounced if the student has very little support due to the focus on the extended family or the disabled family member and / or the student is expected to contribute to the care of the disabled family member (Sayed, Kruss and Badat 1998: 282). This is because dependents or persons with disability require more assistance with their care and thus their carer (the student) is unable to focus on their research for any length of time (Sen and Yurtsever 2007: 238). Children or disabled family members also add to the financial cost of living and the additional time that is required to care for them may detract them from their research endeavours (Sen and Yurtsever 2007: 238). In addition, if the research student has developed reclusive / anti-social activities based on the increased time spent with dependents or the disabled family member, this isolationism may predispose the research student to having problems articulating not only with the supervisor but also in the processes involved in compiling a research dissertation (Tobbell, O'Donnell and Zammit 2010: 263). The added stress of the caring role combined with the need to provide for their family member and undertake research may prevent the student from being able to focus on their studies fully and / or communicate effectively with their peers / supervisor on the difficulties they may be encountering (Sayed, Kruss and Badat 1998: 282). This may be especially so for females who may feel that their male supervisor may perceive they are unable to cope with their family and study demands. Similarly, a male student may be unable to communicate with a female / male supervisor for fear that they do not wish to be seen as inadequate or unable to deal effectively with the stressors in their life.

### **2.10.1.9 Living with personal disabilities**

Certain disabilities may hinder a student's or supervisor's ability to achieve their potential or it may cause the student to take longer to complete their studies (Fiorin 2010: 18; The National Center for Learning Disabilities Inc. 2014). Disabilities include any problems pertaining to the senses that do not enable people to function optimally (when compared to those without the disability) (Fiorin 2010: 18; The National Center for Learning Disabilities Inc. 2014). This includes physical disabilities such as changes in the use of limbs (proprioception), cognitive function, physical disability,

sight, hearing, touch and / or taste. It also includes cognitive difficulties such as dyslexia, which limits a person's ability to accurately process information (Fiorin 2010: 18).

The impact of physical difficulties, especially if they are wheelchair bound may restrict a student from entering into university, if that university does not have ramps that enable wheelchair access (Thapar *et al.* 2004: 280; Cass, Shove and Urry 2005: 548). Students who are blind or deaf may find a university that gears its education system more toward able-bodied students, problematic. However, as chiropractic training requires students that have physical ability and their senses intact (Faculty of Health Sciences Handbook 2014: 37), therefore, these students have a higher likelihood of presenting with problems around learning, with dyslexia being the most common (interview with Korporaal 10 May 2012). Thus, these students may find problems related to comprehension, and advanced writing skills which may necessitate an increase in the length of time it takes them to complete their work (Fiorin 2010: 18; The National Center for Learning Disabilities Inc. 2014). Students with such problems, especially if they compare themselves with their peers who complete their work more quickly, may suffer from low self-esteem and believe that they are less intellectually incapable (The National Center for Learning Disabilities Inc. 2014). In the postgraduate environment, supervisors who are unaware of their student's difficulties may not give them the extra time, space or support that is required to complete their work.

#### **2.10.1.10 Supervisors' highest education qualification**

University policies and procedures indicate that only people who have achieved their Master's or PhD may supervise a student's research (CHE 2009). Similarly, students can only request assistance from a supervisor from the department in which they are undertaking their research (Department of Chiropractic and Somatology 2014). Therefore, all Chiropractic supervisors are members of staff and have their Master's Degree in Chiropractic. In addition, they were probably students of the same UoT, because the Chiropractic qualification is only offered at two universities within South Africa.

Sharing a similar qualification may indicate that some supervisors understand the pitfalls of research and empathise with a struggling student. In contrast, other supervisors, who may have breezed through their postgraduate studies, may not

understand the difficulties that their student may be encountering. Students, however, may perceive that their supervisors' experience may indicate that they have the knowledge required to guide them in their research and if they perceive they do not / have not perceived such guidance, a mismatch in understanding each other's abilities may cause either party to feel dissatisfied with the other.

Supervisors may also specialise in a particular field and it is to this particular pool of supervisors that a student is directed, in their search for a supervisor (Department of Chiropractic and Somatology 2014). However, Hofstee (2006: 65) advocates that supervisors need not be experts in the topic the student has chosen. Instead, he advocates, as does Mouton (2001: 17), that supervisors should have more knowledge on the research process and how to optimise their students' performance than to be a content expert. However, by contrast, the student may require or expect that the supervisor is a content expert and therefore feel that they are being disadvantaged when their supervisor knows less than they do (Mouton 2001: 17; Lessing and Schulze 2002: 60; McCormack 2004: 234; Lovitts 2005: 137; Malfroy 2005: 166; Hofstee 2006: 69; Manathunga 2007: 225; Lekalakala-Mokgele 2008: 46-49; Drennan and Clarke 2009: 485).

#### **2.10.1.11 Employment status**

There is a financial cost involved in registering for postgraduate studies (Mouton 2001: 75). Effective universities include the cost of computer and related software / Internet usage, and photocopying and printing access at a lower cost. However, in addition to the cost of living, these are often factors cited by students as reasons for not completing their degree (Moore and Bowden-Everson 2012: 65).

Even though most good universities offer financial support to assist students (as in a non-repayment loan), a number of students work part-time to supplement their finances (Research and Postgraduate Support 2014). Working part-time reduces the time that they can allocate toward their studies which is another factor of concern because students often underestimate the time that is required to concentrate on their research. According to Mouton (2001: 76), and in addition to the departmental budget that is allocated to all students, students can also apply for scholarships and / or bursaries. An effective supervisor can guide their student towards applying for such assistance if they are aware that their student is in financial difficulty (Ssegawa and Rwelamila 2009: 315). However, if their student fails to communicate such

information, they may feel dissatisfied with the research process because they may perceive that their university does not offer financial assistance.

#### **2.10.1.12 Parents or guardians' level of education**

Vellymalay (2011: 60) found a positive relationship between academically successful parents and their children's high academic aspirations at school. According to Vellymalay (2011: 60), this is because these parents fostered coping skills (balancing study and social time) and used various strategies to help them progress academically (for example: offering tuition and guidance on examination preparation). Therefore, supervisors with knowledge of their students' parents' academic success may expect more input from them than from students who are first generation entrants into postgraduate studies (Kim *et al.* 2010: 114).

Vellymalay (2011: 61), Tobbell, O'Donnell and Zammit (2010: 263) and Kim *et al.* (2010: 114) also point out that first generation students who enter into postgraduate studies may have more difficulties than students whose home environment includes graduates. This is because these first generation students have gained entry in higher education without academic help from parents or significant others, but, they may have received other help (for example: financial support, child or elderly folk care). Vellymalay (2011: 61) also found that parents with lower levels of education were unable to foster or help their children academically because they had not been exposed to strategies or skills that are important for academic success. However, they may have helped through fostering a sense of psychological motivation such as determination, self-discipline, and self-efficacy (Lessing and Lessing 2004: 79; Anderson, Day and McLaughlin 2008: 42). These latter qualities, although good, can sometimes be counterproductive in a partnership agreement with a supervisor where self-determination and self-efficacy sometimes need to be reigned in, as the student is required to comply with requests from supervisor (which are not always congruent with the student's understanding or perception).

#### **2.10.1.13 Previous exposure to research**

Research has also shown that a student's previous exposure to research may be positively or negatively associated with a better understanding or a reduced understanding respectively of what to expect of the research process (Zhang 1996:

447). Newell and Cunliffe (2003: 118) indicated that students who were previously involved in research were more likely to have a better understanding of the research requirements (time management / research skills / academic literacy), than students who were completely new to research writing (Tobbell, O'Donnell and Zammit 2010: 263). However, their positive or negative perception of their experience may affect their expectations of doing research accordingly. Such exposure may mean that their experience may dictate certain expectations of their supervisor. Therefore, their new experience may confirm their previous perceptions of a satisfactory or dissatisfactory experience or it may alter their expectations (Hayes 1994: 37). These feelings, according to Newell and Cunliffe (2003: 118) may be because students who have previously been exposed to research may have a better understanding of what it entails, and the time that is required to complete a quality dissertation. Therefore, previous exposure may help students realistically understand the demands upon supervisors in terms of time.

#### **2.10.1.14 Computer and Internet access at home**

The 21<sup>st</sup> century too, is characteristic of the computer age, in which people expect others to be proficient with computer and Internet usage (Teferra and Altbachl 2004: 21; Moonsamy and Singh 2012: 11232). The use of a computer and related Microsoft Word programmes is essential for a research undertaking (Research and Postgraduate Support 2014). This is because for a dissertation to be assessed for its quality, it needs to incorporate technical details that reflect academic and professional attributes, such as the requirement for a right and left justified, typed dissertation with correct and consistent size fonts for headings, text, and line and paragraph spacing (Hofstee 2006: 167; Johnson and Green 2009: 1; Research and Postgraduate Support 2014). Some effective universities offer postgraduate students a common room with computers and printers for their use (Lekalakala-Mokgele 2008: 45). This is to cater for the needs of students who want to work in quiet and especially for students who do not have access to computers and its related software at home (Lekalakala-Mokgele 2008: 46).

Similarly, a service that good universities offer all students (and staff) is on-line access to their policies and procedures and journal articles, and books. The purchase of such software enables students and staff to 24-hour access to a vast amount of on-line articles and e-books. Such a service promotes the speed and proficiencies with which a student or staff member can access information without

spending time, petrol, and leg-work+ that is often required for searching library shelves for information. On-line e-books also help students gain access to popular books that are all too often not on the library shelf when needed. Without such an accessible facility, students would find progressing with their studies more difficult, especially with the added burden of looking after families and working full-time.

Concurring with the above, Mazloomdoost *et al.* (2007: 523) study on Iranian students found that the lack of computer access and Internet usage or the inability to effectively utilise such, was a major factor preventing students from completing their work. In addition, Meelissen and Drent (2008: 969) also showed that students who were not proficient in computer research had more difficulty accessing a wide range of information and therefore were less likely to create a quality dissertation because they did not have sufficient literature to discuss their topic.

### **2.10.2 Student and supervisor expectations of their university**

According to Dann (2008: 333); Oplatka (2009: 208); Al-Alak and Alnaser (2012: 157); Danjuma and Rasli (2012: 97), a university's role is not unlike that of a successful service organisation in which stakeholders contribute to and influence the well-being of their organisation. These leading theorists on quality management assert that successful organisations have similar attributes in common. These attributes include the importance of investigating what the customer expects from them; employing good leaders who are committed to achieving quality through continuous education; use of appropriate statistical and analytical tools, good management (i.e. understanding their employees, what they want) and efficient use of resources (Dann 2008: 333; Oplatka 2009: 208; Al-Alak and Alnaser 2012: 157; Danjuma and Rasli 2012: 97). In addition, Parasuraman, Zeithaml and Berry (1994b: 112) emphasised that the employees'/ supervisors' motivation and attitude toward their role is paramount in their quest for achieving a quality product or service. Therefore, numerous researchers state that as for commercial service organisations, stakeholders, specifically students could expect their university to take on these attributes so that they too are part of a successful organisation (Parasuraman, Zeithaml and Berry 1994b: 112).

In a university context, it is generally perceived by stakeholders, that a university functions as a higher education service to advance student skills so they enter into their careers with more theoretical knowledge, greater independence and an economic awareness of how their actions may impact on their environment (du Pré 2010: 59). Students, astute to good business practice, could assume that a university should be managed like a successful

organisation (King's College London 2013). As such, some students expect that a university's role is to provide a similar environment as that of prominent service organisations so that their environment is also conducive to promoting success (Billington 2000: 1).

Therefore, students could expect that their university will provide: leadership; a research culture and resources conducive to research, competent staff; open lines of communication; and support to departments that offer research (Lekalakala-Mokgele 2008: 44). In addition, as stakeholders, students could expect their university to undertake these responsibilities to satisfy their need so that they achieve a quality pass. This is especially so for perceptive students who believe Harvey and Green's (1993: 9) assertion that good universities only enrol good students who will achieve good results because they are academically capable and have the support of their university.

## **2.11 Current / contextual Psychosocial or “Bottom-Up” factors**

In respect to this study, current psychosocial data includes cultural and psychological factors that impact on the Bottom-Up approach to a student and their supervisor's perceptual development (Mountford, Jones and Tucker 2006: 133). These factors include:

### **2.11.1 The dyadic relationship**

Most supervisory relationships take place within the confines of the supervisor's office or another mutually acceptable venue at an agreed time (Wisker, Robinson and Shacham 2007: 301; Nulty, Kiley and Meyers 2009: 693). However, many supervisors complain of the stress that such a one-to-one relationship may add to their already heavy lecture load, contact load and overall workload (Lessing 2009: 79). In addition, these private meetings add to the expectation that the supervisor has the answers and / or knowledge to teach their student everything they need to know to achieve a quality dissertation (Straus and Sackett 2012: 367). Therefore, a student who perceives that their supervisor does not have all the answers may feel that they cannot rely on their supervisor and feel dissatisfied as a result (Straus and Sackett 2012: 367). To prevent such dissatisfaction, de Beer and Mason (2009: 216) suggested that students who experienced supervision as a collaborative concern felt much happier within such a group interaction.



This co-operative relationship is usually firmly rooted in effective communication and trust (Zeithaml and Berry 1988: 37; Unsworth *et al.* 2010: 874; Yang, Huang and Wu 2011: 259). According to Thomas and Mengel (2008: 308); Yang, Huang and Wu (2011: 260), regular communication between the seller and the customer (and in the context of this study, the supervisor and student) builds trust because through the process of communicating, people are often able to resolve misunderstandings (Zeithaml and Berry 1988: 37; Dysthe, Samara and Westrheim 2006: 311). This is supported by Yang, Huang and Wu (2011: 259), who also point out that each party's ability to trust is a central factor that promotes a mutually successful relationship. This is because such feelings of trust lead to open communication that is facilitated through respect and acknowledgement of the other's opinions (Dysthe, Samara and Westrheim 2006: 311; Yang, Huang and Wu 2011: 260). A relationship formed on the basis of trust also allows one or both parties to delegate requests or instructions in the knowledge that the task or service will be carried out conscientiously (Thomas and Mengel 2008: 308; Park and Lee 2014: 154). This perception that one party can rely on the other, (for example: a service provider's expertise, and a motivated employee) (Park and Lee 2014: 154) or an effective supervisor and motivated student (Unsworth *et al.* 2010: 874) bodes well for an effective and efficient completion of a task, such as a research dissertation (Yang, Huang and Wu 2011: 260). In the context of a student / supervisor relationship, if one or other party cannot trust the other, or either or both parties cannot trust their university's policies or procedures, dissatisfaction will arise because their perceived knowledge differs from their expectations (Unsworth *et al.* 2010: 874). Such misunderstanding or dissatisfaction is often a result of role confusion or role ambiguity in which people are confused as to their responsibilities within the organisation (Zeithaml and Berry 1988: 41).

### **2.11.2 The compulsory requirement of research**

Without successfully completing their research component, the Chiropractic student is unable to register and therefore practice his / her chosen profession (AHPCSA Act 63 of 1982 (as amended 2001)). This means that, unlike other students who have an innate interest to further their general knowledge through research in their own time (North, Zewotir and Murray 2011: 1), Chiropractic students have a compulsory requirement to complete a research dissertation prior to being able to sustain themselves within their communities (AHPCSA Act 63 of 1982 (as amended 2001)). Weber and He (2010: 6) indicate that this mandated requirement externally motivates

a student into ~~doing~~ something they would otherwise not necessarily find interesting. According to Harmer (1991: 51) motivation is "some kind of internal drive which pushes someone to do things in order to achieve something" and similarly, Dörnyei (2001: 6) proposes that motivation is "why people decide to do something, how long they are willing to sustain the activity and how hard they are going to pursue it". Porter, Bigley and Steers (2003: 6) assert that motivation is a factor that energises, direct and sustains behaviour. In the context of this study, unless a Chiropractic student has an innate interest in pursuing research, the external drive / motivation to complete a research dissertation may create antagonism within their student / supervisory relationship (Sawyer *et al.* 1997: 173; Newell and Cunliffe 2003: 118). Such an attitude too, may indicate their disinterest in pursuing their research to their optimal ability (Newell and Cunliffe 2003: 118).

The Ssegawa and Rwelamila (2009: 316) study highlighted the difficulties students experienced in working on something (for example: their research dissertation) if they felt it was either unnecessary or they felt they did not have the confidence or ability to complete a dissertation (Newell and Cunliffe 2003). However, Suter *et al.* (2007: 111) and Weber and He (2010: 39) indicated that the majority of students interviewed in their respective studies stated that they perceived research as a vital part of the Chiropractic curriculum as the skills they developed helped them as a practitioner. Therefore, it would seem that students who felt that research is unnecessary, might find research more difficult because of their negative attitude in being ~~forced~~ to compile a research dissertation in which they hold no interest.

### **2.11.3 Different learning and teaching styles**

Another factor that may complicate the dyadic relationship and therefore have an effect on the quality of the dissertation produced is that of the students learning style and the supervisors teaching style (Howard, Carver and Lane 1996: 227). Learning is a continuous process of acquiring knowledge or skills through personal and social experience, attending school, and listening to other people's experiences (Honey and Mumford 1989: 1; Mountford, Jones and Tucker 2006: 133). A learning *style* is a person's preferred approach to acquiring knowledge, which may change according to the environment in which they are studying (Dunn and Dunn 1979: 242; Mountford, Jones and Tucker 2006: 133). According to these researchers, there are four different approaches to learning and people can be categorised as an: Activists,

Reflectors, Theorists, and Pragmatists (Mountford, Jones and Tucker 2006: 133) (Table 2.1).

**Table 2.1: Different Learning Styles**

Learning style	Description
Pragmatist (planning)	Pragmatists like a challenge in so far as to practically apply theories to solve problems
Activist (experiencing)	Activists prefer to learn through experience, and prefers to lead discussions and enjoys brainstorming
Reflector (reviewing and observing)	Reflectors prefer to observe and listen before offering ideas, They like to review information from many different aspects before coming to logical decision. However, they are not well versed at applying their knowledge
Theorists (thinking)	Theorists prefer to systematically give information a great deal of thought. They like to analyse and use a step-by-step approach to answering questions
Adapted from Honey and Mumford Learning Styles Questionnaire (1989).	

According to Honey and Mumford (1989: 1), reflectors and theorists are more suited to conduct research because of their thoroughness in finding information. Pragmatists and Activists tend to be more task-orientated in that they prefer to learn through experience and through applying their information to solving problems.

In addition, Mountford, Jones and Tucker (2006: 133) speculate that the dyadic relationship created through research promotes a student's reflective and theoretical skills. Therefore, it may be more important that the supervisor consider teaching students that are pragmatists / activists in smaller increments as opposed to those that are reflectors / theorists, as the latter may be able to work more independently from the start and require less guided and prescribed input (Armstrong, Allinson and Hayes 2004: 41). Supervisors may expect their students to adapt readily to research because of their prior academic training in Research Methods and Techniques 1 (Faculty of Health Sciences Handbook 2014), however, if their prior learning has been at odds with the teaching styles, then the degree to which prior learning will facilitate good supervision is limited (Murtonen 2005: 218). This mismatch may reflect that the Chiropractic curriculum does not offer students the opportunity to write academically and therefore the student does not learn the skills of evaluating and critical thinking (Meseke, Nafziger and Meseke 2010). Instead, the curriculum focuses on problem solving questions and multiple-choice questions that serve mostly to test the student's memory and knowledge of their subject (Faculty of Health Sciences Handbook 2014).

Similarly, intellectually high performing students may expect to do well in their research, particularly if they feel that the supervisor is either hands on (pragmatist / activist) or a sounding board (reflector / theorist). If however, there is incongruence between the pragmatist / activist student and the sounding board supervisor, this may lead to their dissatisfaction as their learning / teaching styles are not compatible. This is outlined in the Mountford, Jones and Tucker (2006: 134) study on physiotherapy students, where it was reported that male students significantly preferred a pragmatist style of learning while female students preferred reflecting on their work. If a comparison can be drawn between physiotherapists and Chiropractors (both are manual therapy professions), it could be assumed that Chiropractic students may prefer reflecting, especially as most Chiropractic students are female (Rieder 2010: 148) and Kisten (email communication 02 February 2012). Therefore, it may be necessary for the supervisor to be less prescriptive to their student and to allow more time for more independent study. This may cause undue frustration for students, especially male students, who may not fit in with the expected reflective learning style (Mountford, Jones and Tucker 2006: 133).

Much like the above learning styles, Kam (1997: 97) indicates that academically versed students wanted their supervisor to help them with their research methodology, whereas highly motivated students wanted constructive criticism from their supervisor; the plodder student looked to their supervisor for motivation and friendly help whereas the intellectual student wanted their supervisor to advise them on all technical requirements. Kam (1997: 97) categorised students according to their reliance on their supervisor for help and refers to them as dependent or independent students. Kam (1997: 97) advises that students who are dependent on their supervisor want help with understanding what is required for their research whereas the independent student prefers to navigate the literature themselves and only wants their supervisor to act as a sounding board. In addition, Kam (1997: 100) asserted that students indicated that they are most satisfied in a supervisory relationship in which their supervisor tailors supervision to meet their unique learning styles in an environment in which their supervisor portrays empathy and care (Worthen and Isakson 2003: 8).

#### **2.11.4 Supervisor's role in recommending a networking system**

Numerous researchers stated that a supervisor's key role is to recommend: a support system (academic network); guidance on reference sources (for example: seminal

works; use of appropriate reference sources); guidance on up-skilling courses or courses that would provide the student with support and to network with other students who are at a similar level in the research process (Lessing and Schulze 2002: 139; 2003: 160; Kiley and Mullins 2005: 246; Dysthe, Samara and Westrheim 2006; Hofstee 2006; Lekalakala-Mokgele 2008: 46). A benefit of a peer / academic-network is that the student has a chance of associating with like-minded people, giving them the opportunity to draw on a vast platform of academic knowledge and so feel part of a university's culture (Cheetham 2007: 2; Moore and Bowden-Everson 2012: 68). This interaction may help some students who complain of feelings of social and academic isolation because of the time research takes away from time spent with family and friends (Engebretson *et al.* 2008: 9).

### **2.11.5 Role conflict**

Another reason that a supervisor may feel dissatisfied with their own performance is the conflict that they feel in dividing their time between the demands of their university, the demands of their students and in the case of chiropractic supervisors, their clinical supervision, their own clinical practice and their personal lives (Zeithaml and Berry 1988: 43). For the full-time staff, even with their extra role of supervising, the university still expects their supervisors to continue with their full lecturing load (Hawk, Cambron and Pahmeyer 2008: 305). Such conflicts may occur if the supervisor feels that they cannot satisfy the demands that their university places on them together with the demands of their student (for example: a student wants more time with their supervisor which they cannot give). This lack of time may increase their stress levels and add to their frustrations, especially on the realisation that their student may perceive they have poor time management skills and / or are not prepared to devote additional time to them. Zeithaml and Berry (1988: 43) highlighted that students who were not given time were more likely to give up their studies because of their perception that their supervisor lacked interest in their research.

Role conflict may also occur in instances where the student is older than their supervisor, in which case, it is possible that the advantages of age and maturity may weigh in the favour of the older student. This scenario may place undue stress on a younger supervisor who is both inexperienced and potentially immature in terms of dealing with particularly difficult or sensitive situations that may arise in the supervision relationship. This type of conflict may also arise in instances where the student and the supervisor or both may hold stereotypical views of the other in terms

of gender, ethnicity or previous level of education (Boureau 2005: 4; Blauth *et al.* 2011: 5; Mdepa and Tshiwula 2012: 19; Yelkikalan and Ayhun 2013: 22).

#### **2.11.6 Role ambiguity**

According to Zeithaml and Berry (1988: 43), employees often feel dissatisfied in their working environment because their manager has not explicitly communicated their function in the organisation or how to fulfil the organisation's expectations. Such role ambiguity, according to Zeithaml and Berry (1988: 43), causes confusion in a working relationship because the employee / student lacks clarity as to the role they are meant to undertake and the tasks that they are meant to perform. In addition, Zeithaml and Berry (1988: 35) articulate that if an employee / student is unable to gauge how to fulfil such expectations they do not have the tools to evaluate their own performance. Zeithaml and Berry (1988: 36) state that the reason for perceived feelings of confusion is because management, (i.e. the supervisor) has not communicated their expectations. According to Zeithaml and Berry (1988: 36), the more frequent the clarity and accuracy of their communication, the less likely that an employee will be confused as to their role in the organisation. Thus, it is important that both the student and the supervisor are trained in appropriate communication skills, which include clear articulation as well as learning the tools of listening and understanding the needs of each other (Thomas and Mengel 2008: 308). In the context of this university, supervisors are afforded supervisory training, which although a mechanism for assisting with clarifying role ambiguity, also requires that the supervisor utilise such tools as mentioned above, in his / her management of the student (Pearson and Brew 2002: 136). An additional mechanism is the use of a supervisor / student learning contract in which each party states what their responsibilities will be during the research process (Abiddin and West 2007b: 13; Lekalakala-Mokgele 2008: 46). This contract however, may need revision as the relationship grows (Abiddin and West 2007a: 14). Thus, if the supervisor is not aware of the implications of the need for revising the contract as the student's confidence in their skills improve and they become less dependent on their supervisor, role ambiguity can result (Zeithaml and Berry 1988: 41).

The complex supervisory relationship outlined above is further complicated by people's perceptions of a supervisor's role (Cheon *et al.* 2009: 54), where Lessing and Schulze (2003: 164) has identified the role as a person who is a leader, guide, coach, teacher; mentor, friend, motivator, academic expert, resource person, writing

coach, editor, networker, career councillor, facilitator with the university's paper work and / or a bursary application advisor. The above roles have been linked with the uncertainty from the perspective of how much time supervisors should spend with their student and their involvement in the research process (Engebretson *et al.* 2008: 8; Baker *et al.* 2013: 260).

Lessing and Schulze (2003: 160) states that effective supervisors should:

- initially spend a great deal of time and effort in assisting their student in understanding their topic so that they are more confident in finding the correct information to answer the research problem;
- help their student to see the bigger picture of their dissertation as well as assisting them in breaking down the whole into manageable themes, so that their student does not become over-awed by the amount of work that is required;
- establish a rapport with their student so that the relationship is one in which trust is a priority;
- confirm that their student has used the correct research design to answer the research problem;
- establish that their student has approached the literature review thoroughly;
- be alert for a student who shows signs in communication break-down or of de-motivation and disinterest and
- Increase interaction during the final stages of the dissertation writing.

### **2.11.7 Negative feedback**

Feedback is a vitally important communication tool that managers / supervisors use to highlight to their subordinate / student how to improve on their work standards (Baker *et al.* 2013: 260). It is therefore an important learning tool, which needs to be well managed, to limit negative perceptions, build confidence and allow for a nurturing environment (Engebretson *et al.* 2008: 8; Baker *et al.* 2013: 261).

However, a third of the participants interviewed in Eraut (2006: 111) study indicated that the feedback that they had received was negative and had offended and hurt them, resulting in it being unhelpful in achieving the intended outcomes. These negative inputs into the research process do not necessarily stem from only

supervisors and may include data analysts, proof-readers, technical readers and / or other assistants, research peers or examiners (Lessing and Schulze 2003: 164; Eraut 2006: 111; Nulty, Kiley and Meyers 2009: 693). The consequences of this negative feedback, according to Mulder (2013), are: fear of receiving feedback that leads to increased stressful relationships that reduces open communication which may result in staff resignation and poor reputation for an employee / student-centred organisation (Pillay 2002: 93).

## **2.11.8 The university environment and the provision of service**

### **2.11.8.1 The university's role in satisfying postgraduate students' expectations of research**

#### **2.11.8.1.1 To provide good leadership**

According to Hussain and Wearne (2005: 376), all successful organisations need a hierarchal structure in which people in authority undertake responsibility and make decisions for the benefit of the organisation. As such, leadership also involves a person's ability and skill in taking responsibility for an organisation such as a university, a group of people or a single person (such as that of a supervisor / student relationship) (Griffin and Moorhead 2010: 111). Leadership also means promoting its aims of research, education, continuous improvement, and empowering and supporting staff and students (Yang, Huang and Wu 2011: 259).

According to Yukl (2008: 710), an effective organisation requires collaborative effort by a number of leaders within the organisation who need to be flexible and adapt to situations and different personalities. This is highlighted in the International Organization for Standardization (ISO) (2014), an international organisation that has developed a state of the art specifications for services and products so to achieve effective services and good products. These standards also state that leaders should establish unity so to provide an environment in which employees and customers feel an important part of the organisation (International Organization for Standardization (ISO) 2014). So a leader's effectiveness depends on their skill and ability to communicate to employees the organisation's mission, values, objectives, and vision in such a way that employees and stakeholders are able to identify with the organisation's mission and so promote its values (Thomas and Mengel 2008: 309; Yukl 2008: 711; Isik *et al.* 2009: 23). The effectiveness of their leadership rests



on their ability to communicate their decisions down the hierarchy line to all staff members and out to stakeholders / students because these people have the power to build or damage their organisation's reputation (Yukl 2008: 712; Park and Lee 2014: 155; Zeithaml and Berry 1988: 38).

As such, good leadership requires sensitivity to know how to optimise their employees' competencies and promote their abilities (Severinsson 2012: 216). This was highlighted by the Thomas and Mengel (2008: 308) study which showed that one of the characteristics of a good leader is to reflect relationship behaviours as much as, or even more so, than their ability to manage their organisations goals through task-related competencies (Section 2.11.8.1.2).

Therefore, the university needs to set an example for supervisors in the following ways:

- Relations-orientated behaviours: These behavioural factors involve promoting employees morale (Yukl 2008: 712; Park and Lee 2014: 155) and in the context of a university environment, increasing their staff and students satisfaction within the organisation through (Hennig-Thurau, Langer and Hansen 2001; Severinsson 2012: 216):
  - offering mentoring and coaching support (for example: specifically for students struggling in research);
  - acknowledging excellent work (for example: recognition awards for supervisors whose students consistently achieve high results);
  - keeping staff members abreast of current organisational requirements through communicating via email or meetings (i.e. research policies and procedures (for example: plagiarism policies and ethical procedures));
  - encouraging teamwork / collaboration with other departments or universities (de Beer and Mason 2009: 216);
  - empowering staff members (for example: supervisor training, financial assistance);
  - financially assisting students through providing research scholarships / bursaries;
  - building employee and client / university networks;
  - leading through example, emphasis on reliability, clear and regular communication, respect for others and
  - adopting a flexible and adaptive approach in communicating with staff and students.

These relations-orientated behaviours reflect the work of Hawthorne (Brink 2007: 100), whose study revealed that employees work performance increased merely through acknowledging and appreciating them. This role modelling would effectively allow supervisors to emulate this student-centred approach and allow for positive research supervision relationships with their students. More recently, Yukl (2008: 713) also showed that leaders who showed relations-orientated behaviours had reduced staff turnover as staff were more satisfied with their environment because they encountered people who cared. According to Thomas and Mengel (2008: 308), this behaviour leads to a more trusting relationship with their leaders which in turn promote a mutually successful relationship.

#### **2.11.8.1.2 To establish an academic structure**

Task-orientated competencies, in respect of a university environment, are leadership behaviours that include the Vice-Chancellor's ability and skill in planning the appropriate academic programme and structure and development of the curriculum. This should meet the requirements of the Government Gazette or specific professional requirements, (for example: AHPCSA research specific requirements), coordinate accreditation procedures, monitor all financial aspects and create and maintain policy standards (CHE 2009).

#### **2.11.8.1.3 To promote a research culture**

A culture describes the beliefs, attitudes, habits, behaviours and knowledge shared by people within a community (Foster 2010: 474; Griffin and Moorhead 2010: 13). According to Cheetham (2007: 2), a community's culture reflects their identity that demonstrates their understanding of each other within the environment in which they function.

In the context of a university environment, the research culture is the systematic progression of learning from undergraduate studies of gaining knowledge to the application and evaluation of such knowledge (du Pré 2010: 13). Such interest in knowledge application is promoted by the university's community of vice-chancellors, professors, associate professors, career scientists as well as academics with a similar attitude toward assisting their students to learn (Cheetham 2007: 2). Learning is therefore a continuous cycle of gaining knowledge from previous research which forms evidence of new ways of doing (for example: health interventions), for the benefit of communities (Honey and Mumford 1989: 1; Brink 2007: 2). To assist in their students' learning, university policies (in line with quality assurance (ISO 2013: Education about Standards)), dictates that all supervisors must have

their Master's or Doctorate so they can identify with the challenges that their students experience in the research process and they can evaluate the literature (especially their student's dissertation) because through their experience of undertaking their Master's they have also learnt higher order thinking skills.

Research therefore brings together a university community of staff, and students that extends to their greater environment in which they function and engage with other people (Henkin and Marchiori 2003; Lessing and Lessing 2004: 73). Hence, without enquiring students and lecturers, universities would cease to function (and communities, and their respective country's economy would suffer) (Mutula 2011: 184). As such, a research culture is the foundation that supports a university's respective teachings and establishes quality assurance procedures expected of an effective university that promotes good teaching practice. Therefore, without a research culture, students may become dissatisfied with their university because of its lack of standards, which they expect to be inherent in its system to promote their education.

#### **2.11.8.1.4 To manage staff and students**

According to Thomas and Mengel (2008: 308); Foster (2010) and Yukl (2008: 712), successful organisations are the result of top managers ability to promote their organisations values and beliefs. These researchers state that such shared values positively influence each employee's attitude and optimises their performance. An important aspect of management is the way in which service organisations manage their relationships and communicate with their staff and / or students as unclear messages create confusion and dissatisfaction (Zeithaml and Berry 1988: 143). Yang, Huang and Wu (2011: 259) emphasise that a method of optimising staff and student satisfaction is to learn what makes them tick. In other words, manage through understanding their needs, communicating through their preferred learning style and motivating through acknowledging their contribution to the organisation (for example: greeting staff members, remembering their names, offering praise for good work) (Eraut 2006: 111; Thomas and Mengel 2008: 308; Yang, Huang and Wu 2011: 259; Park and Lee 2014: 154).

#### **2.11.8.1.5 To communicate with staff and students**

According to Thomas and Mengel (2008: 308), meaningful communication is a two-way process of listening and understanding and acknowledging the other person's ideas.

Similarly, they assert that open and transparent communication is the single most important aspect of knowledge sharing and gaining trust between customers (students) / employees (supervisors) and leaders (institutional management) (Thomas and Mengel 2008: 308; Unsworth *et al.* 2010: 874; Baker *et al.* 2013: 261). In contrast, poor communication is the result of poor listening skills or the inability of leaders / employees or customers to clearly express their respective message (Zeithaml and Berry 1988: 44; Thomas and Mengel 2008: 309). Such lack of clarity is often cited as a contributory factor for organisational failure and may be reflected in low quality outputs, dissatisfied staff / supervisors with a resultant high turnover (Hussain and Wearne 2005: 376) and / or dissatisfied students that do not complete their dissertation (Hofstee 2006: 71).

Another reason for communication failure is the leaders / managers method of communication (Zeithaml and Berry 1988: 38). An effective manager needs to realise that for their communication to be meaningful, they need to choose a medium that best suits their staff members (Zeithaml and Berry 1988: 38). Similarly, this scenario is similar for a student / supervisor relationship (Kam 1997: 82). Email communication may not be as effective as face-to-face communication because written messages may not convey feelings and visual or verbal cues are hidden (Li and Seale 2007: 522). These cues are often useful tools to confirm that the message has been conveyed correctly, as sometimes the receiver may misunderstand the message (Li and Seale 2007: 522). Therefore, face-to-face communication is more effective for messages that may be construed as difficult, (i.e. discussing with staff members or with students: their attitudes, their morale, difficulties they may be experiencing with tasks or in contrast praising staff for their achievements). This inability to communicate effectively provide for a lack of clarity contributing to organisational failure, low quality outputs, dissatisfied staff / supervisors and / or dissatisfied students (Zeithaml and Berry 1988: 44; Wisker, Robinson and Shacham 2007: 315; Severinsson 2012: 220).

#### **2.11.8.1.6 To establish effective teams**

According to Zeithaml and Berry (1988: 41) teamwork, in which a group of people collaboratively work together to achieve a common goal is an effective means of achieving an organisation's goals or the goal of attaining an optimum dissertation. However, for teams to be effective, their members need to cohesively work together and acknowledge that they are working toward the same goals (for example: customer / student satisfaction), yet individually know their own role in the team (Zeithaml and Berry 1988: 41; Park and Lee 2014: 154). (This is often underpinned by a supervisory contract in research supervision

(Abiddin and West 2007b: 13). However, if the institutional model does not support this, then a lack of an agreement may result to ineffective teamwork (Lessing 2009: 79)). Therefore, effective teams can be formed through departments cohesively working together (Yang, Huang and Wu 2011: 259), (for example: a more senior supervisor helping a junior member; or a supervisor recommending that their student request help from another source that is not their speciality (such as a proof-reader or statistician)). Similarly, for the organisation to promote their goal of increasing research output through forming specialist departments with niche focus areas (Hussain and Wearne 2005: 376) (i.e. postgraduate departments, and / or writing centres to help postgraduate students with their research) (Lessing and Schulze 2003: 164).

#### **2.11.8.1.7 To provide resources**

Tangible resources are an organisation's or university's assets or tools that facilitate their employees ability to complete their work, or in the context of a university, their supervisors or students ability to work to their optimum (Engebretson *et al.* 2008: 3).

A hierarchy however exists, in which effective universities provide their staff with their own personal office space, inclusive of desks, chairs, computers, software and stationery as well as access to libraries, and lecture rooms. Postgraduate students, as part of their tuition fee, have access to libraries, lecture-rooms (or small group tutorial rooms), and books / resource materials. Without such resources it would be difficult or impossible to carry out a task, such as writing-up a literature review because there would be no resources from which to derive information (Hussain and Wearne 2005: 376). Intangible resources, include processes that cannot be quantified such as an employee's personal characteristics their competencies, leadership abilities, and communication skills (Hill 1995: 10; Isik *et al.* 2009: 630). According to Isik *et al.* (2009: 630), a service organisation needs a combination of tangible and intangible resources to implement their goals to promote their reputation and credibility. For example: in the context of this study, a university needs effective employees and resources to satisfy their students expectations to enable them to produce a quality dissertation. By doing so, the students satisfaction with their university services to promote its reputation as a learning institution that provides quality resources to enable students to function optimally (Al-Alak and Alnaser 2012: 5).

#### **2.11.8.1.8 To employ competent and skilful staff**

Supervisory competencies involve the combination of relations-orientated and task-related behaviours and knowing which behaviour is preferable in specific situations (Hussain and Wearne 2005: 373; Yukl 2008: 712; Severinsson 2012: 216; Park and Lee 2014: 162). Competency is defined as a person's ability and skill in assimilating new information and applying this in the context of known information, people's experience and various task situations (Thomas and Mengel 2008: 308). This particular university promotes student-centeredness and as such the university is expected to employ people / student orientated staff who have the ability to empathise with their students' needs so as to produce quality graduates and quality outputs in the form of quality research and other societal contributions, for example, satisfied patients (Pillay 2002: 93; du Pré 2010: 13). Effective managers employ staff members whose Curriculum Vitae (CV) detail these required competency levels (including education level, expertise, work based experiences that reflect a person's capabilities) (Doyle 2014). A CV does not however, necessarily detail interpersonal relationship characteristics that enable a person to engage with others and therefore this is often determined in an interview setting (Doyle 2014). Employees / supervisors who are unable to engage with their customers / students, damage their organisation's reputation because these employees through their words or actions have not met the customers'/ students' expectations of a respectful, empathetic, understanding interaction and therefore they become dissatisfied with the service provided (Isik *et al.* 2009: 630).

#### **2.11.8.1.9 To ensure research is in line with SAQA / and Government Gazette requirements**

As a measure of institutional quality, the Government Gazette establishes the quality expected of postgraduate students in terms of the outcomes required in their dissertation (Republic of South Africa 2011). This government document also regulates the SAQA (NQF) that describes the academic level students need to achieve to gain access to the next academic level (South Africa Qualifications Authority 2012). As such, it is gazetted that the initial step in postgraduate studies, a Master's, (level descriptor 9) needs to be completed prior to the student gaining access to their PhD, (level descriptor 10), which is the highest academic achievement to which a student can aspire (Republic of South Africa 2011).

The Government Gazette outlines that although postgraduate studies are different in name, depth and duration of study, the underlying principles are the same (Republic of South Africa

2011). Therefore, quality postgraduate research describes a dissertation that is: systematic, ethical, linguistically and technically correct as well as a logical scientific exploration of a research problem through the use of statistical analysis of primary data and in discussion with previous peer-reviewed literature, to arrive within a specified time constraint, valid and reliable results to answer the research problem (Keating 1987: 13; Toncich 2000; Mouton 2001; Hofstee 2006: 187; Ismail, Abiddin and Hassan 2011: 78; Republic of South Africa 2011: 82). Therefore, a university that does not enable the attainment of SAQA's minimum expectations, either through not enforcing the Government Gazette requirements or not ensuring their staff members / supervisors are capable of attaining these expectations are failing to meet the country's national expectations (and by default also the student's expectations that he / she is able to attain these publically articulated outcomes).

In summary, a university takes on the role as a leader in education transition, enabling students to improve their intellectual abilities. However, not all students perceive that their university undertakes their role effectively, efficiently or with enough emphasis and so feel dissatisfied with their learning institution (Lekalakala-Mokgele 2008: 46). According to Leggat and Martinez (2010: 602), the reason for this perception and expectation may not necessarily be the fault of the university but a mismatch of personalities between the student and their supervisor. Yelkikalan and Ayhun (2013: 23) add that mismatched personalities have the potential to make or break their supervisory relationship and in so doing, impact on the quality of the student's research (Cheon *et al.* 2009: 60).

### **2.11.9 Measuring a successful organisation / university**

Parasuraman, Zeithaml and Berry (1985: 44) asserted that behavioural factors form an important part of a successful service organisation. They perceived that customers felt satisfied if their service organisation displayed such traits, which they categorised into five distinct behavioural factors, namely: Reliability, Assurance, Tangibles, Empathy, and Responsiveness. These factors, which form the acronym RATER are explained in Table: 2.2, which also gives details on how their definition, previously attributed to service organisations, can also be used to explain gaps within a university system.

**Table 2.2 Parasuraman, Zeithaml and Berry (1985: 44) service organisation's behavioural factors**

<b>Behavioural factors</b>	<b>Definition</b>	<b>Description to fit university services</b>
Responsiveness	The employees willingness to assist their customers and to provide an efficient and prompt service	Staff are trained by the university as to the importance of prompt and constructive feedback
Assurance	The employees ability to undertake their promised service through reflecting their knowledge of their service	The university engages staff, (for example: supervisors, administrative statisticians and proof-readers) who are expert in their field
Tangibles	Resources for example: (offices, computer hardware and software, and stationery) that is available to enable employees to undertake their services efficiently.	The university installs offices and computer hardware and software and provides stationery for staff so they can carry out their services efficiently. For the students . a library and a specialised postgraduate room equipped with computers and appropriate software is provided.
Empathy	The ability of the service organisation to provide care and individual attention to their customers	The university trains staff members especially supervisors in listening and communicating with care
Reliability	A service organisations objective to keep their promise so their reputation means they can be dependent upon	A promise by a university to educate students so their reputation means they will continually improve

Adapted from: Dann (2008: 338).

An added factor, learning styles was also included because the way in which students and supervisors interact is instrumental to a healthy supervision relationship. Similarly, communication was included because communication underpins all aspects of dyadic and group interaction and therefore forms a major part in promoting the quality of a service Foster (2004) and therefore the research process (Mouton 2001:24).

Given that numerous studies have indicated that behavioural factors create problems within a service organisation, a number of educational researchers applied Parasuraman, Zeithaml and Berry (1985: 44) model to identify if similar factors have an impact on the student / supervisor relationship within their university environment (Angell, Heffernan and Megicks 2008: 236; Dann 2008: 333; Stodnick and Rogers 2008: 118). According to Parasuraman, Zeithaml and Berry (1985: 44), these RATER factors rank on a continuum scale, highlighting the differences between a customer's expectations and perceptions of a product or service and its ultimate delivery. These service organisation's behavioural factors represent a student's subjective opinion and as such their ultimate feelings of satisfaction or dissatisfaction with their supervisory relationship.



## 2.12 The expectations of a university

Like the students and supervisors who have expectations of each other and that of their university, the university also has inherent expectations of the students and supervisors who enter their doors. Students, who enter into a university environment, enter into its culture and agree to aspire to the vision, mission and student-centred outcomes (Cheetham 2007: 2). The university's culture defines an institution that is created to educate students in higher learning skills (Cheetham 2007: 2). Therefore, a defining characteristic of a university is that it has the authority to offer postgraduate degrees, such as a Master's or a Doctorate, and award successful students with their degree (CHE 2009).

This is based on the characteristic that a university expects all lecturers to have a degree . (Research and Postgraduate Support Guide 2014), the implication being that they have developed higher order thinking skills and they are then able to teach / supervise their students and convey theoretical knowledge that underpins the philosophy of their respective practice / profession (Research and Postgraduate Support Guide. 2014: 13). Furthermore, and to promote the university's research culture, university stakeholders expect that research supervisors undertake supervision in addition to their own research which they are expected to publish (du Pré 2010: 13). This is an expectation, according to du Pré (2010: 16), as regular research publication promotes knowledge and expands the university's knowledge base (i.e. the number of staff members who have a Master's or Doctorate) and contributes to the university's community engagement agenda (Danjuma and Rasli 2012: 100).

Similarly, Meseke, Nafziger and Meseke (2010: 25) state that students entering into professions (for example: Chiropractic) need critical reasoning skills, such as the ability to think critically, evaluate, analyse and discuss information so they have the tools to make informed choices, especially in health care. This theoretical underpinning differentiates it from other universities (Further Education and Training colleges), which focus on the ~~doing~~ of a vocation by task (for example: bookkeeping) as opposed to the highly theoretical underpinning at a university (Winberg 2005: 196). Therefore, learning to study autonomously is an important skill for a student to learn (Johnson, Lee and Green 2000: 135). This is because part of the university culture is to teach students to be responsible for their own learning. However, students who do not understand that they are expected to work autonomously may be dissatisfied with their supervisor's lack of involvement. These feelings may stem from student undergraduate learning in which autonomous learning was not necessarily promoted and therefore transition to their postgraduate studies may cause them

to feel dissatisfied because of a lack of understanding on how they are meant to carry out their task.

Therefore, in the context of this UoT in which this study was undertaken, the expectation according to du Pré (2010: 6) is reflected in a UoT's promise to develop and sustain an empowering environment where, through teaching, learning, research and scholarship our students and staff, in partnership with the community and industry, are able to create and apply knowledge that contributes to development. Therefore, with an improved university culture, personnel resources, infrastructure resources and a collective input from the students and the supervisors, students could expect that their chosen university would carry out their promise of teaching them the skills required of their profession to enable them to produce a good quality dissertation.

### **2.13 The specific environment of this study**

The nature of teaching Chiropractic reflects the emphasis of a strong vocational training element as well as a strong research ethos that is underpinned by both a need within the profession and their university that offers this degree (Chiropractic Association of South Africa 2014). Vocational training is often more related to tasks that do not require research and as such, students and supervisors may be confused as to what is expected of them (Winberg 2005: 192). Practically, this reality is reflected in that students are required to complete approximately 1 000 clinical training hours under guidance of clinical staff, combined with theoretical examinations, which collectively results in a 50% contribution to their Master's degree. The balance of the 50% is associated with the completion and submission of a research dissertation.

### **2.14 Measuring quality: The importance of a checklist**

A checklist is a tool that anyone may use as a memory aid to ensure that nothing on their to do list is forgotten (Foster 2010: 280). Such a tool often evolves from an organisation's policies or procedures to guide students / supervisors as to minimum expected criteria for completing a research dissertation. An example of such a procedure that is followed by effective organisations is the implementation of ISO 9000 (International Organisation of Standards), an internationally recognised set of standards that provides guidance to leaders / managers on how to consistently meet their customers' wants through ensuring that each process in the manufacturing development is checked (ISO 2014). ISO was established to

provide customers with services and / or products that are safe and reliable and are fit for the purpose for which their service or product is required (ISO 2014). The principles of the ISO are carried out through ensuring that organisations follow tried and tested specifications that consistently provide a quality output (ISO 2014). The benefits not only include quality products and services, but also customer loyalty, repurchase, positive word of mouth that in turn improve organisational profits and reputation (Foster 2010: 86; Moore and Bowden-Everson 2012: 65).

In a university environment, a research checklist can be used by supervisors and students as a visual guide to ensure that all requirements of a dissertation have been checked and therefore meet quality requirements (Ssegawa and Rwelamila 2009: 309). The checklist that is issued by this particular UoT, postgraduate department is the Postgraduate Studentsq Guide 2014 that explains chapter requirements, but more specifically technical aspects of the requirements of a computerised dissertation, such as (Research and Postgraduate Support Guide 2014):

- Request for supervisor involvement;
- Ethical requirements;
- Language usage;
- Length of dissertation;
- Number of chapters and chapter requirements;
- Heading and sub-heading case and font size;
- Heading and section numbering;
- Paragraph and line spacing;
- Text justification, margins, font size and typeface and layout;
- Bullet usage and consistency;
- Table, figure, graph usage;
- Appendices usage;
- Paper requirements, size and quality and
- Binding requirements.

To help their Chiropractic students, the Chiropractic Department also issues all their postgraduate students with a profession specific (contextual) Research Handbook that outlines all requirements of the postgraduate process for the Chiropractic programme that they expect students to follow (Department of Chiropractic and Somatology 2014). This Research Handbook, is also in line with the Postgraduate Department Guide and therefore the requirements reflected in the SAQA (NQF) policy document (Republic of South Africa

2011; Research and Postgraduate Support Guide 2014). In addition to the specific research outcomes, it also highlights the chapter and technical requirements required for a dissertation to be deemed of quality (Mouton 2001; Hofstee 2006; Van Aswegen 2007: 1141; Johnson and Green 2009: 1; Ssegawa and Rwelamila 2009: 309; Department of Chiropractic and Somatology 2014). Furthermore, the Research Handbook also brings to the students' attention the crucial requirements of correct ethical procedures (permission to carry out the proposed research, reference to eliminate plagiarism, limit bias and prevention of falsifying data) (Department of Chiropractic and Somatology 2014).

However, irrespective of the level of contextualisation, misunderstandings between the student and their supervisor may occur because the checklist has not been explained to them or their specific study does not fall totally within the ambit of that which is presented (for example: a systematic review). Another difficulty could result from lack of prior learning that detract from the students' ability to link or fit the requirements of the checklist to the dissertation requirements.

## **2.15 Conclusion**

This chapter investigated postgraduate Chiropractic students' and supervisors' knowledge, perceptions and expectations of their postgraduate supervision journey, i.e. the 'Top-Down' factors affecting their perception and expectations, such as demographics, learning styles and experiences as well as their 'Bottom-Up' factors, i.e. factors within the context of their university that have an impact on perceptions and expectations, such as a research culture, leadership and availability of resources. Chapter Three, the Research Methodology chapter, describes how this study was undertaken to determine the match between the student / supervisor relationship and the quality of the dissertation (product) within the university environment.

# **CHAPTER THREE**

## **RESEARCH METHODOLOGY**

### **3.1 Introduction**

Research methodology describes the systematic approach to solving a research problem (Mouton 2001: 55). This process includes a logical discussion of the research design, ethical considerations, sampling procedures used, inclusion and exclusion criteria as well as the research procedures that were employed to obtain the data for data analysis and subsequent discussion (Mouton 2001: 56; Hofstee 2006: 115; Brink 2007: 53).

### **3.2 Research Design**

The research design is the blueprint for conducting research (Mouton 2001: 55; Brink 2007: 92). It is a plan that details a step-by-step procedure of how the methodology was implemented to solve the research problem (Mouton 2001: 55; Brink 2007: 92). The type of methodology includes for example: quantitative or qualitative measurement tools that the researcher may choose to accurately, and systematically best answer the research question (Mouton 2001: 57; Hofstee 2006: 107; Brink 2007: 92).

Qualitative researchers explore people's description and meaning of their personal experience through interviews, case studies or unstructured questions (Brink 2007: 3). In contrast, quantitative research, through the use of surveys and / or questionnaires, is used by researchers to capture customer perceptions. Thereafter, to derive meaning from the participants' answers, the researcher uses statistical analysis to examine relationships from the varied data or answers received (Hofstee 2006: 132; Brink 2007: 92; Foster 2010: 144).

Questionnaires have the advantage of obtaining confidential information, from a large number of people about their knowledge, attitudes, opinions and perceptions (Foster 2010: 18). An added benefit of questionnaires is that bias is reduced because all participants are given the same ordinal scale (Strongly Agree / Strongly Disagree) or yes / no options to answer, and therefore the possibility of misinterpreting the results are reduced (Mouton 2001: 153; Brink 2007: 141).

The primary data for this research was collected by means of a SERVQUAL questionnaire, adapted from Parasuraman, Zeithaml and Berry (1985: 44) service quality factors which was modified to suit the context of this study. SERVQUAL was chosen because it has been previously used to measure the student's voice (i.e. if their perceptions matched their expectations) (Darlaston Jones *et al.* 2003: 4; Angell, Heffernan and Megicks 2008: 237; Stodnick and Rogers 2008: 115; Gallifa and Batalle 2010: 160; Shekarchizadeh, Rasli and Hon-Tat 2011: 67). Such a measurement tool is important for this study because the questions attempt to gauge information concerning factors relating to students and their supervisors' relationship within their university environment and it is these feelings that impact on their perceptions of each other and which detract from their perceived satisfaction of the service they receive (Hofstee 2006: 222).

SERVQUAL was also chosen because it has been previously used in a varied number of service organisations that included universities (Wright 1996: 269; Tan and Kek 2004: 18; Gallifa and Batalle 2010: 160; Al-Alak and Alnaser 2012: 159). Although their results have been varied and in some cases contested (Cronin Jr and Taylor 1994: 125); Stodnick and Rogers (2008: 118) declared that it is a well-validated tool for use in testing relationship factors and as such, outperforms other more traditional student assessment scales (for example: SERVPERV). This may be related to the fact that SERVQUAL is able to measure both expectations and perceptions and therefore the relationship between these factors (Bergh and Theron, 1999) and their impact on quality (identified by the RATER relationships) (Tan and Kek 2004: 18). Furthermore, Wright (1996: 269) and Stodnick and Rogers (2008: 118), advise that because this tool is highly customised toward improving customer - employee / student - supervisor relationships, the answers point to gaps in the service provision that can be improved (Parasuraman, Berry and Zeithaml 1993: 44; Hofstee 2006: 44). Service providers are, therefore, in a position to know where to improve on their performance so that: their delivery can be improved; the customer or student receives an improved service; employees can receive appropriate training and / or the service providers' reputation (for example: the university) for quality service is increased (Dann 2008: 96; Thomas and Mengel 2008: 308; Moore and Bowden-Everson 2012: 66).

As a result, this study was a quantitative, cross-sectional, mixed-method analysis (Mouton 2001:154), that investigated the factors within the student and supervisor relationship that had an impact on the quality of the student's research. A descriptive type design was used to gather the information (Brink 2007: 103). A descriptive survey was used in this study to establish the participants' demographic and psychosocial characteristics (Brink 2007: 102-105; Mouton 2001:113) (i.e. the knowledge, perceptions and expectations that students and

supervisors have of each other and of the research process), and how these characteristics had an impact on achieving a quality dissertation.

To facilitate understanding of the research collection, the data was categorised into three distinct phases:

Phase One:	The development of a Checklist of Research Requirements (referred to as the Checklist) using Data set Group 3 (further discussed in Section 3.4.2). This was implemented as a tool to determine the standard of quality of students' research and was used as a quality assurance tool when the various dissertations were proof-read.
Phase Two:	The development of a students' knowledge, perception and expectation questionnaire using student Data set Group 1 (further discussed in Section 3.4.2); and the development of a supervisors' knowledge, perception and expectation questionnaire using Data set Group 2 (further discussed in Section 3.4.2). These questionnaires, quantitative in nature and descriptive in design were completed by the student and supervisor respectively.
Phase Three:	A descriptive analysis and triangulation of data obtained from Phase One and Two

Based on this study design, this research was approved by the Faculty of Management Sciences, Research and Ethics Committee Approval Form (Appendix 1) indicating that this research protocol satisfied the ethical requirements set out by the Institutional Research and Ethics Committee (IREC), Durban University of Technology as well as the Declaration of Helsinki 1975 (World Medical Association Declaration of Helsinki 2001; Brink 2007: 30).

### 3.3 Advertising

There was no advertising. However, the researcher whose role it was to proof-read the students' dissertation, received permission from the Head of Department to verbally request students' and their supervisors' participation in this study (Appendix 2). Bias was minimised as the request for participation and agreement to participate was secured only after the students' research was proof-read. Therefore, there was no obligation on the part of the student or the supervisor to participate in this study. In addition, there was no bias on the side of the proof-reader in completing the proof-reading assessment of the dissertation, as knowledge of participation was gained only after the dissertation had been proof-read.

In order to facilitate the research interaction, the researcher emailed or hand-delivered the required documents to the participants only once their confirmation was received.

### **3.4 Participant Sampling Method**

#### **3.4.1 Population Size**

This research was aimed at students and their supervisors. The participant sample Group 1 was comprised of 30 students and Group 2, their respective supervisors. If either the student or their supervisor did not want to participate, the remaining party was not accepted in this study. Additionally, there were 30 dissertations that were analysed (one per student / supervisor pair) using the checklist to complete the Group 3 data set.

#### **3.4.2 Data Sets Allocation**

There were three groups of data sets used in the statistical analysis of this study: students were allocated into Group 1; supervisors were allocated into Group 2; and the analysis of the dissertation was allocated to Group 3.

#### **3.4.3 Method**

All participants meeting the specified inclusion / exclusion criteria (Section 3.5.1 and 3.5.2) were invited to participate. This research was a self-selection study based on the participants willingness to complete the questionnaire (Brink 2007: 96).

### **3.5 Sample Characteristics**

To participate in this research, the participants had to have met the following inclusion / exclusion criteria.

#### **3.5.1 Inclusion Criteria**

- a. Only students who had almost completed their research in respect of their Master's in Technology of Chiropractic at this specific UoT were invited to participate in this study, once their dissertation had been proof-read.



- b. Only supervisors of these students' research were invited to join this study.
- c. Only students and their supervisors were accepted if they signed the Letter of Information and Consent Form (Appendix 16 and 17) and an Informed Consent Form (Appendices 18 and 19).

### **3.5.2 Exclusion Criteria**

- a. A student and their supervisor were excluded if they participated in the Focus Group or Pilot Study because of their exposure to prior discussion surrounding the questionnaires, which may have influenced their perceptions and altered their knowledge thus changing their response and causing bias in the outcomes of the research (Brink 2007).
- b. A student and a supervisor were excluded from the study if they were not linked through the student's research, that is, the supervisor did not supervise the student's dissertation.
- c. A student or supervisor were excluded if either the student, or the supervisor, or both declined to participate.

### **3.6 Questionnaires (considerations)**

- a. Data from incomplete questionnaires was utilized for statistical purposes, with missing data being recorded as such.

### **3.7 Research Procedure**

Prior to the student and the supervisor accepting the researcher's invitation to participate in the study, the researcher utilised the Post Piloted (Final) Checklist (Appendix 22) to proof-read the student's research. This Checklist was the quality measurement tool for this study. If the student or supervisor declined participation, the quality measurement tool served only to provide feedback for the student to make amendments to their dissertation prior to submission for marking and the information was excluded from this research.

If there was agreement to participate, the researcher hand-delivered or emailed, at the request of the supervisor and their student: a Letter of Information and Consent Form (Appendix 16 and 17), an Informed Consent Form (Appendix 18 and 19) and the respective Questionnaires (Appendix 20 and 21). On receipt of the questionnaire, the student or

supervisor's name was ticked off a list that was attached to the student or supervisor's ballot box. To promote anonymity (Brink 2007: 35), the student and supervisor's respective names were matched against coded numbers. The ballot boxes were stored in the researcher's supervisor's office. Therefore, other than the researcher and her supervisor, no one else had access to the ballot boxes. The ballot boxes were opened only once each number (30 numbers) was as ticked and the questionnaires were then removed for data capturing purposes and statistical analysis. This meant that the completed questionnaires could not be linked back to either the student or the supervisor. Once all the information had been recorded the questionnaires were stored in a locked drawer to prevent anyone having access to this sensitive data.

Weekly reminders were emailed to participants if they were slow in returning their questionnaire (Lapane, Quilliam and Hughes 2007: 446).

### **3.8 Research / Measurement Tool**

#### **3.8.1 Focus Groups – Phase One and Phase Two**

A focus group enables the researcher to gather feedback from a number of participants at one time (Foster 2010: 143). Focus groups include people with similar demographics to the research participants to critically assess the relevance of questions presented in the questionnaire, requiring them to be deleted, added to, or inserted for more information to improve on the clarity of the questions presented (Foster 2010: 144). The role of the focus group is to contextualise the questionnaire (Brink 2007: 152; Foster 2010: 143), to enhance its face, content and construct validity (Brink 2007: 160). These three areas of validity were achieved by including participants in the focus group who were representative of the area related to this research [i.e. supervisors, proof-readers, examiners of students' dissertations, editors and quality assurance representatives].

#### **3.8.2 Phase One (Developing the Checklist)**

Phase One of this study, involved the researcher developing a Pre-Focus Checklist (Appendix 6). The questions stated on the Checklist were identified in the literature and by supervisors, proof-readers and / or editors and examiners of students' dissertations as factors which impact on the quality of the student's research (Mouton 2001: 49; Hofstee 2006:

203; Van Aswegen 2007: 1143; Johnson and Green 2009: 1 (Appendix 27); Department of Chiropractic and Somatology 2014; Research and Postgraduate Support Guide 2014).

To confirm that this Checklist met the quality assurance procedures, it was reviewed by the following members of the Focus Group:

<b>Table 3.1: Focus Group members who reviewed the Checklist</b>	
<b>Role of member:</b>	<b>Number of roles represented</b>
The researcher	1
The researcher's supervisor	1
Examiners of students' dissertations	3
Editors / proof-readers	3
Quality Assurance representatives	3
Graduates who have had their research edited in order to comment on the types of corrections they received	5
<b>TOTAL</b>	<b>16</b>

The reason for having held this Focus Group was to stimulate participants' thinking about the research topic and to encourage group discussion and evaluation of the Checklist criteria (Brink 2007:152; Foster 2010:144). The session was video-recorded by the supervisor (Silverman 2001: 189) and the researcher also took notes on the discussion.

Each member of this Phase One Focus Group received the following documentation:

1. Letter of Information and Consent Form (Appendix 3);
2. Informed Consent Form (Appendix 4);
3. Code of Conduct and Confidentiality Statement (Appendix 5);
4. A copy of the Pre-Focus Checklist (Appendix 6).

The Focus Group members were asked to read and sign the documentation which was collected by the researcher and filed. The researcher then asked the members to focus on the Checklist. The researcher proceeded to read each item from this Checklist, out aloud, in a sequential fashion. In this way, each item was put forward to the Focus Group to determine if it was:

- relevant to the research process;
- understandable and unambiguous; and
- clear in assisting the researcher in attaining the objectives of the study.

Changes suggested by the Focus Group members were made to the Checklist once unanimous agreement was reached (Appendix 23). A Post Focus / Pre-Pilot Group Checklist was then developed incorporating all corrections (Appendix 12).

### **3.8.3 Phase Two (Student and Supervisor Questionnaires)**

Phase Two of this study was the development of a quantitative perception and expectation survey. The primary data for this phase was collected by means of assessing students and supervisors' perceptions and expectations of their relationship within the research process. The questionnaire was adapted to reflect Parasuraman, Zeithaml and Berry (1985: 44) SERVQUAL survey to assess service quality dimensions of reliability, assurance, tangibles, empathy and responsiveness (RATER). The reason this instrument was chosen was because it is an important tool for highlighting the differences between a participant's perceptions and their expectations of a service (Foster 2010:221). According to Parasuraman, Zeithaml and Berry (1985: 44) any differences point to gaps in these areas that when understood, identify ways to improve the service (Foster 2010:221). It was, therefore, a useful tool for producing a gap analysis for measuring services because gaps along these dimensions often have a negative impact on service quality (Foster 2010:221).

Therefore, the Pre-Focus Group Questionnaires were organised as follows:

1. The Student and Supervisor Questionnaires were constructed utilising different sections under specific headings and types of questions to ascertain an array of information pertaining to the student, the supervisor and the research process.
  - a. Questions directed toward the student (Pre-Focus Students' Questionnaire . Appendix 10) were asked to gain information that would be applicable to their:
    - demographics;
    - previous experience of research;
    - knowledge of the research process;
    - perceptions of the research process and
    - expectations of the research process.
  - b. Similarly, questions directed toward the supervisor (Pre-Focus Supervisors' Questionnaire . Appendix 11) were asked to gain information that would be applicable to their:
    - demographics;

- previous research experience;
  - previous supervision experience;
  - knowledge of the research process;
  - perceptions of the research process and
  - expectations of the research process.
- c. Questions relating to the student and supervisors knowledge, perception and expectations were identical except the subject matter changed (for example: questions relating to the supervisor asked of their student and questions to the student, asked of their supervisor). Questions asked of the students and supervisors perceptions and expectations were adapted to reflect Parasuraman, Zeithaml and Berry (1985: 44) service quality dimensions . responsiveness, assurance, tangibles, empathy and reliability (RATER).
- d. An added dimension . communication, - was also included as communication forms a major part of service quality interactions (Zeithaml and Berry 1988: 35) and therefore the research process (Mouton 2001: 24).
- e. Some of the questions also asked of students included their preferred learning style and of supervisors, their preferred teaching style [that is, if they are Pragmatists, Activists, Reflectors or Theorists] (Dunn and Dunn 1979: 238; Howard, Carver and Lane 1996: 227; Armstrong, Allinson and Hayes 2004: 41; Mountford, Jones and Tucker 2006: 128).
- f. Other questions asked information on the students and supervisors previous knowledge and experience of research.
- g. The questionnaire was then subjected to a focus group and pilot study.

The Focus Group in this instance consisted of:

<b><u>Table 3.2: Focus Group members who reviewed the student and supervisor questionnaire</u></b>	
<b><u>Role of member</u></b>	<b><u>Number of roles represented</u></b>
The researcher	1
The researcher's supervisor	1
Supervisors of students dissertations	4
Editors / proof-readers	3
Quality Assurance representatives	3
Graduates who have had their research edited in order to comment on the types of corrections they received	4
<b>TOTAL</b>	<b>16</b>

The Phase Two Focus Group was also held to stimulate participants' thinking about the questions in the Pre-Focus Student and Supervisor Questionnaires (Appendix 10; Appendix 11). The process and reason for conducting this focus group was similar to that followed in Phase One. However, to promote continuity, and thereby, constructing a more robust tool, the same members from Focus Group Phase One were asked to comment and give suggestions on the questions asked in these two questionnaires.

Only once all members of the Focus Group agreed to any suggested changes (Appendix 23 and 24), did the researcher redefine the original questionnaires (Appendix 14 and 15).

Following the suggestions made at a Focus Group meeting, the Student and Supervisor Post Focus Group Questionnaires (Appendix 14 and 15) were then amended for piloting by three research students and three supervisors.

Through the process of a focus group and piloting procedure, various validities of the questionnaire were confirmed. Face validity, the simplest type of validity, was determined by agreement between the researcher and those who have a vested interest in the questionnaire (represented by participants in the Focus Group). In this respect, face validity refers to whether on the face of it, the questionnaire seems unambiguous, valid and easily interpreted by the participants taking part in the Focus Group (Brink 2007: 160; Hicks 2009: 166). The questionnaires were further tested for content validity and construct validity (Brink 2007: 162; Hicks 2009: 45) by the same Focus Group. The questionnaires had content validity when the questions are considered effective, and well rounded enough to be able to assess a particular concept. In this instance the concept of quality, perceptions and knowledge. Construct validity measures how accurately answers to questions in the questionnaire reflect theoretical predictions of a particular construct within the questionnaire. In other words, construct validity refers to the degree to which a test measures what it claims, or purports, to be measuring. Thus, the Focus Group was utilized to ensure that the questions in the questionnaires would provide the answers required to answer the research aim and objectives (Brink 2007: 160; Hicks 2009: 44).

### **3.8.4 Pilot Study – Phase One and Two**

A pilot study involves administering the questionnaire to a very small sample of the population who have similar characteristics as the participants who met inclusion criteria for

the study. A pilot study therefore enables its members to comment as to what they perceive as important. As such matters considered by this Pilot Group consisted of (Brink 2007: 54):

- any ambiguity relating to the questions in the respective Questionnaires and / or the Checklist;
- problem areas in the Checklist and / or Questionnaires and
- the time it took to complete the questionnaire.

The Post Focus Group Checklist (Appendix 12), amended for any changes made by the Focus Group (Phase One), was then piloted by two editors / proof-readers and an examiner of students dissertations. In this process, the editors / proof-readers and examiner were required to apply the criteria as articulated by Hicks (2004:166) to allow ease of use of the research tools.

The purpose of the pilot study was to ascertain whether (Fink and Kosecoff 1985: 18; Brink 2007: 166; Hicks 2009: 133):

- the questions were appropriate, accurate, or even misleading;
- there was sufficient time allocated to completing the questionnaire;
- the instructions were clearly understood;
- the questions were appropriate for the surveyed participants;
- the information obtained from the questionnaire was consistent;
- the information obtained from the questionnaire was accurate;
- the questionnaire yielded the correct and necessary information and
- the researcher was able to use the information collected in the questionnaire correctly.

This Checklist (Appendix 12) was then piloted by two proof-readers and two editors to test for face validity, content validity and construct validity (Brink 2007: 160-163), following completion of a Pre-Test Evaluation Form (Appendix 13).

The same process was applied for the piloting of the Student and Supervisor Questionnaires (Phase Two) (Appendix 14 and 15). Following the changes made by the respective Focus Group/s discussions, the questionnaires were sent to three research students and three supervisors to pilot the questionnaire. Similar to Pilot Group: Phase One, the students and supervisors were required to apply the criteria as stated by Hicks (2004:166) to allow ease of use of the research tools. They were required to answer the questions stated in the respective questionnaires, to determine if they could understand the questions and if they

were easy to complete. Questions were judged in terms of their readability, simplicity and whether the instructions on how to complete the questions were simple and easy to understand. After the Pilot Study Questionnaire corrections were completed, the members were asked to complete the Pre-Test Evaluation Form (Appendix 13). Their feedback provided the researcher with information regarding their perceptions on the questionnaire's suitability for the study (Fink and Kosecoff 1985: 18).

### **3.8.5 Discussion of the final research tools for Phase One and Phase Two (including the Checklist, the Student Questionnaire and the Supervisor Questionnaire)**

#### **3.8.5.1 Phase One**

The Post Piloted Checklist (Appendix 22) was utilised by the researcher as a rubric to assess the students' dissertations that formed part of this study. This tool incorporated different categories of structural, scientific, grammatical and presentation criteria as stated by numerous researchers as those which detract from a quality dissertation (Phillips and Pugh 2000: 68; Mouton 2001: 113-114; Hofstee 2006: 235; Brink 2007: 194; Johnson and Green 2009: 1 (Appendix 27); Research and Postgraduate Support Guide 2014). These criteria were used by the researcher to proof-read the students' dissertation to detect any errors. A collective analysis of the errors was utilized in order to reflect the level of quality of the dissertation (Mouton 2001: 113; Hofstee 2006: 203; Johnson and Green 2009: 1; Department of Chiropractic and Somatology 2014; Research and Postgraduate Support Guide 2014).

#### **3.8.5.2 Phase Two**

The Post Piloted Students' Questionnaire (Appendix 20) and the Post Piloted Supervisors' Questionnaire (Appendix 21) were divided into the following sections:

- Section A: Demographic questions required the participants to select an option or options relating to their personal history by placing a cross in the appropriate box that indicated the option most applicable to their circumstances (except for the question on age, which required them to write their age in years in the blank space provided).



- Section B: Knowledge questions consisted of True / False option answers. Negatively worded questions were included as a control to ensure participants actually read the questions.
- Section C: Perception questions required a selection of ordinal data options. These answers incorporated a 4-point Likert Scale (ranging from 1 - Strongly Agree, to 4 - Strongly Disagree) as suggested by Foster (2010: 143) as a useful ranking tool to measure participants' perceptions. Additionally, they asserted that a 4-point Likert Scale is a reliable tool as participants have only a four option answer range from which to choose and therefore cannot choose a middle option.
- Section D: Expectation questions requested of participants to choose whom they believed was responsible for carrying out requirements of the dissertation.

The results from these questionnaires were analysed according to Parasuraman, Zeithaml and Berry (1985: 45) service quality RATER dimensions.

To prevent students and supervisors from pre-empting the outcomes of each of these sections and specifically linking the questions to particular outcomes noted in the Letter of Information and Informed Consent Form, the headings: knowledge; perceptions; and expectations for the various sections were removed. This was because, according to Brink (2007: 101), headings may have resulted in biased responses created by the inherent structure that they provide.

### **3.9 Measurement Frequency**

Due to the nature of the study, dissertation quality assessment and the questionnaires were completed as a ~~once off~~ recording of the triad of data collected from the students and supervisors.

### **3.10 Data Analysis (Phase Three)**

Quantitative data analysis is the skill of the researcher to explain the relationship of the answers received from the ordinal and yes / no options (Brink 2007: 141), and therefore, the Third Phase of the process compared and triangulated the results in terms of statistical analysis:

- the current studentsq profile (knowledge, perceptions and experiences) of the research process against
- their supervisorsq profile (knowledge, perceptions and experiences) of the research process against
- the Checklist.

The Third Phase, identified the relationship or triangulation between the answers reflected by the 30 students and the 30 supervisors which were compared to the results from the 30 marked research documentations.

### 3.11 Statistical Methodology

The data was analysed using the latest version of SPSS 15.0 (as supplied by SPSS Inc., Marketing Department, 44 North Michigan Avenue, Chicago, Illinois, 606611). A  $p$  value of  $<0.05$  was considered as statistically significant (Esterhuizen, emailed 9 March 2012).

In the exploratory stage of the analysis, the use of descriptive statistical analysis was applied on all demographic data (Section A). This included frequency distribution tables (one and two-dimensional), the appropriate charts (for example: pie charts, bar charts and histograms), and various measures of central location (such as mean, median and mode), various measures of dispersion (including range and standard deviation). The same approach was used in analysing the responses from Section B and C of the Studentsq Questionnaire and Supervisorsq Questionnaire. However, in this case the arithmetic mean was used as a measure of central location as a numerical value is allocated to each of the possible responses ranging from ~~Strongly Agree~~ to ~~Strongly Disagree~~. This was calculated for each question, following which the questions were grouped into their appropriate dimensions and the means calculated (Esterhuizen, emailed 9 March 2012).

The assessed studentsq and supervisorsq responses were compared using Mann-Whitney and Kruskal-Wallis non-parametric tests. Independent two sample t-tests or Mann-Whitney tests were used for quantitative and Likert Scale variables. A  $p$  value of  $<0.05$  was considered as statistically significant. In addition, Spearman's Rank correlation coefficient was performed to determine the relationship between:

- student demographic and psychosocial factors and the Checklist;
- supervisor demographic and psychosocial factors and the Checklist;

- student and supervisor demographic and psychosocial factors and the Checklist.

This was achieved by discussing the results from the two participants (student and supervisor) and the outcomes of the analysed Checklist in Chapter Four.

### **3.12 Conclusion**

After having reviewed the qualitative and quantitative methods used to investigate the research problem in this study, this chapter forms the basis for presenting the results and discussion within Chapter Four. This is followed by Chapter Five, which presents the conclusion to this study and provides recommendations on improvements for future such studies as well as recommendations for improving the quality of dissertations in the Chiropractic programme.

# CHAPTER FOUR

## RESULTS AND DISCUSSION

### 4.1 Introduction

This chapter represents the statistical analysis of the data collected in respect of the five stated study objectives. The results are reflected in Tables and Figures, along with a discussion describing the pertinent results (Brink 2007: 192; Department of Chiropractic and Somatology 2014). However, it is not the norm to combine the usually individualised Chapters Four (Results) and Chapter Five (Discussion), but in this instance, it was thought to be more reader friendly to this specific study as it minimised repetition and presented smaller succinct portions of information creating clarity of the presented information (Korporaal, interviewed on 15 February 2014).

Therefore, the data is discussed according to the stated objectives:

- The First Objective was to develop a Checklist, to provide a quality measurement tool.
- The Second Objective was to profile, by means of a questionnaire, the students at the Chiropractic Department with respect to:
  - Demographics (Section 4.5.2.2);
  - Previous research experience (Section 4.5.2.4);
  - Knowledge of the research process (requirements, roles, and interaction) (Section 4.5.2.6);
  - Perception of the research process (Section 4.5.2.8) and
  - Expectations of the research process (requirements, roles, and interaction) (Section 4.5.2.10).
- The Third Objective was to profile, by means of a similar questionnaire, the supervisors at the Chiropractic Department with respect to:
  - Demographics (Section 4.5.3.1);
  - Previous research experience (Section 4.5.3.3);
  - Previous supervision experience (Section 4.5.3.5);

- Knowledge of the research process (requirements, roles, and interaction) (Section 4.5.3.7);
  - Perception of the research process (Section 4.5.3.9) and
  - Expectations of the research process (requirements, roles, and interaction) (Section 4.5.3.11).
- The Fourth Objective was to compare knowledge, expectation and perceptual differences between students and their supervisors.
  - The Fifth Objective was to determine associations between the outcomes of the Fourth Objective to the quality of the research (measured against the outcomes of Objective One).

## **4.2 Data Sources**

Primary data and secondary data were used to compile this chapter.

### **4.2.1 Primary data**

The primary data included all quantitative data obtained from the completed 30 Checklists (Appendix 22), the 30 Studentsq Questionnaires (Appendix 20) and the 30 Supervisorsq Questionnaires (Appendix 21).

### **4.2.2 Secondary data**

Secondary data included all personal communications with the supervisor of this research dissertation (Korporaal, interviewed on 15 April 2012); the librarian (Mitha, interviewed on 15 July 2012) and the statistician (Esterhuizen, email communication dated 8 November 2012). It also included all journal articles, books and web-site pages that are included as references in this research against which the results from this study have been argued, compared and contrasted.

### 4.3 Abbreviations used in Chapter Four

=	Equivalent to
>	Greater than
<	Less than
%	Percentage
ANOVA	Analysis of variance (Campbell and Machin 1999; Hinton 2001).
Asymp. Sig. (2-sided)	With the $p < 0.05$ having been set, then an %Asymp. Sig. (2-sided)+ [which indicates the Pearson Chi-Square] statistic which is less than 0.05, indicates that there is a relationship between the variables based on the level of confidence (namely, 95% with alpha at $< 0.05$ ) (Bland 1996; Swinscow 1996; Wright 1997; Campbell and Machin 1999; Hinton 2001).
Exact Sig. (1-sided)	Testing a one way association (Bland 1996; Swinscow 1996; Campbell and Machin 1999; Hinton 2001).
Exact Sig. (2-sided)	Testing a two way association (Bland 1996; Swinscow 1996; Campbell and Machin 1999; Hinton 2001).
Df	Degrees of freedom
Mean	The average of a statistical distribution of interval and ratio data, also known as the %arithmetic mean+(Wright 1997; Campbell and Machin 1999; Hinton 2001).
N	Number
N/A	Not applicable
n	Sample size
$p$	$p$ -value
Q	Question
SD	Standard deviation
Std.	Standard
Sig.	Significance

#### 4.4 Response rate

At the time of the data collection . during 2011 / 2012 / 2013, there were approximately 91 registered postgraduate students in various stages of their Master's research dissertation. However, six students and seven supervisors could not form part of this study because they were part of the Focus and Pilot Group. Therefore, the total number of students eligible for inclusion into the study was 85.

Of these 85 students, 38 students completed their research, and compiled their research and became eligible for entry into the study (meeting the Inclusion Criteria . Section 3.5.1) during the 2011 / 2012 / 2013 academic cycles. Of these 38 students, 31 students opted to utilise the services of the researcher as their proof-reader and therefore allowed the researcher to approach them and their supervisor in respect to participating in the study. Of these 31 students, only 1 declined participation and was therefore excluded from the research process (Section 3.5.2 Exclusion Criteria).

This process, therefore, met the aim of the study which was to request 30 students and 30 supervisors to complete the researcher's questionnaires. So each student, (and consequently their supervisor) after they sent their dissertation in for proof-reading was requested to participate in this study. If at any time, a student or their supervisor denied this request, the researcher approached the next student and their supervisor.

The target was achieved during 2013 and according to Esterhuizen (email communication 8 November 2013), for the data to be generalised statistically, a 70% minimum questionnaire return rate is required, and this was obtained (Figure 4.1).

An adapted CONSORT flow diagram depicting participant involvement is illustrated in Figure 4.1 as it is noted in the literature that a flow diagram is a useful tool to communicate to the reader the logical sequence of data collection events. Therefore, it offers a transparent flow of how the data was gathered. The benefits include synthesising a number of pages of text data into a diagram so to demonstrate that all steps were taken to ensure all participants had an equal chance of participating in the study. Therefore, bias on behalf of the researcher (for example: only choosing specific participants who were interested in undertaking research), was eliminated (Moher *et al.* 2010: 3; Weber and He 2010: 36).

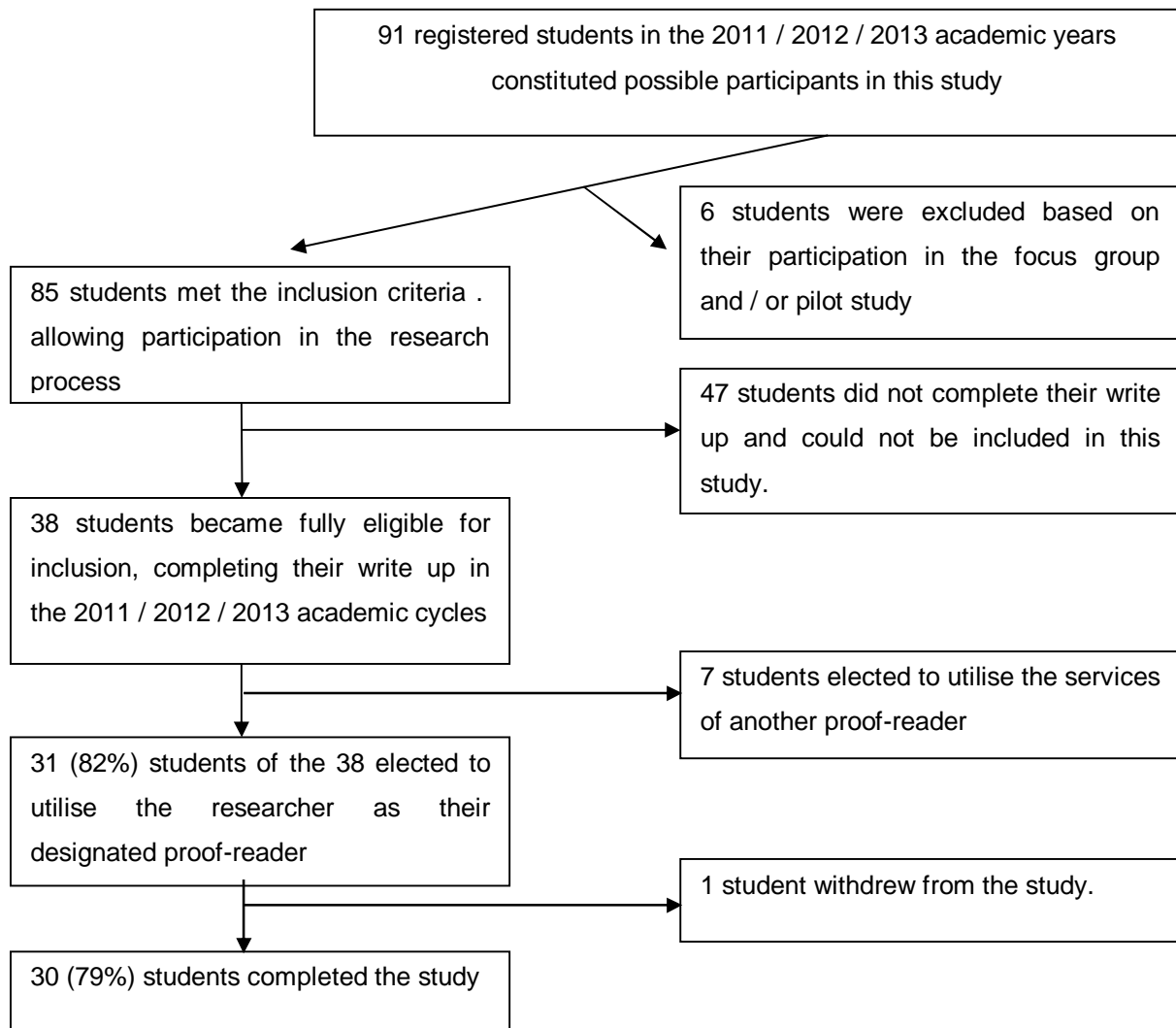


Figure 4.1 Flow diagram (CONSORT)

Adapted from: Moher *et al.* (2010: 3).

The data was collected, in person by the researcher, over a period spanning three years (2011 . 2013). The method of data collection as described in Chapter Three was preferred over posted questionnaires or questionnaires delivered by a third party. Reasons for this included :

- A potential decrease in the return rate of questionnaires in studies where postal surveys were utilised (Lapane, Quilliam and Hughes 2007: 446), affecting the viability and bias of the sample.
- The fact that the research budget did not allow for incentives (Asch, Christakis and Ubel 1998: 95; Delnevo, Abatemarco and Steinberg 2004: 234; Leung *et al.* 2004: 777; Halpern *et al.* 2011: 1475).



- It was not possible to utilise such funding sources as the lottery, for an incentive to encourage participation (Robertson, Walkom and McGettigan 2005: 571) as suggested by the cited publications.

The final sample of 30 represented 79% of the total eligible sample (Figure 4.1). This allowed the researcher to attain the minimum response rate determined by the Institutional Research and Ethics Committee, which required a 70% response rate for this study (as outlined in Chapter Three). In comparison to similar local studies, this study was able to achieve significantly higher response rates (Louw 2005: 19; Van As 2005: 34; Kew 2006: 35; Talmage 2007: 42). In comparison to international studies, which utilised postal questionnaire delivery, this study achieved higher response rates than the 59% achieved by Lindström (2008: 1), the 43% achieved by Caldwell *et al.* (2007: 518) and Copp *et al.* (2007: 159) and the 38% achieved by Lindorff-Larsen *et al.* (2007: 371). Additionally, the results of this study were also higher than those studies utilising self-administered questionnaires as seen by the 55% achieved by Tharaldsen, Olsen and Rundmo (2008: 427), the 55% achieved by Chelenyane and Endacott (2006: 148), the 52% achieved by Ross-Adjie, Leslie and Gillman (2007: 117) and the 75% achieved by Riley, Stewart and Grace (2007: 326).

Therefore, based on the literature, the outcomes of this study can be generalized to the greater Chiropractic student community that are involved in research (Symon, McStea and Murphy-Black 2006: 125; Watson *et al.* 2006: 367; Lapane, Quilliam and Hughes 2007: 446).

Factors that may have contributed to the high rate of participation by students and supervisors may have been as a result of the following:

- Prior research on questionnaire completion has shown that people are more willing to answer questions that pique their interest or are contextually relevant. Chiropractic students' curiosity concerning the need to complete a dissertation to enable them to practise may have piqued their interest in completing the requested questionnaire. In addition, students and supervisors' interest in completing their respective questionnaires may have resulted from their wish to allow for improved dyadic relationships in the future.
- The researcher, through her connection to the programme as a proof-reader may have enabled an improved response rate as the researcher and the research processes were both contextual realities for the student. This is supported by prior research (Lapane, Quilliam and Hughes 2007: 446) which has shown that previous social or business relationships with the researcher or the research context,

encourages increased participation rates. There is, however, also an argument that this factor, may also introduce bias (Brink 2007: 192) into the study, as only persons known to the researcher would potentially be willing to participate. This study was able to avoid such bias, as students and their supervisors had an inherent ability to choose their proof-reader from among various proof-readers available to the department and university. In addition to this, the research student and their supervisor were also given the opportunity to decline participation (Chapter Three: Section 3.5.2c).

- Previous studies, like that of Kasprzyk *et al.* (2001: 3), have also shown that personally delivering a questionnaire to the participants encourages completion and therefore, increases the response rate (Lapane, Quilliam and Hughes 2007: 446). Therefore in this study . dependent on participant request, the questionnaires were either hand-delivered to the student / supervisor or emailed or both.
- The use of weekly reminders as per the suggestion of Suter *et al.* (2007: 110) may also have assisted in increasing response rates.
- Although form-filling fatigue was a concern that may have had a negative response rate from studentsq and supervisorsq the high response rate (79%) in this study seems to suggest that this did not significantly influence participation in this study (Jepson *et al.* 2005: 103).
- Response bias was another concern in this study, as it was possible that students and their supervisors who had a particularly negative view of research would not have considered participation in this study. However, much like the form-filling fatigue, the response rate achieved in this study, does not seem to suggest that this was a problem because all students and their supervisors had an equal chance of accepting / declining participation.

## 4.5 Results

As previously stated, this chapter includes both the results and the discussion of the results.

The sections for the results include:

**Objective One** - the Checklist (Appendix 22) which was divided into discussions concerning the preliminary pages, the individual chapters and general errors.

**Objective Two** - the StudentsqQuestionnaire (Appendix 20) with discussion sections on each of the student demographics, knowledge of the research process, perceptions and expectations of roles within the research process.

**Objective Three** - the Supervisorsq Questionnaire (Appendix 21) with discussion sections on each of the supervisor demographics, knowledge of the research process, perceptions and expectations of roles within the research process.

**Objective Four**, correlations are discussed between each of these various component sections in Objectives One through Three, to determine whether any relationships exist and the strength of these relationships. The only determination that cannot be made in this section is that of causality (as this research was a snapshot at one point in time and not longitudinal in nature).

#### **4.5.1            Objective One:    To develop a Checklist to provide a quality measurement tool**

This objective was to evaluate the quality of the dissertations linked to the student and supervisor relationships that were studied in this research. To achieve this, a Checklist was developed (this is discussed in Chapter Three (Section 3.8.2)). From this process, the final Checklist was developed (Appendix 22) which was used to determine errors that were found within the product or dissertation. In this manner, errors appearing in the dissertation, that according to Lessing and Schulze (2003: 164); Malfroy (2005: 165); Lekalakala-Mokgele (2008: 45); Cheon *et al.* (2009: 53) are the result of dissatisfaction within a supervisory relationship could be quantified and determined. These errors are noted in Table 4.1.

**Table 4.1: Analyses of the dissertations' preliminary pages**

		Yes		No	
		Count	% Total	Count	% Total
<b>Cover page of the dissertation<sup>1</sup></b>					
1	Does your cover page give the title of your mini-dissertation?	24	80.0%	4	13.3%
2	Have you stated that this dissertation is in partial compliance with the requirements for your master's degree?	25	83.3%	3	10.0%
3	Have you declared that this dissertation is representative of your own work?	27	90.0%	1	3.3%
4	Have you stated your name on the cover page?	25	83.3%	3	10.0%
5	<i>Have you included that your dissertation has been approved for final submission by your supervisor/co-supervisor?</i>	18	60.0%	10	33.3%
6	Does your cover page state the name(s) of your supervisor / co-supervisor?	25	83.3%	3	10.0%
7	Have you included your supervisor's / your co-supervisor's qualifications?	21	70.0%	7	23.3%
8	Have you provided sufficient space, to the right of all names for dates and signatures?	25	83.3%	3	10.0%
9	<i>Have you avoided numerically numbering your cover page (i.e. 1)?</i>	20	66.6%	8	26.6%
10	<i>Have you avoided roman numerically numbering your cover page (i.e. i)?</i>	19	63.3%	9	30.0%
<b>Dedication</b>					
	<i>Have you numbered this page with roman numerical (for example: ii) – even though this is your second page after your cover page?<sup>2</sup></i>	11	36.7%	18	60.0%
<b>Acknowledgements</b>					
	Have you thanked the relevant parties who may have assisted you?	28	93.3%	2	6.7%
	<i>Have you numbered this page with roman numerical (for example: iii)?</i>	12	40.0%	18	60.0%

<sup>1</sup>Note that 6.7% of submissions did not include this portion of the documentation for proof-reading

<sup>2</sup>Note that 3.3% of submissions did not include this portion of the documentation for proof-reading

**Table 4.1: Analyses of the dissertations' preliminary pages continued ...**

		Yes		No	
		Count	% Total	Count	% Total
<b>Abstract<sup>3</sup></b>					
1	Is your abstract written in line with the publication requirements?	21	70.0%	8	26.7%
2	<i>Have you included the required headings as per journal requirement (for example: Background, Method, Results, and Conclusion)?</i>	18	60.0%	11	36.7%
3	Have you avoided using references? <sup>4</sup>	22	73.3%	6	20.0%
4	Have you preceded non-standard abbreviations/acronyms with the term in full? <sup>5</sup>	21	70.0%	3	10.0%
5	If you have used standard abbreviations such as kg and m, the full term need not precede them? <sup>6</sup>	20	66.7%	1	3.3%
6	Have you avoided the use of numbers (for example: The sample size was 100)?	25	83.3%	4	13.3%
7	Have you separately paragraphed information under each heading?	27	90.0%	2	6.7%
8	Have you avoided pictures, tables, diagrams in your abstract?	28	93.3%	1	3.3%
9	<i>Have you included key words as a follow on from the abstract?</i>	5	16.7%	24	80.0%
10	<i>Have you numbered this page with roman numerical (for example: iii)?</i>	14	46.7%	15	50.0%
11	Is your word count between 400-500 words?	21	70.0%	8	26.7%
<b>Table of Contents<sup>7</sup></b>					
1	Have you Included the following in the Table of Contents page: Dedication, Acknowledgements, Abstract, Table of Contents, List of Appendices, List of Figures, List of Tables, List of Acronyms; List of Abbreviations and List of Definitions/Terms?	20	66.7%	9	30.0%
2	Have you checked the wording of your headings and sub-headings match those in the main body of text?	27	90.0%	2	6.7%
3	Have you checked the page numbers of your headings and sub-headings match the actual page numbering in the text?	23	76.7%	6	20.0%
4	<i>Is there suitable spacing between page numbers and text information?</i>	18	60.0%	11	36.7%
5	Have you included page numbers against headings and sub-headings?	25	83.3%	4	13.3%
<b>List of Tables<sup>8</sup></b>					
	Have you included all cited tables?	29	96.7%	0	0.0%
	Do the typed words match those typed in the dissertation?	27	90.0%	2	6.7%

<sup>3</sup> Of all the submissions only 3.3% did not submit the abstract for proof-reading

It was noted that 3.3 %<sup>4</sup> , 16.7 %<sup>5</sup> , 26.7 %<sup>6</sup> did not think that this section was relevant to their dissertation

<sup>7</sup> Of all the submissions only 3.3% did not submit the table of content for proof-reading

<sup>8</sup> Of all the submissions only 3.3% did not submit the table of content for proof-reading

**Table 4:1 Analyses of the dissertations' preliminary pages continued ...**

		Yes		No	
		Count	% Total	Count	% Total
List of Figures <sup>9</sup>					
1	Have you included all cited figures?	28	93.3%	1	3.3%
2	Do the typed words match those typed in the dissertation?	27	90.0%	2	6.7%
Abbreviation List <sup>10</sup>					
1	<i>Have you included all abbreviations used?</i>	12	40.0%	15	50.0%
2	<i>Are these abbreviations typed in alphabetical order?</i>	16	53.3%	11	36.7%
3	<i>Do the abbreviations match in-text abbreviations (for example: have your used a single abbreviation for a plural word)?</i>	14	46.7%	13	43.3%
List of Acronyms <sup>11</sup>					
1	Are these acronyms is alphabetical order	8	26.6%	8	26.6%
List of Terms <sup>12</sup>					
1	Are these terms in alphabetical order?	20	66.7%	8	26.6%
List of Appendices <sup>13</sup>					
1	Have they all been included?	25	83.3%	2	6.7%
2	Do the typed titles/headings match the headings of the relevant pages?	18	60.0%	9	30.0%

<sup>9</sup> Of all the submissions only 3.3% did not submit the table of content for proof-reading

<sup>10</sup> Of all the submissions only 6.7% did not submit the table of content for proof-reading / It was noted that 3.3% did not think that this section was relevant to their dissertation type

<sup>11</sup> Of all the submissions only 6.7% did not submit the table of content for proof-reading / It was noted that 40.0% did not think that this section was relevant to their dissertation type

<sup>12</sup> Of all the submissions only 6.7% did not submit the table of content for proof-reading / It was noted that 3.3% did not think that this section was relevant to their dissertation type

<sup>13</sup> Of all the submissions only 6.7% did not submit the table of content for proof-reading / It was noted that 3.3% did not think that this section was relevant to their dissertation type

#### **4.5.1.1 Discussion of the preamble / preliminary pages of the dissertation**

From Table 4.1, it is noted that students tended to battle with ensuring that a comprehensive preamble was submitted to the proof-reader as approximately 6.7% of the students did not bother to submit various portions of the preamble for proof-reading (superscripts 10-13). In addition, a range of 0% - 26.7% of the students thought that various component sections of the preamble were not relevant to their specific study type and had therefore omitted to send these sections to the proof-reader (superscript 6). This is at odds with the Institutional policy, where the guidelines outlining what should be included in the dissertation are expected to be applied consistently irrespective of the study type (Department of Chiropractic and Somatology 2014; Research and Postgraduate Support Guide 2014). Further to this, although convention within various schools of research paradigms (for example: quantitative versus qualitative) may have subtle nuances in their presentation style, the data collected through the Checklist was based on a comprehensive model that would account for the various research types (Mouton 2001: 121; Hofstee 2010: 81; Brink 2007: 192). Therefore, it was unexpected that there would be differences as noted in this section. It is, however, possible that irrespective of research guidelines, the student and / or their supervisor have delineated the need for these various sections to be sent for proof-reading. It will, therefore, be of interest to determine whether these data omissions provide any significant relationships which are presented in the discussion of Objective Four (Section 4.5.4).

Of the submitted sections within the preliminary pages, it was noted that:

- Students (33.3%) did not include a statement as to whether the supervisor(s) approved the study for submission (Table 4.1: Cover page Q5). This statement is crucial in that it provides a reader with the knowledge that the document has attained appropriate approval for submission, because without it, the text has the potential to lead to ethical and institutional regulation problems (Department of Chiropractic and Somatology 2014; Research and Postgraduate Support Guide 2014). Therefore, it is significant that this page was not presented as part of the dissertation for proof-reading. However, it is not dissimilar to the omission of data in a covering letter to a journal (Johnson and Green 2009: 1), which these researchers say is instrumental quality assurance check.
- The Abstract was not appropriately structured in 36.7% of the submissions. This outcome is consistent with the findings of Johnson and Green (2009: 1), who reported that a lack of formal structure, detail, an excessive number of words and lack of detail often characterise abstracts. This concurs with previous publications of Pierson (2004: 1246) and Knight and Ingersoll (1996: 201).



- Johnson and Green (2009: 1) also noted in their paper that key words are either not Medical Subject Headings (MeSH) terms or are wrongly utilised. In this study, however, the key words were omitted in 80% of the submissions (Table 4.1: Abstract Q9). This omission indicates that students, although following the research process globally, seem to be missing some of the smaller nuances that would make for successful publications.
- On a more technical note, it was determined that the students utilised:
  - Inappropriate spacing and formatting 36.7% of the time, when submitting their dissertation (Table 4.1: Table of Contents Q4).
  - Abbreviations that were inconsistent, non-alphabetical and often times used in multiple ways without all abbreviation nuances being spelt out in the dissertation (36.7% - 50.0%)(Table 4.1: Abbreviations Q1, 2 and 3).
  - Inappropriate page numbers / page delineation mechanisms (26.6% - 60.0%) (Table 4.1 all sections).

The above outcomes seem to suggest that the attention to detail by the student and their supervisor may be limited by one or more of:

- Misunderstanding roles (Zeithaml and Berry 1988: 35);
- Differing expectations to the normative research process, which is usually underpinned by prior research experience (Zhang 1996: 447; Newell and Cunliffe 2003: 118); and
- Insufficient time allocation for a systematic completion of the dissertation (CHE 2009: 13).

**Table 4.2 Analysis of the dissertations' chapters**

		Yes		No	
		Count	% Total	Count	% Total
Chapter One: Introduction					
1	Have you briefly introduced your research?	28	93.3%	2	6.7%
2	Have you precisely stated your aim/s of the study?	30	100.0%	0	0.0%
3	Have you stated your research objective/s?	30	100.0%	0	0.0%
4	Have you numbered your research objectives under sub-headings?	24	80.0%	6	20.0%
5	Have you included the Null hypothesis/es? <sup>14</sup>	18	60.0%	9	30.0%
6	<i>Are the null hypothesis/es written under the specific objective/s to which they relate?</i> <sup>15</sup>	10	33.3%	14	46.7%
7	Are the hypotheses written negatively? <sup>16</sup>	18	60.0%	3	10.0%
8	<i>Have you stated your reasons for conducting this study in numerical order?</i>	21	70.0%	9	30.0%
9	Have you motivated your reason/s for the study with in-text references?	23	76.7%	7	23.3%
10	Have you stated how this research could benefit a larger population (for example:, other students, university, general population, reduction in costs)?	22	73.3%	8	26.7%
11	Have you stated that a degree of bias may unwittingly be portrayed (if the researcher is a student / staff member / employee and the research is part of their vested interest) in terms of their qualification? <sup>17</sup>	21	70.0%	7	23.3%
12	Have you included the expectation of participants / respondents in completing the questionnaire / subjective measures honestly? <sup>18</sup>	23	76.7%	6	20.0%
13	Have you stated what the reader could expect for each of the following chapters?	22	73.3%	8	26.7%

<sup>14</sup> It was noted that 10.0% did not think that this section was relevant to their dissertation type

<sup>15</sup> It was noted that 20.0% did not think that this section was relevant to their dissertation type

<sup>16</sup> It was noted that 30.0% did not think that this section was relevant to their dissertation type

<sup>17</sup> It was noted that 6.7% did not think that this section was relevant to their dissertation type

<sup>18</sup> It was noted that 3.3% did not think that this section was relevant to their dissertation type

**Table 4.2 Analysis of the dissertations' chapters continued ...**

		Yes		No	
		Count	% Total	Count	% Total
Chapter Two: Literature Review					
1	<i>Have you always used your own words, i.e. paraphrased and used in-text referencing?</i>	15	50.0%	15	50.0%
2	Have you used inverted commas for direct quotations? <sup>19</sup>	18	60.0%	2	6.7%
3	Have you broken up your information under relevant headings . (beginning with an introduction and ending with a conclusion)?	30	100.0%	0	0.0%
4	Have you regularly referred your review of the information to your particular study?	21	70.0%	9	30.0%
5	Have you used where possible, mostly current theory, (i.e. within the last 5 years)?	10	33.3%	20	66.7%
6	Have you indicated below a plate (image/picture) its source? <sup>20</sup>	24	80.0%	4	13.3%
7	Is your information scientifically rigorous?	21	70.0%	9	30.0%
8	Have you discussed your information, linking it with your title?	21	70.0%	9	30.0%
9	<i>Is it easy to identify the 'golden thread' of your information?</i>	18	60.0%	12	40.0%
10	<i>Is your tense consistent?</i>	13	43.3%	17	56.7%
11	<i>Have your included in-text references for all factual information?</i>	6	20.0%	24	80.0%
		Yes		No	
		Count	% Total	Count	% Total
Chapter Three: Research Methodology					
1	<i>Have you included all abbreviations pertinent to this chapter?</i>	10	33.3%	20	66.7%
2	Have you stated what this chapter will be discussing (for example:, this chapter will describe the research methodology, the development of the questionnaire as well as the collection and analysis of data)?	24	80.0%	6	20.0%
3a	Is the study design clearly stated?	29	96.7%	1	3.3%
3b	<i>Does the compliance of the study design comply with the Helsinki Declaration of 1975?</i>	13	43.3%	17	56.7%
3c	Have you stated that you have received ethical clearance?	26	86.7%	4	13.3%
4	Have you stated if advertising was required? <sup>21</sup>	27	90.0%	2	6.7%
5	Have you stated if advertising was not required? <sup>22</sup>	27	90.0%	2	6.7%
6	Have you described who your sample group is?	28	93.3%	2	6.7%
7	Have you stated the method of allocation of participants within the sample groups to sub-groups (for example: convenience/purposeful)?	29	96.7%	1	3.3%
8	Have you referenced this method?	21	70.0%	9	30.0%
9	Have you stated the total number of participants you are involving and their demographics (for example: age, gender, ethnic group, geographical location)?	28	93.3%	2	6.7%

**Table 4.2 Analysis of the dissertations' chapters continued ...**

		Yes		No	
		Count	% Total	Count	% Total
Chapter Three: Research Methodology continued .....					
10	Have you included your inclusion and exclusion criteria?	29	96.7%	1	3.3%
11	Have you stated exactly how you proceeded with your research?	26	86.7%	4	13.3%
12	Have you stated that the Letter of Information Form and Letter of Information was given to the participants	29	96.7%	1	3.3%
13a	Have you stated exactly how you chose your appropriate measurement tool and supported this with references?	28	93.3%	2	6.7%
13b	Have you identified the appropriate procedure for the type of study you have completed (for example: questionnaire, clinical trial, observation, experimental trial)?	30	100.0%	0	0.0%
14a	Have you included characteristics of your focus group? <sup>23</sup>	9	30.0%	0	0.0%
14b	Have you stated the necessity of using a focus group? <sup>24</sup>	9	30.0%	0	0.0%
14c	Have you stated that participants included in the focus group are excluded from the main study? <sup>25</sup>	9	30.0%	0	0.0%
14d	Have you included the information they need to receive to take part? <sup>26</sup>	9	30.0%	0	0.0%
14e	Have you included their corrections and suggestions? <sup>27</sup>	7	23.3%	2	6.7%
14f	Have you included characteristics of your pilot group? <sup>28</sup>	8	26.7%	1	3.3%
14g	Have you included the necessity of using a pilot group? <sup>29</sup>	8	26.7%	1	3.3%
14h	Have you included their corrections and suggestions? <sup>30</sup>	7	23.3%	2	6.7%
14i	Have you included information regarding the final questionnaire? <sup>31</sup>	8	26.7%	1	3.3%
14j	Have you stated the frequency required for completion of the final questionnaire? <sup>32</sup>	7	23.3%	2	6.7%
15	Was there a procedure for choosing the measurement tools? <sup>33</sup>	20	66.7%	1	3.3%
15a	Was cognisance given to reliability? <sup>34</sup>	20	66.7%	1	3.3%
15b	Was cognisance given to specificity? <sup>35</sup>	20	66.7%	1	3.3%
15c	Was cognisance given to sensitivity? <sup>36</sup>	20	66.7%	1	3.3%
15d	Appropriateness of measurement tool to outcomes? <sup>37</sup>	20	66.7%	1	3.3%
16	Have you stated your statistical methodology?	26	86.7%	4	13.3%
17	Have you incorporated in-text referencing?	28	93.3%	2	6.7%
18	<i>Have you written in the past tense?</i>	18	60.0%	12	40.0%

<sup>19</sup> It was noted that 33.3% did not think that this section was relevant to their dissertation type

<sup>20</sup> It was noted that 6.7% did not think that this section was relevant to their dissertation type

<sup>21 / 22</sup> Not applicable to study type ( 3.3%)

<sup>23 - 32</sup> Not applicable to study type (70.0%)

<sup>33 - 37</sup> Not applicable to study type (30.0%)

**Table 4.2 Analysis of the dissertations' chapters continued ....**

		Yes		No	
		Count	% Total	Count	% Total
<b>Chapter Four: Results</b>					
1	Have you included an introduction?	27	90.0%	3	10.0%
2	<i>Have you included all your abbreviations pertinent to this chapter?</i>	17	56.7%	13	43.3%
3	<i>Have you included what your primary data involves?</i>	19	63.3%	11	36.7%
4	<i>Have you included what your secondary data involves?</i>	18	60.0%	12	40.0%
5	Have you stated your response rate?	29	96.7%	1	3.3%
6	Is the wording in your Bar Graphs / Figures / Tables clearly printed?	23	76.7%	7	23.3%
7	Have you avoided duplicating results from table form to figure form?	26	86.7%	4	13.3%
8	Have you stated what you found before showing the table / figure?	26	86.7%	4	13.3%
9	<i>Have you remembered to use italics when stating <math>p &lt; 0.05</math>?</i>	18	60.0%	12	40.0%
10	Have you remembered to place the Table heading above the table?	28	93.3%	2	6.7%
11	Have you remembered to place the Figure heading below the figure?	27	90.0%	3	10.0%
12	When referring to a % have you inserted it immediately after the number (for example: 50%?)	27	90.0%	3	10.0%
13	When referring to % in text, have you written it out in full? <sup>38</sup>	21	70.0%	0	0.0%
<b>Chapter Five: Discussion</b>					
1	Have you included an introduction?	29	96.7%	1	3.3%
2	Have you avoided restating the results?	27	90.0%	3	10.0%
3	Have you explained any anomalies that may have occurred in your results? <sup>39</sup>	21	70.0%	3	10.0%
4	Have you critiqued your results	26	86.7%	4	13.3%
5	Have you compared / contrasted your results with the information you reported in the literature review?	22	73.3%	8	26.7%
6	Have you remembered to write in the past tense?	24	80.0%	6	20.0%

<sup>38</sup> It was noted that 30.0% did not think that this section was relevant to their dissertation type

<sup>39</sup> It was noted that 20.0% did not think that this section was relevant to their dissertation type

**Table 4.2 Analysis of the dissertations' chapters continued ....**

		Yes		No	
		Count	% Total	Count	% Total
<b>Chapter Six: Conclusions and Recommendations</b>					
1	Have you included an introduction?	22	73.3%	8	26.7%
2	Have you summarised your findings/discussion?	25	83.3%	5	16.7%
3	Have you offered recommendations with regards to how future studies can improve on your methodology, and can explore areas of interest raised by your study?	28	93.3%	2	6.7%
4	Are your recommendations appropriate to the results?	28	93.3%	2	6.7%
<b>Reference List</b>					
1	<i>Are the references in line with DUT Harvard referencing Guide?</i>	18	60.0%	12	40.0%
2	<i>Is the punctuation (i.e. use of capitals, commas, semi colons, full stops, brackets, spacing) correct?</i>	17	56.7%	13	43.3%
3	If not in line with DUT Reference Guide, have they been consistently typed? <sup>40</sup>	9	30.0%	2	6.7%
4	<i>Are the references typed in alphabetical order?</i> <sup>41</sup>	17	56.7%	12	40.0%
5	<i>Is the spelling of names consistent with in text references?</i>	5	16.7%	25	83.3%
6	<i>Have all names been included? (compare against in text)</i>	11	36.7%	19	63.3%
7	<i>Have all your in text references been included in your reference list?</i>	9	30.0%	21	70.0%
8	<i>Are there names in the Reference List that have not been cited in text?</i>	12	40.0%	18	60.0%
9	<i>Have you included the referenced year?</i>	18	60.0%	12	40.0%
10	Have you avoided using Wikipedia?	30	100.0%	0	0.0%
11	Have you avoided numbering or bulleting your references?	28	93.3%	2	6.7%

<sup>40</sup> 63.3% did not submit this for review and proof-reading

<sup>41</sup> It was noted that 3.3% did not think that this section was relevant to their dissertation type

#### 4.5.1.2 Discussion of errors relating to the chapters of the dissertations

When reviewing the most common errors within the chapters presented for proof-reading, it was found that students had difficulty with:

- Referencing (in-text as well as in the reference list), with 70% of students having errors reported for in-text referencing and 40% - 83.3% range of errors for reference citation in the reference list. These inaccuracies seem to support the assertions made for the preliminary pages, where:
  - role ambiguity / role misunderstanding (Zeithaml and Berry 1988: 35);
  - differing expectations to the normative research process (Zhang 1996: 447; Newell and Cunliffe 2003: 118) and / or,
  - insufficient time allocation for a systematic completion of the dissertation (Mouton 2001: 63; Kiley and Mullins 2005: 246; Hofstee 2006: 74).

seem to be linked to a lack of a systematic and deliberate approach by the student and / or their supervisor to work through the dissertation in order to improve the technical qualities of the dissertation. These latter technical inaccuracies therefore detract from the student and supervisor producing a high quality dissertation. Notwithstanding the above assertions, the finding of a high number of errors through incorrect citation use is not uncommon in the literature (Johnson and Green 2009: 1).

- Furthermore, these technical inconsistencies are also found in the incorrect application of tense in Chapter Three Q18 (Table 4.2: 40% - 56.7%); the lack of defining abbreviations and / or the lack of abbreviation consistency in the text and / or the inconsistent use of abbreviations (Chapter 4.2: Q2 43.3% - 66.7%); as well as technical punctuation errors (43.3%). These errors are common when a systematic and structured process is not used to review the dissertation before submission (Hofstee 2006: 213).
- A third and possibly more serious set of errors in the dissertations reviewed for this study, was related to the lack of what is often termed a ~~golden thread~~ or consistency between the design and the
  - hypotheses (incorrect in 46.7%) (Chapter One: Q6);
  - primary data (36.7%) (Chapter Four: Q3);
  - secondary data (40.0%) (Chapter Four: Q4); and / or
  - contextualising the results with particular reference to the *p*-value being stated appropriately (40.0%) (Chapter Four Q9).

Cumulatively it would seem that the lack of the %golden thread+ was evident in about 40% (Chapter Two Q9) of the dissertations. This lack of a consistent %golden thread+ seems to concur with studies undertaken by (Alexandrov 2004: 135) and (Johnson and Green 2009: 1) who identified that students write vague descriptions of the purpose of the study and / or its objectives), confuse methods, results and discussion (Johnson and Green 2009: 1), or do not utilise a systematic reporting system associated with the type of research study (for example: PEDro); CONSORT (Bhogal *et al.* 2005). This lack of detail is also often the reason why studies are either delineated as poor quality and / or are not published by higher impact journals (Neill 2007: 3599; Johnson and Green 2009: 1).

- Lastly and also very importantly, just over half (56.7%) (Chapter Three: Q3b) of the dissertations did not indicate that their study complied with the relevant research guidelines governing best practice for research methods (World Medical Association Declaration of Helsinki 2001; Brink 2007: 192). This would be analogous to submitting a publication to a journal without the concomitant submission of the appropriate registration number for the study (for example: Trial Registry number for a Clinical trial) (Fridlund 2006: 185; Singer and Hollander 2009: 89). Such an omission could potentially question the fundamental integrity of the study and the manner in which it was completed. Therefore, the omission of this information calls into question the possible omission of other data of lesser significance, but not necessarily of lesser importance to the outcome of the study.



**Table 4.3 Analysis of general errors**

		Yes		No	
		Count	% Total	Count	% Total
<b>General Errors : Abbreviations</b>					
1	<i>When you have used abbreviations, have you always typed the term out in full prior to the abbreviation?</i>	13	43.3%	17	56.7%
2	Have you confirmed abbreviations such as: &, kg, and m, are acceptable to use? <sup>42</sup>	24	80.0%	0	0.0%
<b>General Errors : Figures</b>					
1	Have you titled your Figures below the diagram?	27	90.0%	3	10.0%
2	Have you ensured your typed words can be clearly read?	23	76.7%	7	23.3%
3	Have you included a key to explain abbreviations?	22	73.3%	8	26.7%
4	When referring to Figures . have you used a capital letter F?	24	80.0%	6	20.0%
<b>General Errors : Font</b>					
1	Have you used Arial or Times New Roman, size 12 font for normal text?	22	73.3%	8	26.7%
<b>General Errors : Footnotes</b>					
1	Have you avoided using footnotes?	29	96.7%	1	3.3%
<b>General Errors : Headings</b>					
1	Have you typed headings in capital letters and used bold font?	30	100.0%	0	0.0%
2	Have you avoided indenting headings?	27	90.0%	3	10.0%
<b>General Errors : Inconsistencies</b>					
1	<i>If you have used a hyphen between words, have you consistently done so?</i>	8	26.7%	22	73.3%
2	If there are two ways to spell a word, have you consistently used the same spelling?	23	76.7%	7	23.3%
3	<i>Have you consistently used semi colons / full stops at the end of each bulleted statement?</i>	18	60.0%	12	40.0%
4	<i>Have you been consistent in spelling for example: UK or SA spelling as opposed to using USA spelling?</i>	18	60.0%	12	40.0%

<sup>42</sup> It was noted that 20.0% did not think that this section was relevant to their dissertation type

**Table 4.3 Analysis of general errors continued ....**

		Yes		No	
		Count	% Total	Count	% Total
<b>General Errors : In-text referencing</b>					
1	<i>Have you avoided using older references as supporting theory for more current information (for example: Newton (2005) and Datta &amp; Mukherjee (2001) explain that the first skill that people need to learn when coming into project management is planning)?</i>	18	60.0%	12	40.0%
2	Has your use of et al., been consistent (i.e. immediately used or after stating names in full)	21	70.0%	9	30.0%
3	<i>Have you always paraphrased your information with the accompanying in-text references?</i>	14	46.7%	16	53.3%
4	Have you consistently typed multiple in-text references either from most current to oldest or oldest to most current?	25	83.3%	5	16.7%
5	<i>Have all your factual information been referenced?</i>	12	40.0%	18	60.0%
6	<i>Is et al., consistently typed in italics, followed by a full stop and comma?</i>	18	60.0%	12	40.0%
7	<i>Have you stated the references at the end of the sentence as (reference year: page number)?</i>	19	63.3%	11	36.7%
8	<i>Have you stated references that begin the sentence as Reference (year)</i>	20	66.7%	10	33.3%
<b>General Errors : Italics</b>					
1	Have you only used italics for foreign words or Latin terminology? <sup>43</sup>	4	13.3%	0	0.0%
<b>General Errors : Language</b>					
1	Have you sent your dissertation to a reputable proof-reader prior to final submission?	30	100.0%	0	0.0%
2	Have you avoided terms such as: ±.....and so onq/ and so forth / etc?	25	83.3%	5	16.7%
3	<i>Have you avoided the use of the word of 'prove'?</i>	14	46.7%	16	53.3%
4	Have you avoided emotive terms such as: obviously.....qor eloutq?	24	80.0%	6	20.0%
5	<i>Have you included commas after the following terms: However,.....Similarly,.....In addition,.....,</i>	5	16.7%	25	83.3%
6	<i>Have you remembered to insert a full stop at the end of each sentence?</i>	17	56.7%	13	43.3%
7	<i>When you have stated ' .....discussed below', is the information actually described below?</i>	12	40.0%	18	60.0%

<sup>43</sup> It was noted that 86.7% did not think that this section was relevant to their dissertation type

**Table 4.3 Analysis of general errors continued ....**

		Yes		No	
		Count	% Total	Count	% Total
General Errors : Layout of text					
1	Have you always used full page justification?	23	76.7%	7	23.3%
General Errors : Length					
1	<i>Do the length of your mini dissertation fall within the guidelines of 60-80 pages excluding preliminary pages, reference pages and appendices?</i>	14	46.7%	16	53.3%
General Errors : Margins					
1	Have you incorporated the following margins? Top margin: 25mm	27	90.0%	3	10.0%
2	Right margin: 25mm	27	90.0%	3	10.0%
3	Left margin: 40mm	26	86.7%	4	13.3%
4	Bottom margin: 40mm	25	83.3%	5	16.7%
General Errors : Numbers					
1	<i>Have you written out numbers below 10 in full?</i>	20	66.7%	10	33.3%
2	Have you avoided starting a sentence with a number?	28	93.3%	2	6.7%
General Errors : Numbering of Sub-Headings					
1	Have you sequentially numbered headings to clarify importance and interrelation of events?	28	93.3%	2	6.7%
2	Have you placed a full-stop between numbers designating subdivisions (for example: ,2.1)?	30	100.0%	0	0.0%
3	Have you avoided placing a full-stop after the last number-unless the number is only one digit (for example: 2. Introduction or 2.1 Background)?	21	70.0%	9	30.0%
4	Have you left one space between the number and heading?	24	80.0%	6	20.0%
General Errors : Page Numbers					
1	<i>Have you avoided numbering your cover (title) page?</i>	17	56.7%	13	43.3%
2	<i>Have you started numbering your second page, which is your Dedication page with roman numerals ii?</i>	13	43.3%	17	56.7%
3	Have you numbered all other preliminary pages with roman numerals?	22	73.3%	8	26.7%
4	Have you numbered pages from Chapter One to the end of the references pages with numbers 1, 2, 3....?	23	76.7%	7	23.3%

**Table 4.3 Analysis of general errors continued ...**

		Yes		No	
		Count	% Total	Count	% Total
General Errors : Paper Usage					
1	Have you used A4 size (210mm x 297mm) white paper?	30	100.0%	0	0.0%
General Errors : Paragraph Structures					
1	Have you left a blank space between paragraphs?	29	96.7%	1	3.3%
2	Have you started each chapter on a new page?	29	96.7%	1	3.3%
General Errors : Questionnaire					
1	Have you given credit to the original researcher (for example: adapted from.....)? <sup>44</sup>	21	70.0%	6	20.0%
2	Have you received permission from the original researcher to use their questionnaire or adapt their questionnaire for your research? <sup>45</sup>	12	40.0%	7	23.3%
3	Have you referenced any measurement tools that have been utilised? <sup>46</sup>	25	83.3%	2	6.7%
General Errors : Spacing					
1	Have you incorporated 1.5 width lines spacing in text?	30	100.0%	0	0.0%
General Errors : Sub-Headings					
1	Have you typed sub-headings in non-capitals and used bold font?	29	96.7%	1	3.3%
2	Have you avoided indenting headings?	26	86.7%	4	13.3%
3	Have you sequentially numbered sub-headings to clarify importance and interrelation of events?	30	100.0%	0	0.0%
4	Are sub-headings typed exactly as per the Table of Contents?	27	93.1%	3	10.0%
5	Is spacing between headings and text consistently the same?	27	90.0%	3	10.0%

<sup>44 + 46</sup> It was noted that 10.0% did not think that this section was relevant to their dissertation type

<sup>45</sup> It was noted that 36.7 % did not think that this section was relevant to their dissertation type

**Table 4.3 Analysis of general errors continued ...**

		Yes		No	
		Count	% Total	Count	% Total
General Errors: Table					
1	Have you titled your Table above it?	29	96.7%	1	3.3%
2	When referring to Tables . have you used a capital letter T?	22	73.3%	8	26.7%
3	Have you indicated below Tables that you have adapted your work from a particular source? <sup>47</sup>	21	70.0%	7	23.3%
4	Have you avoided duplicating all your results from your table in text form?	26	86.7%	4	13.3%
5	Have you avoided numbering Tables according to the chapter in which they are cited?	28	93.3%	2	6.7%
6	Have you avoided repeating the heading of the table in the Table itself?	29	96.7%	1	3.3%
7	<i>Have you used vertical and horizontal lines only to separate headings and total portion of the Table?</i>	13	43.3%	17	56.7%
8	Have you avoided using footnotes?	29	96.7%	1	3.3%
9	Are your headings in lower case-non capitals?	30	100.0%	0	0.0%
10	Have you been consistent in using the appropriate format?	29	96.7%	1	3.3%
11	Have you used a comma to indicate decimal points?	29	96.7%	1	3.3%
12	Have you inserted a 0 in front of decimals less than 1 (for example: 0, 9)?	22	73.3%	8	26.7%
13	<i>Have you included a space between figures which are in their hundreds and thousands (for example: 1 000)?</i>	17	56.7%	13	43.3%

<sup>47</sup> It was noted that 6.7 % did not think that this section was relevant to their dissertation type

#### **4.5.1.3 Discussion on general errors of the dissertation**

The general inaccuracies or errors in the reviewed dissertations can be globally categorised into the following groups:

- Page numbering (no numbering, roman numerals, numbering);
- Punctuation (hyphen use, semi-colons, full stops);
- Abbreviation use / numerical value use;
- Grammar (use of appropriate syntax, sentence structure and research jargon);
- Spelling consistency;
- Cross- referencing information;
- Discussion sets or progressive argument presentation by section was unclear and organisation (for example: the golden thread) was not logical;
- Technical presentation, formatting and table / figure presentation and
- Referencing style and date (in. text and in the reference list).

These errors are therefore consistent, not only within sections of the dissertation (see previous discussions in Sections 4.5.1.1 and 4.5.1.2), but more globally throughout the dissertation presentation. These errors, which are for the most part not critical (with the exception of plagiarism and inappropriate referencing) (Mouton 2001: 241; Brink 2007: 192; Van Aswegen 2007: 1139; Johnson and Green 2009: 1), do however detract significantly from the overall quality of the product (Mouton 2001: 112; Brink 2007: 192; Van Aswegen 2007: 1139; Johnson and Green 2009:1) that has been produced. In addition, it suggests that the student and / or supervisor do not pay enough attention to or spend sufficient time with the production of a dissertation that shows systematic attention to detail and logical application of principles. This has also been found in the literature by Johnson and Green (2009: 1), when authors submit studies for publication. Therefore, it would seem that irrespective of the level of experience (perhaps also previous qualifications), the authors' attention to detail as well as the time to systematically produce a quality product, errors may elude even the seasoned researcher (Johnson and Green 2009: 1). In terms of the dissertations reviewed for this research, it was also considered that the technical and linguistic errors presented in the dissertations may, however, be symptomatic of a dysfunctional dyad. Therefore, the following sections (Section 4.5.2.1 through to 4.5.2.9: student and Section 4.5.3.1 through to 4.5.3.11 : supervisor) look to determine factors that may contribute to a dysfunctional dyad and then determine whether these in any manner correlate to the type of errors detected in the dissertations.

As a result of the information presented in this section, it is vital that all documents submitted for qualification and / or publication purposes, first be read by a proof-reader or someone fluent and conversant in the English language germane to that discipline (Tompson 2006: 408; Cameron 2007: 43). This latter mechanism will not only ensure compliance with the English language requirement of most journals (Van Aswegen 2007: 1140), but it would also improve the quality of the product (Tompson 2006: 408; Cameron 2007: 43), through systematic and independent review (ISO review systems).

Therefore, based on the analysis of the types of errors in the dissertations reviewed and their frequency of occurrence; it is recommended that all research is independently reviewed (for example: proof-reading / editing should be standard practice) (van Aswegen 2007: 1139; Johnson and Green 2009:1). This will improve and promote the quality of the product, and improve the outcomes of examination or of publication. The likelihood of students / researchers expectations being met will be improved with the result that they develop positive perceptions with regards to the research process / publication process. These latter perceptions may create a stimulus for future research endeavours, both for qualification or non-qualification / publication purposes, and thus have a positive impact on the contribution to building a positive research culture within the higher education institution (Newell and Cunliffe 2003: 118; Eraut 2006: 111; Baker *et al.* 2013: 260; Mulder 2013: 49).

#### **4.5.2 Objective Two: To profile, by means of a questionnaire, the students at the Chiropractic Department with respect to:**

- Demographics (Section 4.5.2.1);
- Previous research experience (Section 4.5.2.3);
- Knowledge of the research process (requirements, roles, and interaction) (Section 4.5.2.5);
- Perception of the research process (Section 4.5.2.7) and
- Expectations of the research process (requirements, roles, and interaction) (Section 4.5.2.9).

##### **4.5.2.1 Demographics (Appendix 20, Section A)**

###### **4.5.2.1.1 Age (Question 1)**

The information indicated in Table 4.4 highlights that the mean age of the students was almost 27 years, with a standard deviation of nearly 4 years. The ages of the 30 students ranged from 24 years to 43 years.

**Table 4.4: The range of students' ages**

N	Valid	30
	Missing	0
Mean		26.87
SD		3.721
Minimum		24
Maximum		43

###### **4.5.2.1.2 Gender (Question 2); Ethnicity (Question 3) and Marital status (Question 4)**

There was almost double the number of female students participating in the study than male participants. The majority of the participants in this study were White (83.3%). There were only a small number of Black and Indian participants (6.7% and 10.0% respectively). The majority of these student participants indicated they were single (80.0%). One participant (3.3%) indicated they were separated and another participant indicated ~~another~~to explain they were involved in a life partnership.



<b>Table 4.5: Gender; Ethnicity; Marital status</b>				
Classification of participantsqgender				
	Frequency	Percent	Valid Percent	Cumulative Percent
Female	19	63.3	63.3	63.3
Male	11	36.7	36.7	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
Classification of participantsqdifferent ethnic groups				
White	25	83.3	83.3	83.3
Indian	3	10.0	10.0	93.3
Black	2	6.7	6.7	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
Classification of participantsqmarital status				
Single	24	80.0	80.0	80.0
Married	4	13.3	13.3	93.3
Separated	1	3.3	3.3	96.6
Other	1	3.3	3.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	

#### 4.5.2.1.3 Family responsibilities (Question 5 and 6)

The majority of student participants (26: 86.67%) did not have dependents to support. However, of the four remaining participants, one or more participants indicated that they supported multiple dependents. Children younger than ten years of age formed the highest number of dependents (3), while one participant indicated that they supported a family member between the ages of 10-20 years of age. One or more of these four participants indicated that they too had two members of their extended family living at home.

**Table 4.6: Number of dependents requiring support**

		Count	% Total
Are dependents reliant on you for their well-being?	Yes	4	13.33%
	No	26	86.67%
Dependants: 0-10 years		3	
Dependants: 10-20 years		1	
Adults with challenges living at home		0	
Elderly parents		1	
Extended family living in your home		2	
Other		0	

#### 4.5.2.1.4 Home language preference (Question 9) and Written language preference (Question 10)

The majority of the participants indicated that their home language is English (24: 80%). Less than a fifth of the student participants indicated that their home language was one of the other 11 official languages - four student participants indicated they spoke Afrikaans and one student indicated that isiZulu is their mother tongue. Only one student participant (3.3%) indicated they spoke an international language (Danish) at home. The majority of participants indicated that they prefer to write in English (27: 90.0%). The remaining three students highlighted that they prefer to write in Afrikaans, IsiZulu and Other was indicated as Danish.

<b>Table 4.7: Language preference</b>				
Analysis of the participants home language				
	Frequency	Percent	Valid Percent	Cumulative Percent
English	24	80.0	80.0	80.0
Afrikaans	4	13.3	13.3	93.3
Danish	1	3.3	3.3	96.6
isiZulu	1	3.3	3.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
Analysis of students language with which they prefer to write				
English	27	90.0	90.0	90.0
Afrikaans	1	3.3	3.3	93.3
isiZulu	1	3.3	3.3	96.6
Other	1	3.3	3.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	

#### 4.5.2.1.5 Reported interaction difficulties (Question 7)

The majority of participants indicated that they did not have any difficulties writing or verbally communicating in English (29: 96.7%). Similarly, the majority of student participants indicated that they did not have any sensory or physical difficulties (26: 86.7%). However, of the four participants who indicated they had difficulties:

- one participant highlighted they had been diagnosed with dyslexia;
- another indicated managing time was a problem;
- the third indicated that English was not their main language and therefore communication in English was a problem and
- the last person did not articulate their difficulties.

**Table 4.8: Reported interaction difficulties**

	Yes		No	
	Count	% Total	Count	% Total
Communication difficulties				
English as the main medium of communicating	1	3.3%	29	96.7%
Other difficulties				
Dyslexia	1	3.3%	29	96.7%
Auditory difficulties	0	0.0%	30	100.0%
Visual difficulties	0	0.0%	30	100.0%
Physical difficulties	0	0.0%	30	100.0%
No difficulties	26	86.7%	4	13.3%
Other	2	6.6%	28	93.3%

#### 4.5.2.1.6 The affect of these sensory challenges (Question 8)

Of the four student participants that indicated that they had difficulties, two participants indicated that their difficulties challenged them in multiple ways.

The dyslexic participant indicated problems with writing speedily, reading journals and / or books easily and balancing work, study and social time. Similarly, the participant who reported time as a problem also indicated that they had difficulty with balancing work, study and social time. The participant who reported language to be a problem indicated that their biggest problem was with writing speedily. The last three lifestyle areas stated as problems, were reported by a participant that had indicated no interaction difficulties, and therefore, it is possible that they were reporting on a lack of university provision for support with learning to read journals or books and to developing appropriate writing skills. This concurs with the final response by the same participant who indicated that there were problems with access to the library and the toilet / washroom facilities.

**Table 4.9: Lifestyle areas affected because of reported interaction difficulties**

	Yes		No	
	Count	%Total	Count	% Total
Access to library / toilet rooms restricted	1	3.3%	29	96.7%
Access to supervisors office restricted	0	0.0%	30	100.0%
Difficulty balancing work, study and social time	2	6.7%	28	93.3%
Difficulties with writing speedily	3	10.0%	27	90.0%
Difficulties in reading journals or books easily	2	6.7%	28	93.3%
Difficulties in hearing or speaking to my supervisor	0	0.0%	30	100.0%
Other	0	0.0%	30	100.0%

#### 4.5.2.1.7 Financial support received (Question 11)

Multiple options could be chosen for this question which highlighted that almost three quarters of the student participants (21: 44.68%) received full or partial funding from their parents or guardian. Less than half of the students (13: 28.3%) self-funded their studies and only three (6.5%) students had received a bursary or scholarship. Only one student (3.3%) indicated that they received financial support from another source and stated a trust fund.

**Table 4.10: Financial support**

Responses	N	Percent	Percent of Cases
Parents / guardian	21	44.68%	70.00%
Self-funding	13	27.66%	43.33%
Spouse or partner	5	10.64%	16.67%
Student loan	4	8.51%	13.33%
Bursary / scholarship	3	6.38%	10.00%
Other	1	2.13%	3.33%

#### 4.5.2.1.8 Employment status (Question 12)

Half of the student participants indicated that they worked part-time (15: 50.0%). Of the remaining fifteen student participants, there were almost an equal number who stated that they either worked full-time (8: 26.7%) or not at all (7: 23.3%).

**Table 4.11: Classification of participants' employment status**

	Frequency	Percent	Valid Percent	Cumulative Percent
Part-time	15	50.0	50.0	50.0
Full-time	8	26.7	26.7	76.7
Not working	7	23.3	23.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	

#### 4.5.2.1.9 Computer hardware and software access at home? (Question 13, 14 and 15)

The total sample indicated that they have a home computer. However, only 20 (66.7%) stated that they were able to print from home. Just over three quarters of these participants (25: 83.3%) indicated that they had Internet access from home.

**Table 4.12:** Access and use of a home computer and Internet

		Count	%
Do you have home computer access?	Yes	30	100.0%
	No	0	0.0%
Do you have a printer at home?	Yes	20	66.7%
	No	10	33.3%
Do you have home Internet access?	Yes	25	83.3%
	No	5	16.7%

#### 4.5.2.1.10 Enrolment in M.Tech:Chiropractic programme directly after school completion (Question 16)

Of the total sample, there were 20% more students (18: 60% versus 12: 40%) who enrolled in their M.Tech:Chiropractic programme directly after school.

**Table 4.13: Direct enrolment into the Chiropractic Department after school**

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	18	60.0	60.0	60.0
No	12	40.0	40.0	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	

#### 4.5.2.1.11 Year of initial registration into the Chiropractic programme (Question 17)

As the Allied Health Professions Council of South Africa, requires students to have completed their N.Dip:Chiropractic, B.Tech:Chiropractic and M.Tech:Chiropractic prior to being able to register with the Council for purposes of practising as a chiropractor (AHPCSA Act 63 of 1982 (as amended 2001)), the majority of students see the programmes offered through the Chiropractic Department as a single study programme and not three independent qualifications. Therefore, 26:86.7% of students indicated that they initially registered for the M.Tech:Chiropractic prior to 2010 (namely, indicating their initial registration for what would have been the first year of their N.Dip:Chiropractic). Thus, twenty six students indicated they initially registered for their M.Tech:Chiropractic during 2002 and 2007. This indicates that the

vast majority of students spent between seven and twelve years in the collective programmes to enable their registration as chiropractors.

Only four students actually answered the question as was intended by the researcher, which indicated that of these four remaining students, three students spent four years and one student took three years to complete their Masters.

Irrespective of the response given by the participants, it can be seen that students take a long time to complete what should in effect be a five year minimal time period for the completion of the programmes collectively.

**Table 4.14: Year of initial M.Tech:Chiropractic registration**

	Frequency	Percent	Valid Percent	Cumulative Percent
2002	3	10.0	10.0	10.0
2003	2	6.7	6.7	16.7
2004	5	16.7	16.7	33.3
2005	6	20.0	20.0	53.3
2006	8	26.7	26.7	80.0
2007	2	6.7	6.7	86.7
2010	3	10.0	10.0	96.7
2011	1	3.3	3.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	

**Yellow** = first time registrations for the chiropractic programme, without distinction of National. Diploma, B.Tech degrees preceding the M.Tech:Chiropractic degree

**Green** = reflects those students that registered for the M.Tech:Chiropractic degree for the first time

#### **4.5.2.1.12 Significant other's highest qualification (Question 20), Support received from a significant other (Question 21) and Significant other's involvement in student's research (Question 22)**

Slightly more than half of the sample students'significant other's highest qualification was indicated as an Undergraduate degree (17: 56.7%), such as B.Tech, BSc or BA. There were almost an equal number of students'significant others who have a National Senior Certificate (7: 23.3%) or Postgraduate degree (6 : 20.0%), such as a Master's or PhD. Almost three quarters of the sample participants indicated that they received support from their significant other. Most participants (24: 80.0%) indicated that it was not their significant other's knowledge of research that aided them in their own research studies.

<b>Table 4.15: Significant other's qualifications and support</b>				
	Frequency	Percent	Valid Percent	Cumulative Percent
<b>Significant others qualification</b>				
Undergraduate	17	56.7	56.7	56.7
National Senior Certificate	7	23.3	23.3	80.0
Postgraduate	6	20.0	20.0	100.0
Did not complete school	0	0.0	0.0	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>Support received from a significant other</b>				
Yes	21	70.0	70.0	70.0
No	9	30.0	30.0	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>Significant others knowledge that aided students in their research</b>				
Yes	6	20.0	20.0	20.0
No	24	80.0	80.0	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	

#### 4.5.2.2 Discussion on students' demographics

In summary, the average age of the students in this study was calculated at nearly 27 (26.87 years) years of age (with a SD of 3.7 years). This would concur with the requirement that all these students would previously have had to complete a three year national diploma (minimum three years), a bachelor's degree (minimum one extra year) and a period as a registered Master's student; prior to submitting their research for proof-reading and subsequently examination. This would also concur with the fact that the students had variably been registered from between 2002 and 2010 for the Chiropractic programmes collectively. This process would result in the minimum age for entry into the M.Tech:Chiropractic being approximately 24 years of age (18 years of age plus the five years outlined above). Therefore, it would seem that the students are passing from entry into the Chiropractic programme to completion within on average eight years. This timing, either implies that the student has delayed their progression prior to undertaking their Master's, or during their Master's degree, or that they have had various academic impediments (for example: subject failure or lack of support) along the way (Grant 2006: 76; Kim *et al.* 2010: 114). Should the delay be during the Master's degree, it would suggest that the quality of the submission of the Master's dissertation would be high. This is, however, in contrast to the findings of Objective One, where significant errors have been found that suggest that the students have insufficient time to ensure the elimination of technical problems:

- with page numbering (roman numerals versus numbers);
- font style, size and consistency (headings and texts)
- punctuation (hyphen use, semi-colons, colons and full stops);
- abbreviation use / numerical value use;
- grammar (use of appropriate syntax, sentence structure and research jargon)

- spelling consistency (SA / UK versus USA);
- technical presentation, formatting and table / figure presentation and
- referencing style and method (in. text and reference list).

These errors, may therefore, be linked to other factors which may include but not be limited to: previous subject failure (Grant 2006: 76), the average age of the Chiropractic student being lower than the average age of students reported by the CHE (2009: 21), who were reported as 30 years of age. Furthermore, the majority of these students were white, single females, who had a preference for the use of English as a means of oral and written communication. This concurs with the CHE (2009:21), who has indicated that more females and white students tend to enrol in health sciences. This demographic representation may provide a nidus for conflict with supervisors that for the most part are males (based on the higher predominance of males remaining in clinical practice in the Chiropractic profession) and therefore more likely to be research supervisors (interviewed Korporaal 20 January 2014). Again, this point of conflict may provide a reason for the technical quality problems that were detected in the quality analyses of the dissertations. (Checklist Section 4.5.1.1; 4.5.1.2 and 4.5.1.3).

The assertions that low quality dissertations are due to lack of computer software and hardware (Mazloomdoost *et al.* 2007: 523), are invalidated by the students answers that they all had access to a home computer, with the majority also having access to a printer and Internet software. However, in support of the low technical inaccuracies, the majority of participants were first time registrants for a Master's degree within the higher education system and still to learn the nuances of academic writing (Tobbell, O'Donnell and Zammit 2010: 263). Although this concurs with the outcome that very few of the participants reported any difficulties that had a direct impact on their research (as they have been able to academically proceed to the Master's level within higher education); it may provide a reason for a lower quality dissertation (Sayed, Kruss and Badat 1998: 285).

The argument that time allocation was a reason for a lower technical quality of a given dissertation, does not seem to be feasible in that the majority of these students were not responsible for young children or elderly dependants that may have taken time from their research process to care for them (Sen and Yurtsever 2007: 238). In addition, just over half of the participants reported that they received support from their significant others (predominantly parents or guardians), most of whom had an undergraduate degree. Therefore, based on their support system and lack of responsibilities, most of the students had time to prepare and compile their dissertation. However, this assertion may be countermanded by the fact that students with previous subject failure may have been



inadequately prepared for the research process (Grant 2006: 76; Kim *et al.* 2010: 114) and therefore would have required additional time to dedicate towards research that was not possible due to their structured work commitments. In addition, the quality of the time available to the student may have been eroded by the lack of research support provided by the significant others (Kim *et al.* 2010: 114; Vellymalay 2011: 60).

In conclusion, it would seem that there is a balance of factors involved in creating a good quality dissertation. Therefore, it seems likely that this scale may be tipped in favour of a poor dissertation if other factors such as students lack of knowledge (Section 4.5.2.6), false perceptions (Section 4.5.2.8) and / or expectations (Section 4.5.2.10) of their supervisor contribute further to the potential that the dyad may produce a poor quality dissertation.

### 4.5.2.3 Previous research experience (Appendix 20, Section A)

#### 4.5.2.3.1 Previous studies in a Master's research degree (Question 18) and Previous research subjects failed (Question 19)

The total sample of student participants indicated that they had not undertaken a Master's research dissertation before enrolling in the M.Tech:Chiropractic programme. Only one student indicated that they had failed a research subject (Research Methods and Techniques I, a subject completed in the bachelor's degree component of the Chiropractic programme). Therefore, the majority of students (29: 96.7%) indicated they had passed their research subjects.

<b>Table 4.16: Previous research experience</b>				
Previous Masters research degree (non-chiropractic)				
	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	0	0.0	0.0	0.0
No	30	100.0	100.0	100.0
The number of participants who have failed a research subject				
Yes	1	3.3	3.3	3.3
No	29	96.7	96.7	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	

#### **4.5.2.4 Discussion on students' previous research experience**

In summary, it would seem that the majority of the students were prepared for the research process in that they had completed an introductory research module in preparation for their research dissertation (Research Methods & Technology I). Therefore, it was anticipated that the majority of the students had sufficient training to address the necessary steps of the research process (South Africa Qualifications Authority 2012). Thus, it is anticipated that the lack of student knowledge would not be an obstacle for the development of an appropriate relationship between the student and the supervisor and therefore also the development of a quality dissertation.

Based on the results of the registration periods for the students prior to entering the M.Tech:Chiropractic, it may have been germane to ask questions around the performance of the students in other subjects (Grant 2006: 76; Kim *et al.* 2010: 114) and link this to the progression of the student in their research. However, further evaluation is limited by the lack of explicit questions in the student questionnaire. Therefore, it is recommended that future studies investigate this link.

#### 4.5.2.5 Students' knowledge of the research process (requirements, roles and interaction)

**Table 4.17: Students' knowledge of the research process**

		True		False		Don't know	
		n	%	n	%	n	%
1	A supervisor, to guide me with my research, was assigned to me	17	56.7%	13	43.3%	0	0.0%
2	I have completed a research contract with my supervisor	27	90.0%	3	10.0%	0	0.0%
3	If I was not satisfied with my supervisors teaching methods I could request another supervisor	28	93.3%	2	6.7%	0	0.0%
4	My supervisor always gave constructive feedback	28	93.3%	2	6.7%	0	0.0%
5	My supervisor contacted me to enquire reasons for delay in handing in work	16	53.3%	14	46.7%	0	0.0%
6	My supervisor was required to help me compile my PG4a form	26	86.7%	4	13.3%	0	0.0%
7	My supervisor preferred me not to contact him/her after hours	4	13.3%	26	86.7%	0	0.0%
8	My supervisor recommended reading material related to research	24	80.0%	6	20.0%	0	0.0%
9	My supervisor responded to the agreed timeframes as per the research contract	23	76.7%	7	23.3%	0	0.0%
10	My supervisor sets stringent timelines	9	30.0%	21	70.0%	0	0.0%
11	My supervisor used different methods to explain work if at first I did not understand	26	86.7%	4	13.3%	0	0.0%
12	My supervisor was able to keep to time lines in returning work	22	73.3%	8	26.7%	0	0.0%
13	My supervisor is based at the university	19	63.3%	11	36.7%	0	0.0%
14	After the Chiropractic programme has accepted the proposed topic, it is registered by the Faculty of Health Science and Research and Ethics Committee	25	83.3%	5	16.7%	0	0.0%
15	An ethics clearance certificate is issued by Faculty on a PG4a approval	20	66.7%	10	33.3%	0	0.0%
16	Faculty approves the PG4a form	26	86.7%	4	13.3%	0	0.0%
17	The Chiropractic programme meets regularly to prevent delay in proposal acceptance	27	90.0%	3	10.0%	0	0.0%
18	The completed PG4a form needs to be discussed during a chiropractic Departmental meeting involving the student and supervisor	27	90.0%	3	10.0%	0	0.0%
19	A Masters student must complete their research within 2 years of registration	13	43.3%	17	56.7%	0	0.0%
20	My research must contain scientific information i.e. jargon related to the information being reviewed	27	90.0%	2	6.7%	1	3.3%
21	Research for a Masters degree, submitted post examination produces new knowledge	21	72.4%	8	27.6%	0	0.0%
22	There is no limit to the length of my research	11	36.7%	19	63.3%	0	0.0%
23	The university's computers provide software to assist with referencing for example: EndNote	18	60.0%	9	30.0%	3	10.0%
24	The university's computers provide software to assist with restricting plagiarism for example: Turnitin	14	46.7%	13	43.3%	3	10.0%

**Table 4.17: Students' knowledge of the research process continued ....**

		True		False		Don't know	
		n	%	n	%	n	%
25	Participants who formed part of my study were expected to sign a form giving permission to be involved in the study	27	90.0%	3	10.0%	0	0.0%
26	Tables, inclusive of contents, must be justified to the left	11	36.7%	18	60.0%	1	3.3%
27	The abstract, literature review, methodology, results, discussion, conclusion, and recommendations all include in-text referencing	11	36.7%	19	63.3%	0	0.0%
28	The correct font for text information is Roman Times Roman	7	23.3%	23	76.7%	0	0.0%
29	The Durban University of Technology uses APA referencing	6	20.0%	22	73.3%	2	6.7%
30	The Focus Group discussion is usually tape-recorded	20	66.7%	7	23.3%	3	10.0%
31	The headings for tables must be in the same font as writing text	24	80.0%	6	20.0%	0	0.0%
32	The null hypothesis, if required is written as: %the identified psychosocial factors affect throughput rates+	6	20.0%	23	76.7%	1	3.3%
33	Unless permission was received, all information relating to participants remains confidential	29	96.7%	1	3.3%	0	0.0%
34	When including a figure in your work, the heading (for for example: Figure 1.1 age group) - is stated at the top of the figure	9	30.0%	21	70.0%	0	0.0%
35	When including a graph in your work, the heading (for for example: Graph 1.1 gender) . is stated at the top of the graph	12	40.0%	18	60.0%	0	0.0%
36	When including a table in your work, the heading (for for example: Table 1.1 ethnic group) - is stated at the bottom of the table	5	16.7%	25	83.3%	0	0.0%
37	A statistician consultation form is not required at completion stage	15	50.0%	15	50.0%	0	0.0%
38	It is my responsibility to ensure the title of my completed research matches that of my proposal	28	93.3%	1	3.3%	1	3.3%
39	I am not expected to publish an article based on my findings	11	36.7%	18	60.0%	1	3.3%
40	I am expected to submit three hard-bound copy to the examiners	3	10.0%	27	90.0%	0	0.0%
41	My supervisor is responsible for storing my completed hardbound research dissertation	1	3.3%	29	96.7%	0	0.0%

#### 4.5.2.6 Discussion on the students' knowledge of the research process

The majority of the students (i.e. over 90%) were aware of the necessity of signing a student-supervisor research contract and that, if required, they could request another supervisor (Q3). In terms of their expectation on their right to expect constructive feedback from their supervisor, the students correctly identified and agreed with the literature (Q4) (Eraut 2006: 111; Baker *et al.* 2013: 260), and that this work would also require them to be involved in meetings with their supervisor (Manathunga 2007: 212).

Further to this, the students also identified that the university, through the department also held regular meetings to prevent delays in proposal acceptance (Q17) and that the discussion at these meetings was to aid the student in achieving institutional approval and onward progression of their dissertation (Q16) (Department of Chiropractic and Somatology 2014). Most of these students were, however, aware that they needed to take responsibility for submitting two instead of three hard bound copies of their dissertation for examination purposes (Q40) as well as confirming that the title of the dissertation had to reflect the title of the approved proposal (Q38) (Department of Chiropractic and Somatology 2014).

From a structural vantage point, the majority (Q20: 90%) of the students agreed with the literature that the research must contain technical jargon (Kiley and Mullins 2005: 246; Hofstee 2006: 242; Republic of South Africa 2011: 83), that the participants of their research are required to sign an Informed Consent Form (Q26: 90%) and that all the information and related documentation generated through or by the research had to remain confidential (Q33: 96.7%) (Mouton 2001: 101; Hofstee 2006: 211; Brink 2010: 36; Department of Chiropractic and Somatology 2014).

From an evaluation of the students' knowledge about the research process, it becomes apparent that the students are willing and knowledgeable about certain aspects of the research process and the end-product that they are required to produce. This outcome would support the assertion that the students benefitted from the research methodology course that was presented to them in the year preceding entry into the Masters programme (Section 4.5.2.4.). It also underpins the outcome, as is evident from the ~~pre~~ previous research experience+section (Section 4.5.2.4), that the student is aware of the overt requirements of the research process. It is, therefore, interesting to compare the outcomes of this section to that of the Checklist (Objective One) which measured the quality of the research dissertation. In respect of the Checklist, the student did not seem to concern themselves with the smaller / minor details pertaining language, technical presentation and consistency of applying the same terms and spelling of words (Section 4.5.1.1, 4.5.1.2 and 4.5.1.3).

In this section, the findings seem to suggest that although the student was prepared for the more over-arching processes in the research; they expected their supervisor, statistician, editor and / or proof-reader to ensure that these minor details were seen to adequately. These differences may, therefore, be an area of potential conflict between the student and the supervisor. This is especially so if the student's perceptual set indicates that they need not check the findings / results or corrections of their supervisor, statistician, editor and / or proof-reader despite the fact that these professionals may be unclear on what the student expects of them.

This, therefore, suggests that knowledge of the research process is not an enabling factor for good quality research and that other factors impinge on the research process that determine the quality of the final research product.

#### 4.5.2.7 Students' perceptions of the research process

**Table 4.18: Students' perceptions of the research process**

		Strongly agree		Agree		Disagree		Strongly disagree		N/A	
		n	%	n	%	N	%	n	%	n	%
1	I am able to paraphrase research material easily	8	26.7%	14	46.7%	6	20.0%	2	6.7%	0	0.0%
2	I believe research is not necessary for obtaining a chiropractic degree	5	16.7%	17	56.7%	6	20.0%	2	6.7%	0	0.0%
3	I did not find the research handbook very useful	1	3.3%	9	30.0%	15	50.0%	5	16.7%	0	0.0%
4	I disagreed with my supervisor's intervention but I did what the supervisor thought best	2	6.7%	3	10.0%	19	63.3%	6	20.0%	0	0.0%
5	I have difficulty reading my supervisor's handwriting	1	3.3%	2	6.7%	19	63.3%	8	26.7%	0	0.0%
6	I prefer accumulating all the information concerning my research topic before doing the writing	4	13.3%	12	40.0%	13	43.3%	1	3.3%	0	0.0%
7	I prefer to work in partnership with my supervisor	7	23.3%	20	66.7%	1	3.3%	2	6.7%	0	0.0%
8	I thoroughly enjoyed the research process	2	6.7%	4	13.3%	9	30.0%	15	50.0%	0	0.0%
9	I was in a hurry to complete my research	10	33.3%	15	50.0%	4	13.3%	1	3.3%	0	0.0%
10	I would like to study further	8	26.7%	16	53.3%	5	16.7%	1	3.3%	0	0.0%
11	If given the choice I would have changed my supervisor	4	13.3%	2	6.7%	11	36.7%	13	43.3%	0	0.0%
12	It is not necessary to include a pilot group if questions have been accepted by a focus group	1	3.3%	8	26.7%	16	53.3%	4	13.3%	1	3.3%
13	My supervisor caused me to feel apprehensive in discussing research	2	6.7%	2	6.7%	13	43.3%	13	43.3%	0	0.0%
14	My supervisor conscientiously went over my work with me	7	23.3%	17	56.7%	4	13.3%	2	6.7%	0	0.0%
15	My supervisor did not understand my research concerns	2	6.7%	4	13.3%	12	40.0%	12	40.0%	0	0.0%
16	My supervisor dominated our research conversations	0	0.0%	3	10.0%	20	66.7%	7	23.3%	0	0.0%

Table 4.18: Students' perceptions of the research process continued

		Strongly agree		Agree		Disagree		Strongly disagree		N/A	
		n	%	n	%	N	%	n	%	n	%
17	My supervisor often changed his/her mind concerning previous corrections	2	6.7%	3	10.0%	14	46.7%	11	36.7%	0	0.0%
18	My supervisor often had to refer work to a colleague	1	3.3%	2	6.7%	11	36.7%	16	53.3%	0	0.0%
19	My supervisor preferred supervisory group sessions	1	3.3%	2	6.7%	17	56.7%	10	33.3%	0	0.0%
20	My supervisor promoted my confidence in the research process	9	30.0%	14	46.7%	4	13.3%	3	10.0%	0	0.0%
21	My supervisor seemed disinterested in my progress	1	3.3%	6	20.0%	8	26.7%	15	50.0%	0	0.0%
22	My supervisor was able to answer my questions knowledgeably	14	46.7%	13	43.3%	3	10.0%	0	0.0%	0	0.0%
23	My supervisor's knowledge of the research process was poor	1	3.3%	2	6.7%	8	26.7%	19	63.3%	0	0.0%
24	My positive relationship with my supervisor was instrumental in helping me with my research	17	56.7%	10	33.3%	1	3.3%	1	3.3%	1	3.3%
25	My supervisor and co-supervisor did not always agree with each other's comments	1	3.3%	3	10.0%	11	36.7%	8	26.7%	7	23.3%
26	My supervisor is knowledgeable with regards to the research process	17	56.7%	9	30.0%	3	10.0%	1	3.3%	0	0.0%
27	My supervisor made sure I knew how to access Internet research articles	9	30.0%	10	33.3%	9	30.0%	2	6.7%	0	0.0%
28	Research had a negative impact on my personal life	8	26.7%	9	30.0%	11	36.7%	2	6.7%	0	0.0%
29	The chiropractic staff are all approachable with regards to research information	1	3.3%	17	56.7%	9	30.0%	3	10.0%	0	0.0%
30	The focus group helped formulate my questions in line with my research topic <sup>47</sup>	2	6.7%	9	30.0%	10	33.3%	1	3.3%	7	23.3%
31	The hours the libraries are open to access research material is convenient	9	30.0%	19	63.3%	0	0.0%	2	6.7%	0	0.0%
32	The university's computer search engines allow access to research material	7	23.3%	18	60.0%	3	10.0%	2	6.7%	0	0.0%
33	The university's Internet access is fast	4	13.3%	14	46.7%	6	20.0%	6	20.0%	0	0.0%
34	The university's librarians were very helpful	7	23.3%	19	63.3%	2	6.7%	2	6.7%	0	0.0%
35	The university's libraries provided adequate support in facilitating me with research material <sup>48</sup>	6	20.0%	18	60.0%	3	10.0%	2	6.7%	0	0.0%

<sup>47</sup> + <sup>48</sup> did not answer the question 3.3%



#### 4.5.2.8 Discussion on the students' perceptions of the research process

The majority of the students ~~strongly agreed~~ or ~~agreed~~ that their supervisor was instrumental in helping them with their research (Q24) (de Beer and Mason 2009: 216; Straus and Sackett 2012: 367) through:

- ensuring they understood their work (Q14);
- answering their questions knowledgeably regarding the research (Q22) and the research process (Q26) and
- establishing they could access the Internet (Q27).

The students also indicated that they ~~strongly agreed~~ or ~~agreed~~ that:

- they could paraphrase research material easily (Q1) (Department of Chiropractic and Somatology 2014);
- research is not necessary for obtaining a Chiropractic degree (Q2) and
- they preferred to work in a dyadic partnerships with their supervisor (Q7) (Mountford, Jones and Tucker 2006: 133).

In terms of the university, the majority of the students ~~strongly agreed~~ or ~~agreed~~ that (Hennig-Thurau, Langer and Hansen 2001: 331; Lessing and Schulze 2003: 164; Research and Postgraduate Support Guide 2014):

- the library hours were convenient (Q31);
- that the university search engines supported their research requirements (Q32) and
- the librarians were very helpful (Q34).

Generally, in terms of the research process, the minority of the students ~~strongly agreed~~ or ~~agreed~~ that they enjoyed the research process (Q8) and the majority (83.3%) of students that they were ~~in~~ a hurry to complete their research (Q9). These two factors contribute to the students' lack of systematic and deliberate planning of their work to improve the technical qualities of the dissertation and the reduction of errors detected by the Checklist (Sections 4.5.1.1 . 4.5.1.3).

The following section, Section 4.5.2.9, Table 4.19 details the students' expectations of the research process with regards to support personnel, communication channels, and requirements of the student in producing a quality dissertation.

#### 4.5.2.9 Students' expectations of the research process (requirements, roles and interaction) (Appendix 20 – Section D)

<b>Table 4.19: Students' expectations of the research process</b>				
	Frequency	Percent	Valid Percent	Cumulative Percent
<b>Correct arithmetic (Question 1)</b>				
Research administrator	1	3.3	3.3	3.3
Supervisor	1	3.3	3.3	6.7
Statistician	19	63.3	63.3	70.0
Student	9	30.0	30.0	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>The sample numbers required for statistical purposes (Question 2)</b>				
Research administrator	2	6.7	6.7	6.7
Statistician	24	80.0	80.0	86.7
Student	4	13.3	13.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>Spelling and grammar (including full stops, comma's, inverted commas, dashes, use of capital letters and brackets) (Question 3)</b>				
Proof-reader	21	70.0	70.0	70.0
Student	8	26.7	26.7	96.7
Supervisor and co-supervisor	1	3.3	3.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>That all in-text references are included in the reference list (Question 4)</b>				
Proof-reader	16	53.3	53.3	53.3
Student	14	46.7	46.7	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>That names and spelling of references are correct (Question 5)</b>				
Supervisor	2	6.7	6.7	6.7
Proof-reader	17	56.7	56.7	63.3
Student	11	36.7	36.7	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>Aims and objectives have been answered (Question 6)</b>				
Supervisor	14	46.7	46.7	46.7
Co-supervisor	1	3.3	3.3	50.0
Proof-reader	1	3.3	3.3	53.3
Student	13	43.3	43.3	96.7
Proof-reader / student	1	3.3	3.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>References against statements have been included in text (Question 7)</b>				
Supervisor	5	16.7	16.7	16.7
Co-supervisor	1	3.3	3.3	20.0
Proof-reader	6	20.0	20.0	40.0
Student	17	56.7	56.7	96.7
Proof-reader / student	1	3.3	3.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	

**Table 4.19: Students' expectations of the research process continued ...**

	Frequency	Percent	Valid Percent	Cumulative Percent
<b>All relevant information is included in the literature review (Question 8)</b>				
Supervisor	16	53.3	53.3	53.3
Co-supervisor	1	3.3	3.3	56.7
Proof reader	2	6.7	6.7	63.3
Student	10	33.3	33.3	96.7
Supervisor / student	1	3.3	3.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>Appendices, are all attached (Question 9)</b>				
Supervisor	4	13.3	13.3	13.3
Co-supervisor	1	3.3	3.3	16.7
Proof-reader	4	13.3	13.3	30.0
Student	20	66.7	66.7	96.7
Proof-reader / student	1	3.3	3.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>Plagiarism has not occurred (Question 10)</b>				
Supervisor	6	20.0	20.0	20.0
Proof-reader	4	13.3	13.3	33.3
Student	19	63.3	63.3	96.7
Supervisor / proof-reader / student	1	3.3	3.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>The method of writing out references for for example:, books, journals, interviews, and web-site addresses are correct (Question 11)</b>				
Supervisor	6	20.0	20.0	20.0
Proof-reader	11	36.7	36.7	56.7
Student	13	43.3	43.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>The null hypotheses have been included (Question 12)</b>				
Supervisor	13	43.3	43.3	43.3
Proof-reader	4	13.3	13.3	56.7
Student	13	43.3	43.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>The abstract has been included (Question 13)</b>				
Supervisor	8	26.7	26.7	26.7
Proof-reader	3	10.0	10.0	36.7
Student	19	63.3	63.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>The Table of Contents page numbers match with the information pages in the mini dissertation (Question 14)</b>				
Supervisor	2	6.7	6.7	6.7
Proof-reader	10	33.3	33.3	40.0
Student	17	56.7	56.7	96.7
Supervisor / proof-reader / student	1	3.3	3.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>Analysis of information in the literature review (Question 15)</b>				
Supervisor	16	53.3	53.3	53.3
Co-supervisor	1	3.3	3.3	56.7
Student	12	40.0	40.0	96.7
Supervisor / proof-reader	1	3.3	3.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	

**Table 4.19: Students' expectations of the research process continued ...**

	Frequency	Percent	Valid Percent	Cumulative Percent
<b>Spacing, justification and margins are in place (Question 16)</b>				
Supervisor	3	10.0	10.0	10.0
Co-supervisor	1	3.3	3.3	13.3
Proof-reader	16	53.3	53.3	66.7
Student	9	30.0	30.0	96.7
Supervisor / proof-reader / student	1	3.3	3.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>Alignment with numbers is correct, i.e., units below units – tens below tens (Question 17)</b>				
Supervisor	4	13.3	13.3	13.3
Co-supervisor	1	3.3	3.3	16.7
Proof-reader	15	50.0	50.0	66.7
Student	9	30.0	30.0	96.7
Proof-reader / student	1	3.3	3.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>That the correct font type and size have been used (Question 18)</b>				
Supervisor	2	6.7	6.7	6.7
Statistician	1	3.3	3.3	10.0
Proof-reader	13	43.3	43.3	53.3
Student	13	43.3	43.3	96.7
Supervisor / proof-reader / student	1	3.3	3.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>That ethical clearance has been received (Question 19)</b>				
Research administrator	7	23.3	23.3	23.3
Supervisor	11	36.7	36.7	60.0
Student	12	40.0	40.0	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>The research progress (Question 20)</b>				
Research administrator	5	16.7	16.7	16.7
Supervisor	21	70.0	70.0	86.7
Student	3	10.0	10.0	96.7
Supervisor / student	1	3.3	3.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>That each section of work is completed on time (Question 21)</b>				
Supervisor	15	50.0	50.0	50.0
Student	13	43.3	43.3	93.3
Supervisor / co-supervisor / student	1	3.3	3.3	96.7
Supervisor / student	1	3.3	3.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>Booking appointments with the supervisor (Question 22)</b>				
Research administrator	1	3.3	3.3	3.3
Student	29	96.7	96.7	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>Contacting the Allied Health Professions Council upon qualification of a master's Degree has been received (Question 23)</b>				
Research administrator	4	13.3	13.3	13.3
Supervisor	2	6.7	6.7	20.0
Student	24	80.0	80.0	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>Proof-reading my work (Question 24)</b>				
Proof-reader	30	100.0	100.0	100.0

<b>Table 4.19: Students' expectations of the research process continued ...</b>				
	Frequency	Percent	Valid Percent	Cumulative Percent
<b>Researching the material required for the literature review (Question 25)</b>				
Student	30	100.0	100.0	100.0
<b>Storing the completed research questionnaires, mini-dissertation, and DVD (Question 26)</b>				
Research administrator	16	53.3	53.3	53.3
Supervisor	5	16.7	16.7	70.0
Student	9	30.0	30.0	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	

#### 4.5.2.10 Discussion on the students' expectations of the research process

A few more than half of the student participants (63.3%) expected that their appointed statistician would confirm their arithmetic as being correct (Q1), whereas 80% expected their statistician to be completely responsible for the production of the appropriate statistical analysis of the sample (Q2) (American Statistical Association 2014).

Similarly, all the students expected the proof-reader to proof-read their work (Q24), with over two-thirds expecting their proof-reader to additionally check and point out / correct errors in grammar and spelling (Q3). This is not dissimilar to the work of Hussain and Wearne (2005: 376), in which they stated that a lack of clarity is often cited as a contributory factor for organisational failure and may be reflected in low quality outputs, dissatisfied staff / supervisors and / or dissatisfied students, that do not complete their dissertation (Hofstee 2006: 71).

This would concur with the assertion made under the discussion of the students' knowledge of the research process that the student relies or expects their supervisor, statistician, editor / proof-reader to ensure that minor details are correct (Section 4.5.2.6). In this latter section, it was indicated that it would seem that students are knowledgeable about global research processes, but they preferred to leave the systematic details of the dissertation to other professional people. This section on students' expectations confirms that the student specifically relies on the statistician for correct analyses of the data gathered in the research process (Q1 and Q2) (American Statistical Association 2014). This may therefore be a central point of conflict between the student and the supervisor if the role allocation by each party is assigned differently or when different expectations of roles within the research are experienced.

The above realisation may also result from the student making an assumption that if the statistician and proof-reader (experts in their respective domains) assist them in terms of the production of their dissertation, then they would be able to expedite their research process

and assume that they would be compiling a good quality dissertation because the perceived experts have contributed to its production. This, however, negates the fact that the students' perception does not seem to consider the fact that they are ultimately responsible for the integration of the various contributions, suggestions and inputs from these various professionals to make the dissertation pertinent to their original research question. In addition, the disjointed accumulation of data and facts with input from a variety of sources does not simply produce a coherent research document. Therefore, it would seem that the students' abdication of this responsibility may be the primary enabler of poor quality dissertation production (Lessing and Lessing 2004: 78; Anderson, Day and McLaughlin 2006: 158).

To support the above, all the students affirmed that it was their responsibility to complete the research required for the literature review (Q25) (Department of Chiropractic and Somatology 2014), whereas 29 (96.7%) perceived it was their role to book appointments with their supervisor (Q22). However, only slightly over 60% of the students perceived it was their role to:

- confirm the required appendices were attached (Q9 . 20: 66.7%);
- establish that they had not plagiarised (Q10 . 19: 63.3%) and
- that the completed Abstract was included (Q13 . 19: 63.3%).

### **4.5.3 Objective Three: To profile, by means of a questionnaire, the supervisors at the Chiropractic Department with respect to:**

- Demographics (Section 4.5.3.1);
- Previous research experience (Section 4.5.3.3);
- Previous supervision experience (Section 4.5.3.5)
- Knowledge of the research process (requirements, roles, and interaction) (Section 4.5.3.7);
- Perception of the research process (Section 4.5.3.9) and
- Expectations of the research process (requirements, roles, and interaction) (Section 4.5.3.11).

#### **4.5.3.1 Demographics (Appendix 21 – Section A)**

##### **4.5.3.1.1 Age (Question 1)**

The information indicated in Table 4.20 highlights that the supervisors' mean age was almost 38 years of age, with a standard deviation of nearly 6.2 years. The ages of the 30 supervisors ranged from 26 years to 57 years.

**Table 4.20: The range of supervisors' ages**

N	Valid	30
	Missing	0
Mean		37.970
SD		6.239
Minimum		26
Maximum		57

##### **4.5.3.1.2 Gender (Question 2); Ethnicity (Question 3) and Marital status (Question 4)**

There were almost double the number of male participants (19: 63.3%) than female participants (11: 36.7%). The majority of the participants were White (25: 83.3%). Only a very small number of participants were Indian (5: 16.7%). There were no other ethnic groups that formed part of the supervisor pool for this study. There were almost an equal number of participants who were single (15: 50%) and married (13: 43.3%). There were 2 (6.7%) divorcees.

<b>Table 4.21: Gender; Ethnicity and Marital status</b>				
Classification of supervisorsqgender				
	Frequency	Percent	Valid Percent	Cumulative Percent
Female	11	36.7	36.7	36.7
Male	19	63.3	63.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
Classification of supervisorsqethnic groups				
White	25	83.3	83.3	83.3
Indian	5	16.7	16.7	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
Classification of supervisorsqmarital status				
Single	15	50.0	50.0	50.0
Married	13	43.3	43.3	93.3
Divorced	2	6.7	6.7	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	

#### 4.5.3.1.3 Family responsibilities (Question 5 and Question 6)

There was just less than a third of the participants who indicated that they supported dependents (9: 30.0%). The highest number of dependents reflected 12 children under the age of ten for the collective supervisor group.

**Table 4.22 Number of dependents requiring support**

Are dependents reliant on you for support?		Count	Column
Are dependents reliant on you for support?	Yes	9	30.0%
	No	21	10.0%
0-10 years		12	
10-20 years		3	
Adults with challenges		0	
Elderly parents		3	
Extended family		0	
Other		2	

#### 4.5.3.1.4 Personal interaction difficulties (Question 7) and impact of these challenges (Question 8)

None of the participants reported that they experienced any sensory difficulties and as such, they reported that it did not affect their lifestyles.



#### 4.5.3.1.5 Home language preference (Question 9) and Written language preference (Question 10)

Barring one participant (1: 3.3%), the balance of the 30 participants (29: 96.7%) all spoke English at home. Five supervisors (5: 16.67%) also indicated that they spoke German as a second language and similarly, a supervisor indicated that they spoke a combination of German or Dutch (1: 3.3%).

Except for two participants, the other supervisors indicated that they preferred to write in English (28: 93.3%). One of the remaining two supervisors highlighted that they prefer to write in Afrikaans, and the other in German. Six supervisors (6: 20.0%) also indicated that they preferred to write in German.

<b>Table 4.23: Language preferences</b>				
Analysis of participants home language				
Primary Languages				
	Frequency	Percent	Valid Percent	Cumulative Percent
English	29	96.7	96.7	96.7
Afrikaans	1	3.3	3.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
Second Languages				
None	24	80.0	80.0	80.0
German	5	16.7	16.7	96.7
German / Dutch	1	3.3	3.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
Analysis of participants language with which they prefer to write				
Primary languages				
English	28	93.3	93.3	93.3
Afrikaans	1	3.3	3.3	96.7
Other	1	3.3	3.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
Second Languages				
None	23	76.7	76.7	76.7
German	6	20.0	20.0	96.7
German / Dutch	1	3.3	3.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	

#### 4.5.3.1.6 Employment status (Question 11)

Only one participant indicated that they were employed part-time. The remaining supervisors all indicated they were full-time employees.

<b>Table 4.24: Classification of employment status</b>				
	Frequency	Percent	Valid Percent	Cumulative Percent
Full-time	29	96.7	96.7	96.7
Part-time	1	3.3	3.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	

#### 4.5.3.1.7 Computer hardware and software access at home? (Question 12, 13 and 14)

All the participants indicated that they have a computer access at home. However, not all participants indicated that they had access to a printer or had Internet access.

<b>Table 4.25: Access and use of a home computer and Internet</b>				
	Yes		No	
	Count	N %	Count	N %
Do you have a computer at home?	30	100.0%	0	0.0%
Do you have a printer at home?	19	63.3%	11	36.7%
Do you have internet access at home?	21	70.0%	9	30.0%

#### 4.5.3.2 Discussion of the supervisors' demographics

The supervisors' age approximated 37.97 years (with a SD of 6.2 years) (Section 4.5.3.1.1), with the majority being single or divorced, white males (Section 4.5.3.1.2) who were mostly full-time employed in their clinical practice, although they were also associated on a part-time basis with the university. Most of them did not have any dependants which they were required to support (Section 4.5.3.1.3).

This collective description of the supervisor pool in this study, provides an interesting dynamic, where the perception of research by males and females may form the basis for differing perceptual sets and thus expectations within the research relationship (Boureau 2005: 2) and may provide a nidus for conflict in terms of the dyad. This is epitomised in that it has been suggested that female students may work harder to attain a qualification (Wright and Cochrane 2000: 182) and their attitude may be reflected in conscientiously organising and preparing for meetings, completing draft work and handing in work on time so they complete their research quickly (Lekalakala-Mokgele 2008: 48). The male supervisor may, by

contrast, be resistant to such driven and motivated actions (Hammick and Acker 1998: 335). This mismatch in perceptions and potential clash of expectations is likely to lead to conflict and a disinterest in resolving such disputes on either side may lead to incomplete research processes and compromise of the quality of the dissertation (Hammick and Acker 1998: 335). This together with the factors previously identified in the student questionnaire analysis (namely, student inability to be the primary driver in the research, the reliance on outside parties for completion of the work and the standard of the work) may be the overarching factors that were responsible for the quality of the dissertations reviewed for this study.

In terms of research, their preference was to communicate verbally and in writing using the English language (Section 4.5.3.1.4). At home, they all had access to a computer with only a third having access to the Internet and even fewer to a printer (Section 4.5.3.1.6). Most of these facilities would however have been available to the supervisors in their clinical practice. Therefore, these factors would not have been responsible for detracting from the overall quality of the dissertations reviewed in this study.

#### **4.5.3.3 Previous research experience (Appendix 21: Section A)**

##### **4.5.3.3.1 Highest qualification achieved (Question 15)**

The total sample of 30 participants indicated that their highest qualification is a Master's in Chiropractic.

<b>Table 4.26: The supervisors highest qualification level</b>				
	Frequency	Percent	Valid Percent	Cumulative Percent
Master's	30	100.0	100.0	100.0

##### **4.5.3.3.2 Number of research papers have you supervised and how many research papers have you submitted for publication (Question 17 and 18)**

Slightly over half of the supervisors had submitted and published more than six papers (16: 53.33%). Three supervisors were yet to submit any articles for publication. Less than half of the supervisors (11: 36.67%) indicated that they had submitted between one and five articles for publication. A third of the supervisors had supervised between 11-20 papers, whereas eleven supervisors had supervised between 1-5 papers.

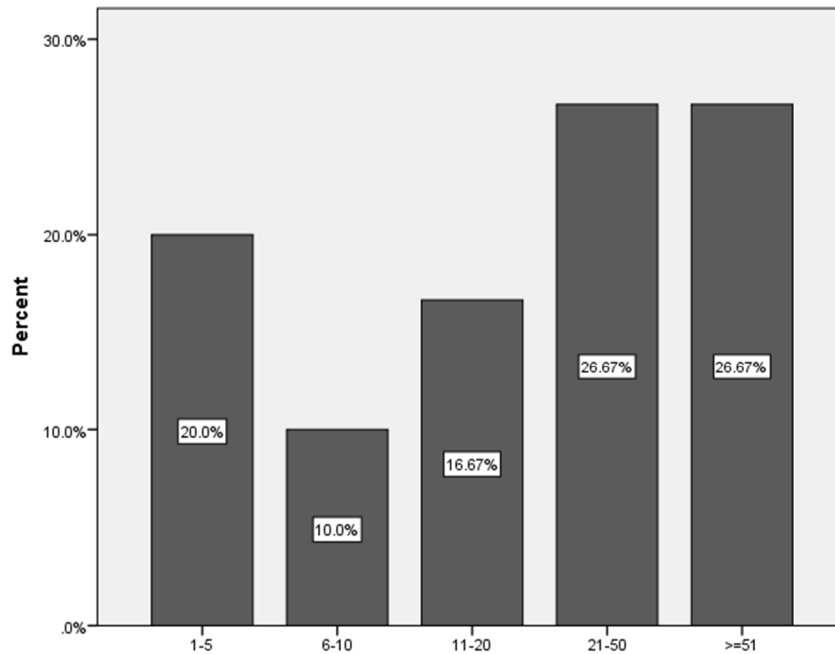


Figure 4.2: Number of research papers submitted for publication

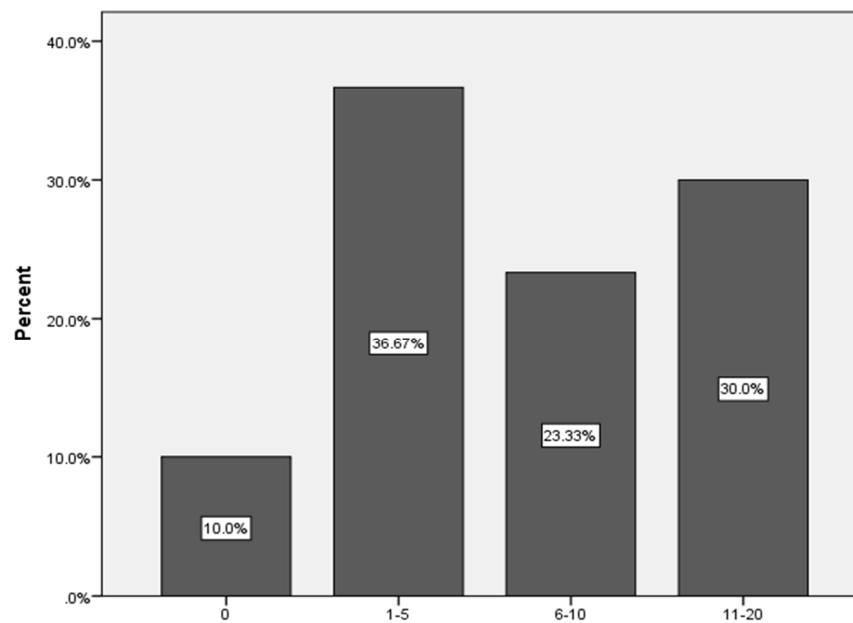


Figure 4.3: Number of research papers supervised

#### 4.5.3.4 Discussion on supervisors' previous research experience

As is required, all supervisors noted that they had at least one previous Master's qualification (M.Tech:Chiropractic) and nearly two-thirds had been supervising for more than 10 years. However, only half of the supervisors had submitted and published more than six research manuscripts. It is therefore evident that in respect of some supervisors, their only additional experience is that they previously went through the research process to achieve their

M.Tech:Chiropractic degree. It is thus possible that the errors that the supervisor made as a student are potentially errors that may be perpetuated by these supervisors in their new capacity.

#### 4.5.3.5 Previous supervision experience (Appendix 21 – Section A)

##### 4.5.3.5.1 Number of years employed as a supervisor (Question 16)

Two-thirds (20:66.67%) of the participants have been supervising for more than 10 years. The remaining 10 participants had been supervising for less than 10 years, and of these participants, the majority had been supervising for less than three years (6: 20.0%).

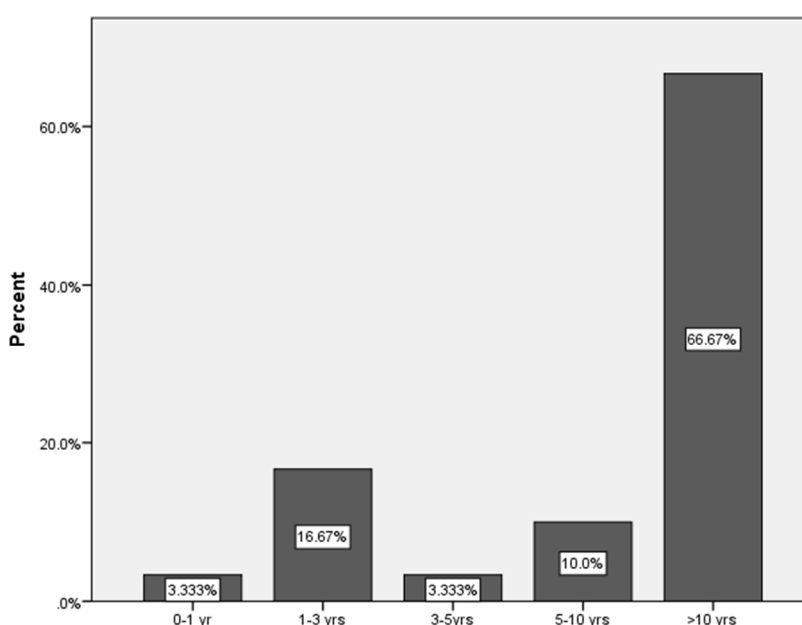


Figure 4.4: Number of years in a supervisory capacity

#### 4.5.3.5.2 Reasons for supervision appointment / engagement (Question 19)

There were multiple reasons for supervisors accepting a student's invitation to supervise them. Two-thirds of the supervisors indicated that their reasons were because they accepted a student's invitation (25: 83.33%) or because of matching interest (19: 33.93%). There were five supervisors (16.67%) who indicated that they were the only academics knowledgeable in a student's area of interest. Another five supervisors (16.67%) indicated that they accepted a student's invitation because they needed to increase their supervisory research student numbers for professional development. The remaining two supervisors (6.67%) did not give reasons for their appointment as a supervisor.

<b>Table 4.27: Reason<sup>49</sup> student engaged my services as a supervisor</b>			Percent of
Responses	N	Percent	Cases
I accepted the student's invitation	25	44.64%	83.33%
The student's area of research interest matched my own	19	33.93%	63.33%
I am the only person knowledgeable in the subject area	5	8.93%	16.67%
I need to increase my supervision numbers for professional development purposes	5	8.93%	16.67%
Other	2	3.57%	6.67%
<b>Total</b>	<b>56</b>	<b>100.0%</b>	<b>186.67%</b>

<sup>49</sup>Dichotomy group tabulated at value 1.

#### 4.5.3.6 Discussion on previous supervision experience

Of all the supervisors, the majority (25: 83.33%) indicated that they had accepted the responsibility of supervision because the student had approached them. This may indicate that the student perceived they had built up a rapport with their chosen supervisor during their undergraduate years and as such felt they could trust and depend on them for help and assistance. According to Murphy (2010: 57) and Unsworth *et al.* (2010: 874), trust is important in a relationship because such feelings open communication channels and allow for honest exchange of dialogue (Zeithaml and Berry 1988: 29), which is important in any interaction in which there are goals to be achieved (Thomas and Mengel 2008; Park and Lee 2014: 154).

This relationship is however built on the assumption that the supervisor has the requisite experience with regards to research. Therefore, it is important the supervisor not repeat the mistakes that they made when they were students. As such, the following sections on knowledge, perception and expectations are critical in identifying whether supervisors have a different perceptual set as compared to students in order to determine whether they do indeed carry forward the mistakes of their student past.

#### 4.5.3.7 Supervisors' knowledge of the research process (Appendix 21 - Section B)

**Table 4.28: Supervisors knowledge of the research process**

		True		False		Don't know		Sometimes		N/A	
		n	%	n	%	n	%	n	%	n	%
1	A student was assigned to me	9	30.0%	21	70.0%	0	0.0%	0	0.0%	0	0.0%
2	I have completed a research contract with my student	24	80.0%	6	20.0%	0	0.0%	0	0.0%	0	0.0%
3	If there was conflict between my student and I, I am able to resign from my supervisory capacity	24	80.0%	4	13.3%	2	6.7%	0	0.0%	0	0.0%
4	My student always accepted my feedback	26	86.7%	4	13.3%	0	0.0%	0	0.0%	0	0.0%
5	My student would always contact me to enquire reasons for delay in returning feedback	19	63.3%	11	36.7%	0	0.0%	0	0.0%	0	0.0%
6	My student needed help in compiling the PG4a form	30	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
7	My student did not want me to contact him/her after hours	3	10.0%	27	90.0%	0	0.0%	0	0.0%	0	0.0%
8	My student required reading material related to research to be recommended	21	70.0%	9	30.0%	0	0.0%	0	0.0%	0	0.0%
9	My student responded to the agreed timeframes as per the research contract	21	70.0%	9	30.0%	0	0.0%	0	0.0%	0	0.0%
10	My student accepted the stringent timelines that I set	21	70.0%	9	30.0%	0	0.0%	0	0.0%	0	0.0%
11	My student required different methods of explanation if at first they did not understand	21	70.0%	9	30.0%	0	0.0%	0	0.0%	0	0.0%
12	My student was able to keep to time lines in returning work	18	60.0%	12	40.0%	0	0.0%	0	0.0%	0	0.0%
13	My student is based at the university	24	80.0%	6	20.0%	0	0.0%	0	0.0%	0	0.0%
14	After the Chiropractic programme has accepted the proposed topic, it is registered by the Faculty of Health Science and Research and Ethics Committee	23	76.7%	7	23.3%	0	0.0%	0	0.0%	0	0.0%
15	An ethics clearance certificate is issued by Faculty on a PG4a approval	18	60.0%	11	36.7%	1	3.3%	0	0.0%	0	0.0%
16	Faculty approves the PG4a form	27	90.0%	3	10.0%	0	0.0%	0	0.0%	0	0.0%
17	The Chiropractic programme meets regularly to prevent delay in proposal acceptance	24	80.0%	6	20.0%	0	0.0%	0	0.0%	0	0.0%
18	The completed PG4a form needs to be discussed during a chiropractic departmental meeting involving the student and supervisor	30	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%

**Table 4.28: Supervisors' knowledge of the research process continued ...**

		True		False		Don't know		Sometimes		N/A	
		n	%	n	%	n	%	n	%	n	%
19	A master's student must complete their research within 2 years of registration	26	86.7%	4	13.3%	0	0.0%	0	0.0%	0	0.0%
20	My research must contain scientific information i.e. jargon related to the information being reviewed	26	86.7%	2	6.7%	1	3.3%	0	0.0%	1	3.3%
21	Research for a master's degree, submitted post examination produces new knowledge	23	76.7%	6	20.0%	0	0.0%	1	3.3%	0	0.0%
22	There is no limit to the length of my student's research	4	13.3%	26	86.7%	0	0.0%	0	0.0%	0	0.0%
23	The university's computers provide software to assist with referencing (for example: EndNote)	24	80.0%	3	10.0%	1	3.3%	0	0.0%	2	6.7%
24	The university's computers provide software to assist with restricting plagiarism (for example: Turnitin)	27	90.0%	1	3.3%	0	0.0%	0	0.0%	2	6.7%
25	Participants who formed part of my student's study were expected to sign a form giving permission to be involved in the study	29	96.7%	0	0.0%	0	0.0%	0	0.0%	1	3.3%
26	Tables, inclusive of contents, must be justified to the left	14	46.7%	14	46.7%	2	6.7%	0	0.0%	0	0.0%
27	The abstract, literature review, methodology, results, discussion, conclusion, and recommendations all include in-text referencing	8	26.7%	22	73.3%	0	0.0%	0	0.0%	0	0.0%
28	The correct font for text information is Roman Times Roman	20	66.7%	8	26.7%	2	6.7%	0	0.0%	0	0.0%
29	The Durban University of Technology uses APA referencing <sup>50</sup>	2	6.7%	11	36.7%	2	6.7%	0	0.0%	0	0.0%
30	The Focus Group discussion is usually tape-recorded	21	70.0%	7	23.3%	2	6.7%	0	0.0%	0	0.0%
31	The headings for tables must be in the same font as writing text	22	73.3%	7	23.3%	1	3.3%	0	0.0%	0	0.0%
32	The null hypothesis, if required is written as: %The identified psychosocial factors affect throughput rates+	3	10.0%	27	90.0%	0	0.0%	0	0.0%	0	0.0%
33	Unless permission was received, all information relating to participants remains confidential	26	86.7%	4	13.3%	0	0.0%	0	0.0%	0	0.0%
34	When my student includes a figure in their work, the heading (for for example: Figure 1.1 age group) - is stated above the figure	5	16.7%	25	83.3%	0	0.0%	0	0.0%	0	0.0%
35	When including a graph in your work, the heading (for for example: Graph 1.1 gender) . is stated above the graph	2	6.7%	28	93.3%	0	0.0%	0	0.0%	0	0.0%
36	When including a table in your work, the heading (for for example: Table 1.1 ethnic group) - is stated below the table	7	23.3%	23	76.7%	0	0.0%	0	0.0%	0	0.0%



**Table 4.28: Supervisors' knowledge of the research process continued ...**

		True		False		Don't know		Sometimes		N/A	
		n	%	n	%	n	%	n	%	n	%
37	A statistician consultation form is not required at completion stage	8	26.7%	22	73.3%	0	0.0%	0	0.0%	0	0.0%
38	It is my student's responsibility to ensure the title of their completed research matches that of their proposal	22	73.3%	8	26.7%	0	0.0%	0	0.0%	0	0.0%
39	My student is not expected to publish an article based on their findings	7	23.3%	23	76.7%	0	0.0%	0	0.0%	0	0.0%
40	My student is expected to submit three hard-bound copy to the examiners	4	13.3%	26	86.7%	0	0.0%	0	0.0%	0	0.0%
41	My student is responsible for storing their completed hardbound research dissertation	5	16.7%	24	80.0%	1	3.3%	0	0.0%	0	0.0%

<sup>50</sup> This indicates that 15 (50%) of the respondents did not answer the question

#### 4.5.3.8 Discussion of the supervisors' knowledge of the research process

In summary, all the supervisors stated that their students required assistance with completing the proposal forms (Q6) and that they, together with their student were required to attend the departmental research meeting to discuss and debate the proposed research work (Q18) (Department of Chiropractic and Somatology 2014). However, even though the Research Handbook stipulates that the Faculty was the ultimate approval structure that finally approved the research, only 27 (90%) supervisors were aware of this fact (Q16).

In addition, it was noted that seven (23.3%) supervisors did not know that the Faculty through the Faculty Research Committee (FRC) registers the topic to prevent another student from studying in the same or a very closely allied field (Q14). There also seemed to be confusion as to who issued the ethics approval certificate (Q15) as only 60% knew that Faculty issued this certificate. This latter outcome, may however, be related to the fact that not all supervisors, supervised students in clinical trials and therefore the requirement for institutional ethics approval was not necessarily always needed (for example: systematic review) (Moher *et al.* 2010: 3).

Most of the supervisors noted that they had completed a research contract with their student (Q2- 24: 80%) and they or the student could resign from the contract if the necessity arose (Q3- 24: 80%) which agrees with the work of Abiddin and West 2007b (13); Lekalakala-Mokgele 2008 (46); and Severinsson 2012 (221). In contrast to the students response, that they were responsible for the literature review (Objective Two, Section B, Q8), the supervisors indicated that their students required them to recommend literature (Q8- 21: 70%) and that each student required their own unique manner in which they preferred to be supervised (Q11- 21: 70%). This latter assertion is not uncommon in the literature, which indicates that students have different learning styles and therefore may require different amounts and type of information for purposes of learning (Vygotsky 1978: 32; Howard, Carver and Lane 1996: 227; Armstrong 2004: 42; Mountford, Jones and Tucker 2006: 128).

In contrast to 30% of the students, who indicated that the supervisors did not set timelines (Objective Two, Section C Q10), the majority of supervisors (70%) indicated that the student respected time-frames stated in the research contract (Q9) and that they also accepted their stringent time-frames (Q10). Similarly, 86.7% of the supervisors acknowledged that their student was required to have completed their research within two years (Q19), whereas 43.3% of the students acknowledged this fact as incorrect (Department of Chiropractic and Somatology 2014). In agreement with 16 (53.3%) of the students, slightly more than half of the supervisors (19: 63.3%) indicated that their student would contact them to enquire about

reasons for a delay in receiving feedback (Q5) and the majority of supervisors (26: 86.7%) indicated that their student seemed to accept their comments and feedback on their work (Q4). This statement is congruent with 28 (93.3%) of the students who also acknowledged that their supervisor gave them constructive feedback (Section C, Q4), which according to Eraut (2006: 111) and Baker *et al.* (2013: 260) enables effective learning.

In terms of developing a quality dissertation, the majority of the supervisors identified that the university had acquired software packages such as Turnitin (Q24 . 27: 90%) and EndNote (Q23 . 24: 80%) to highlight plagiarism and referencing consistency respectively. The response to these answers would seem to indicate that the supervisors have a tendency to rely on these methods of screening to ensure that the student has a high technical quality to the dissertation. However, based on the Checklist errors (Section 4.5.1.1, 4.5.1.2 and 4.5.1.3) that measured the quality of the dissertation, it would seem that either these services are not used effectively even if they are recommended to the student; or the assumption is made that the student knows that these tools are available and employs them. These possibilities reflect either that the students are not concerned about the minutiae of a dissertation and ascribe these responsibilities to others (for example: the supervisor) within the research process; and / or the supervisor seems to think that software packages are likely to assist with eliminating these problems and therefore assumes that they are not required to be pedantic and concern themselves about such details, particularly if they assume the student / proof-reader will employ the use of this technology. This assumption, however, leaves a mine-field of possible errors if the process is not managed co-operatively and without due regard for each other's perceptions and expectations of who is responsible for what in a dissertation so to achieve a quality dissertation.

Such uncertainty is further amplified by the fact that the supervisors showed their confusion in answering the questions around technical presentation (relating to table and figure formatting (Q26- 4: 46.7%) and (Q31- 22: 73.3%) as well as font type and size consistency (Q28- 20: 66.7%)). This was also reflected in questions involving the Abstract (Q27- 8: 26.7%) as well as the method of writing the null hypothesis (Q32- 27: 90%).

In contrast, the supervisors agreed with the students that it is their students responsibility to confirm the dissertation title agrees with that which Faculty approved (Q38- 22: 73.3%). There is further uncertainty in that the supervisors disagreed that the students were responsible for storing all completed hand bound dissertation (Q41), as well as submitting the required number of dissertation copies (Q40). It is also noted that the supervisor was not aware that the student is only required to submit two hardbound copies. This lack of factual

clarity supports the fact that the supervisors leave this submission process entirely in the hands of the student.

#### 4.5.3.9 Supervisors' perception of the research process (Appendix 21 - Section C)

		Table 4.29: Supervisors' perception of the research process											
		Strongly agree		Agree		Disagree		Strongly disagree		N/A		Not answered	
		N	%	n	%	n	%	n	%	n	%	n	%
1	My student is able to paraphrase research material easily	1	3.3%	16	53.3%	13	43.3%	0	0.0%	0	0.0%	0	0.0%
2	I believe research is not necessary for obtaining a chiropractic degree	5	16.7%	4	13.3%	15	50.0%	6	20.0%	0	0.0%	0	0.0%
3	I did not find the research handbook very useful	3	10.0%	4	13.3%	20	66.7%	3	10.0%	0	0.0%	0	0.0%
4	My student did not like it when I intervened with their research	0	0.0%	2	6.7%	19	63.3%	8	26.7%	1	3.3%	0	0.0%
5	I have difficulty reading my student's handwriting	0	0.0%	0	0.0%	18	60.0%	7	23.3%	5	16.7%	0	0.0%
6	My student preferred to accumulating all the information concerning their research topic before handing it in to me for feedback	1	3.3%	16	53.3%	13	43.3%	0	0.0%	0	0.0%	0	0.0%
7	I prefer to work in partnership with my student	8	26.7%	20	66.7%	2	6.7%	0	0.0%	0	0.0%	0	0.0%
8	I thoroughly enjoyed working with my student during their research	5	16.7%	21	70.0%	4	13.3%	0	0.0%	0	0.0%	0	0.0%
9	My student was in a hurry to complete their research	4	13.3%	16	53.3%	10	33.3%	0	0.0%	0	0.0%	0	0.0%
10	My student gave the impression they would like to study further	0	0.0%	7	23.3%	18	60.0%	5	16.7%	0	0.0%	0	0.0%
11	If given the choice, I would have reassigned my student to another supervisor	0	0.0%	4	13.3%	18	60.0%	8	26.7%	0	0.0%	0	0.0%
12	It is not necessary to include a pilot group if questions have been accepted by a focus group	0	0.0%	7	23.3%	13	43.3%	1	33.3%	0	0.0%	0	0.0%
13	My student caused me to feel apprehensive in discussing research	0	0.0%	1	3.3%	19	63.3%	1	33.3%	0	0.0%	0	0.0%
14	My student conscientiously listened to my feedback	12	40.0%	17	56.7%	1	3.3%	0	0.0%	0	0.0%	0	0.0%
15	My student did not understand my concerns relating to their research	0	0.0%	4	13.3%	24	80.0%	2	6.7%	0	0.0%	0	0.0%
16	My student dominated our research conversations	0	0.0%	0	0.0%	21	70.0%	9	30.0%	0	0.0%	0	0.0%

**Table 4.29: Supervisors' perception of the research process continued ...**

		Strongly agree		Agree		Disagree		Strongly disagree		N/A		Not answered	
		N	%	n	%	n	%	n	%	n	%	n	%
17	My student often changed his/her mind concerning previous corrections	1	3.3%	3	10.0%	20	66.7%	6	20.0%	0	0.0%	0	0.0%
18	My student preferred to discuss their work with their friends than with me	0	0.0%	0	0.0%	20	66.7%	10	33.3%	0	0.0%	0	0.0%
19	My student preferred student group sessions	0	0.0%	3	10.0%	16	53.3%	10	33.3%	1	3.3%	0	0.0%
20	My student's confidence in the research process increased by final hand in date	6	20.0%	20	66.7%	4	13.3%	0	0.0%	0	0.0%	0	0.0%
21	My student seemed disinterested in their research	0	0.0%	2	6.7%	22	73.3%	6	20.0%	0	0.0%	0	0.0%
22	My student was able to answer my questions knowledgably	3	10.0%	23	76.7%	4	13.3%	0	0.0%	0	0.0%	0	0.0%
23	My student's knowledge of the research process was poor	0	0.0%	5	16.7%	22	73.3%	2	6.7%	1	3.3%	0	0.0%
24	My positive relationship with my student was instrumental in helping them with their research	5	16.7%	21	70.0%	4	13.3%	0	0.0%	0	0.0%	0	0.0%
25	My student and the and co-supervisor did not always agree with each others' comments	0	0.0%	3	10.0%	11	36.7%	3	10.0%	13	43.3%	0	0.0%
26	My student is knowledgeable with regards to the research process	4	13.3%	20	66.7%	6	20.0%	0	0.0%	0	0.0%	0	0.0%
27	My student knew how to access Internet research articles	7	23.3%	16	53.3%	7	23.3%	0	0.0%	0	0.0%	0	0.0%
28	Research had a negative impact on my student's personal life	4	13.3%	15	50.0%	11	36.7%	0	0.0%	0	0.0%	0	0.0%
29	The chiropractic staff are all approachable with regards to research information	5	16.7%	13	43.3%	8	26.7%	3	10.0%	1	3.3%	0	0.0%
30	The focus group helped formulate my student's questions in line with their research topic	8	26.7%	8	26.7%	3	10.0%	0	0.0%	11	36.7%	0	0.0%
31	The hours the libraries are open to access research material is convenient	3	10.0%	20	66.7%	7	23.3%	0	0.0%	0	0.0%	0	0.0%

**Table 4.29: Supervisors' perception of the research process continued ...**

		Strongly agree		Agree		Disagree		Strongly disagree		N/A		Not answered	
		N	%	n	%	n	%	n	%	n	%	n	%
32	The university's computer search engines allow access to research material	3	10.0%	18	60.0%	6	20.0%	0	0.0%	1	3.3%	2	6.7%
33	The university's Internet access is fast	0	0.0%	8	26.7%	19	63.3%	2	6.7%	1	3.3%	0	0.0%
34	The university's librarians were very helpful to my student	3	10.0%	21	70.0%	4	13.3%	0	0.0%	0	0.0%	2	6.7%
35	The university's libraries provided adequate support in facilitating me with research material	2	6.7%	22	73.3%	2	6.7%	2	6.7%	2	6.7%	0	0.0%

#### **4.5.3.10 Discussion on the supervisors' perception of the research process**

In summarising this section of the supervisors perceived responses, it was noted that just over half of them indicated that they ~~agreed~~that their student could paraphrase the literature (Q1- 16: 53.3%) and ~~strongly agreed~~and ~~agreed~~that they accepted their guidance (Q14- 29: 96.7%) which resulted in their students confidence improving (Q20- 26: 86.7%), allowing for the student to more knowledgeably answer their questions (Q22- 26: 86.7%). The majority of supervisors also ~~strongly agreed~~and ~~agreed~~that they preferred working in partnership with their student (Q7- 28: 93.3%), and that they thoroughly enjoyed working with their student (Q8- 26: 86.7%). Within this context, the supervisors ~~strongly agreed~~/ ~~agreed~~that the student was knowledgeable with regards to the research process (Q23- 24: 80.0%) and had adequate skills in order to find and retrieve appropriate citations and publications to aid in validating their work (Q27- 22: 76.6%), (confirming that the knowledge of the student with regards to process and procedure assimilated in the B.Tech:Chiropractic programme was sufficient preparation for the Master's dissertation).

In agreement with the students, the supervisors also found that the librarians were always helpful and ready to assist (Q34- 24: 80%), that the access to the library was convenient both in terms of time and place (Q31- 23: 76.7%). Additionally, they also agreed with the students that the university had sufficient and appropriate search engines that facilitated their students ability to retrieve appropriate information (Q35: 24:80%). The only noted complaint with regards to the university services was that the Internet access was slow (Q33- 21: 70%).



#### 4.5.3.11 Supervisors' expectations of the research process (requirements, roles, and interaction) (Appendix 21 - Section D)

<b>Table 4.30: Supervisors' expectations of research facilitators</b>				
<b>That the arithmetic is correct (Question 1)</b>				
	Frequency	Percent	Valid Percent	Cumulative Percent
Statistician	13	43.3	43.3	43.3
Student	8	26.7	26.7	70.0
Supervisor / co-supervisor / student	1	3.3	3.3	73.3
Supervisor / co-supervisor / statistician / proof-reader / student	4	13.3	13.3	86.7
Supervisor / statistician / proof-reader / student	4	13.3	13.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>The sample numbers required for statistical purposes (Question 2)</b>				
Statistician	25	83.3	83.3	83.3
Supervisor / co-supervisor / statistician / student	3	10.0	10.0	93.3
Supervisor / statistician	1	3.3	3.3	96.7
Supervisor / statistician / student	1	3.3	3.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>Spelling and grammar (including full stops, comma's, inverted commas, dashes, use of capital letters and brackets) (Question 3)</b>				
Proof-reader	13	43.3	44.8	44.8
Student	8	26.7	27.6	72.4
Supervisor / co-supervisor / proof-reader / student	2	6.7	6.9	79.3
Proof-reader / student	3	10.0	10.3	89.7
Supervisor / proof-reader / student	3	10.0	10.3	100.0
Total	29	96.7	100.0	
Missing	1	3.3		
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.00</b>	
<b>That all in-text references are included in the reference list (Question 4)</b>				
Proof-reader	2	6.7	6.7	6.7
Student	20	66.7	66.7	73.3
Supervisor / co-supervisor / proof-reader / student	2	6.7	6.7	80.0
Supervisor / co-supervisor / student	1	3.3	3.3	83.3
Proof-reader / student	5	16.7	16.7	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>That names and spelling of references are correct (Question 5)</b>				
Proof-reader	3	10.0	10.0	10.0
Student	19	63.3	63.3	73.3
Supervisor / co-supervisor / proof-reader / student	2	6.7	6.7	80.0
Proof-reader / student	6	20.0	20.0	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	

**Table 4.30: Supervisors' expectations of research facilitators**

<b>Aims and objectives have been answered (Question 6)</b>				
	Frequency	Percent	Valid Percent	Cumulative Percent
Supervisor	13	43.3	43.3	43.3
Proof-reader	1	3.3	3.3	46.7
Student	7	23.3	23.3	70.0
Supervisor / co-supervisor	1	3.3	3.3	73.3
Supervisor / student	2	6.7	6.7	80.0
Supervisor / co-supervisor / statistician / student	1	3.3	3.3	83.3
Supervisor / co-supervisor / student	3	10.0	10.0	93.3
Supervisor / co-supervisor / proof-reader	1	3.3	3.3	96.7
Supervisor / statistician / student	1	3.3	3.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>References against statements have been included in text (Question 7)</b>				
Supervisor	5	16.7	16.7	16.7
Proof-reader	1	3.3	3.3	20.0
Student	16	53.3	53.3	73.3
Supervisor / student	2	6.7	6.7	80.0
Supervisor / co-supervisor / proof-reader / student	3	10.0	10.0	90.0
Supervisor / co-supervisor / student	1	3.3	3.3	93.3
Supervisor / proof-reader / student	2	6.7	6.7	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>All relevant information is included in the literature review (Question 8)</b>				
Research administrator	1	3.3	3.3	3.3
Supervisor	13	43.3	43.3	46.7
Student	8	26.7	26.7	73.3
Supervisor / co-supervisor	2	6.7	6.7	80.0
Supervisor / co-supervisor / student	2	6.7	6.7	86.7
Supervisor / student	2	6.7	6.7	93.3
Supervisor / co-supervisor / student	2	6.7	6.7	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>Appendices, are all attached (Question 9)</b>				
Supervisor	2	6.7	6.7	6.7
Student	23	76.7	76.7	83.3
Supervisor / student	2	6.7	6.7	90.0
Supervisor / co-supervisor / proof-reader / student	2	6.7	6.7	96.7
Proof-reader / student	1	3.3	3.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>Plagiarism has not occurred (Question 10)</b>				
Supervisor	8	26.7	26.7	26.7
Proof-reader	2	6.7	6.7	33.3
Student	10	33.3	33.3	66.7
Supervisor / proof-reader	1	3.3	3.3	70.0
Supervisor / student	1	3.3	3.3	73.3
Supervisor / co-supervisor / proof-reader / student	5	16.7	16.7	90.0
Supervisor / co-supervisor / proof-reader	1	3.3	3.3	93.3
Supervisor / proof-reader / student	2	6.7	6.7	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	

**Table 4.30: Supervisors' expectations of research facilitators****The method of writing out references for (for example: books, journals, interviews, and web-site addresses) are correct (Question 11)**

	Frequency	Percent	Valid Percent	Cumulative Percent
Supervisor	5	16.7	16.7	16.7
Proof-reader	1	3.3	3.3	20.0
Student	18	60.0	60.0	80.0
Supervisor / co-supervisor / student	1	3.3	3.3	83.3
Supervisor / co-supervisor / proof-reader / student	2	6.7	6.7	90.0
Proof-reader / student	3	10.0	10.0	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	

**The null hypotheses have been included (Question 12)**

Supervisor	14	46.7	46.7	46.7
Student	9	30.0	30.0	76.7
Supervisor / co-supervisor	3	10.0	10.0	86.7
Supervisor / student	1	3.3	3.3	90.0
Supervisor / co-supervisor / proof-reader / student	1	3.3	3.3	93.3
Supervisor / co-supervisor / student	2	6.7	6.7	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	

**The abstract has been included (Question 13)**

Supervisor	12	40.0	40.0	40.0
Student	9	30.0	30.0	70.0
Supervisor / co-supervisor	3	10.0	10.0	80.0
Supervisor / student	2	6.7	6.7	86.7
Supervisor / co-supervisor / proof-reader / student	1	3.3	3.3	90.0
Supervisor / co-supervisor / student	3	10.0	10.0	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	

**The Table of Contents page numbers match with the information pages in the mini-dissertation (Question 14)**

Proof-reader	4	13.3	13.3	13.3
Student	23	76.7	76.7	90.0
Supervisor / co-supervisor / proof-reader / student	2	6.7	6.7	96.7
Proof-reader / student	1	3.3	3.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	

**Analysis of information in the literature review (Question 15)**

Supervisor	18	60.0	60.0	60.0
Statistician	1	3.3	3.3	63.3
Student	4	13.3	13.3	76.7
Supervisor / co-supervisor	2	6.7	6.7	83.3
Supervisor / co-supervisor / student	1	3.3	3.3	86.7
Supervisor / student	2	6.7	6.7	93.3
Supervisor / co-supervisor / student	2	6.7	6.7	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	

**Spacing, justification and margins are in place (Question 15)**

Supervisor	2	6.7	6.7	6.7
Proof-reader	9	30.0	30.0	36.7
Student	13	43.3	43.3	80.0
Supervisor / co-supervisor / proof-reader / student	2	6.7	6.7	86.7
Proof-reader / student	4	13.3	13.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	

**Table 4.30: Supervisors' expectations of research facilitators continued ...**

<b>Alignment with numbers is correct, (i.e. units below units – tens below tens) (Question 16)</b>				
	Frequency	Percent	Valid Percent	Cumulative Percent
Proof-reader	8	26.7	26.7	26.7
Student	16	53.3	53.3	80.0
Supervisor / co-supervisor / proof-reader / student	3	10.0	10.0	90.0
Proof-reader / student	3	10.0	10.0	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>That the correct font type and size have been used (Question 17)</b>				
Proof-reader	6	20.0	20.0	20.0
Student	20	66.7	66.7	86.7
Supervisor / co-supervisor / proof-reader / student	2	6.7	6.7	93.3
Proof-reader / student	1	3.3	3.3	96.7
Supervisor / proof-reader / student	1	3.3	3.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>That ethical clearance has been received (Question 18)</b>				
Research administrator	8	26.7	26.7	26.7
Supervisor	11	36.7	36.7	63.3
Student	3	10.0	10.0	73.3
Supervisor / co-supervisor	2	6.7	6.7	80.0
Supervisor / co-supervisor / student	1	3.3	3.3	83.3
Supervisor / student	1	3.3	3.3	86.7
Research administrator / supervisor / co-supervisor / student	3	10.0	10.0	96.7
Research administrator / supervisor / student	1	3.3	3.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>The research progress (Question 19)</b>				
	Frequency	Percent	Valid Percent	Cumulative Percent
Research administrator	5	16.7	16.7	16.7
Supervisor	17	56.7	56.7	73.3
Supervisor / co-supervisor	1	3.3	3.3	76.7
Supervisor / co-supervisor / student	1	3.3	3.3	80.0
Supervisor / co-supervisor / student	2	6.7	6.7	86.7
Research administrator / supervisor / co-supervisor / student	1	3.3	3.3	90.0
Research administrator / supervisor	2	6.7	6.7	96.7
Research administrator / supervisor / student	1	3.3	3.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	

<b>Table 4:30: Supervisors' expectations of research facilitators continued ...</b>				
<b>That each section of work is completed on time (Question 20)</b>				
	Frequency	Percent	Valid Percent	Cumulative Percent
Supervisor	17	56.7	56.7	56.7
Student	7	23.3	23.3	80.0
Supervisor / co-supervisor	1	3.3	3.3	83.3
Supervisor / student	3	10.0	10.0	93.3
Supervisor / co-supervisor / student	2	6.7	6.7	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>Booking appointments with the student (Question 21)</b>				
Supervisor	5	16.7	16.7	16.7
Student	18	60.0	60.0	76.7
Supervisor / co-supervisor / student	2	6.7	6.7	83.3
Supervisor / student	3	10.0	10.0	93.3
Supervisor / co-supervisor / student	2	6.7	6.7	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>Contacting the Allied Health Professions Council upon receipts of my student's master's Degree (Question 22)</b>				
Research administrator	21	70.0	70.0	70.0
Supervisor	1	3.3	3.3	73.3
Student	5	16.7	16.7	90.0
Research administrator / student	2	6.7	6.7	96.7
N/A	1	3.3	3.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>Proof-reading my student's work (Question 23)</b>				
Proof-reader	23	76.7	76.7	76.7
Supervisor / proof-reader	1	3.3	3.3	80.0
Supervisor / co-supervisor / proof-reader / student	2	6.7	6.7	86.7
Proof-reader / student	2	6.7	6.7	93.3
Supervisor / proof-reader / student	2	6.7	6.7	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>Researching the material required for the literature review (Question 24)</b>				
Student	26	86.7	86.7	86.7
Supervisor / co-supervisor / student	1	3.3	3.3	90.0
Supervisor / student	1	3.3	3.3	93.3
Supervisor / co-supervisor / student	2	6.7	6.7	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	
<b>Storing the completed research questionnaires, mini-dissertation, and DVD (Question 25)</b>				
Research administrator	24	80.0	80.0	80.0
Student	3	10.0	10.0	90.0
Research administrator / supervisor / co-supervisor / student	2	6.7	6.7	96.7
Research administrator / student	1	3.3	3.3	100.0
<b>Total</b>	<b>30</b>	<b>100.0</b>	<b>100.0</b>	

#### 4.5.3.12 Discussion of supervisors' expectations of the research process

Just under half of the total sample of supervisors (13: 43.3%) expected that the statistician would confirm the arithmetic of the statistical analysis (Q1), whereas the majority of the supervisors (25: 83.3%) expected that the statistician is responsible for confirming and implementing the statistics required for the analysis of the data as pertinent to the study design and sample size (Q2). The supervisors' answers are not dissimilar with the responses

given by the students (Section D), so it would seem that the students and the supervisors agree that the statistical component of the dissertation be applied and analysed by the statistician (American Statistical Association 2014). This stance within the collective dyadic relationship means that neither the student nor the supervisor, actually takes responsibility for confirming that the statistician has undertaken the appropriate software package and that they are correct in applying their analyses. This may, therefore, result in expectations of the statistician that are not articulated to them which may not form part of the work for which the statistician is actually contracted (American Statistical Association 2014). Therefore, a mismatch is highly likely between the dyadic supervisory relationship and that of the statistician. This mismatch is fertile soil for eroding the quality of the dissertation, as both technical as well as the interpretation of the data stands to be both inappropriate and potentially incorrect (Hofstee 2006: 213; Johnson and Green 2009: 1).

In a similar manner, just less than half of the supervisors (13: 43.3%) expected that the proof-reader would correct spelling and grammar (Q3) and just over two thirds of the supervisors (23: 76.7) expected the proof-reader to proof their student's dissertation (Q24) whereas the total student sample expected the proof-reader to proof their work. Like in the above-mentioned scenario between the student-supervisor-statistician, these similar responses may also create a mismatch of expectations between the student, their supervisor and that of the proof-reader, particularly if the nature of the required proof-read is not spelt out clearly when the contract for the proof-reading is entered into (Nulty, Kiley and Meyers 2009: 693). Thus, it is possible that like the statistical analysis, the dissertation will present with errors that are due to the mismatch in the expectations of all parties concerned because one or other party expected another to take on this role (Nulty, Kiley and Meyers 2009: 693).

The above two concerns are re-enforced by supervisors who expect that their students take on the responsibility for the correct use of: font (type and size) (Q18- 20: 66.7%), spacing, alignment and appropriate margin justification (Q16- 13:43.3%). This also extends to the students checking their Table of Contents page numbers match with their information pages in their dissertation (Q14- 23: 76.7%) and that in-text references have been included in-text (Q7- 16: 53.3%) and that the spelling of the referenced names are consistently spelt (Q5- 19: 63.3%). These expectations and the contrast to the students' responses who expect the proof-reader to check spelling of their referenced names (Section 4.5.2.5: Q5: 17: 56.7% and Q16- 16: 53.3%). This mismatch again highlights the void between the student and their supervisor in terms of who is responsible or accountable for what in undertaking a dissertation (Lessing and Lessing 2004: 78; Anderson, Day and McLaughlin 2006: 158). This lack of responsibility or accountability creates a space for errors and a dissatisfying

relationship and a lower quality dissertation (Hofstee 2006: 213; Johnson and Green 2009: 1; Singer and Hollander 2009: 89).

The above three paragraphs touch significantly on quality expected of a dissertation. Therefore, it is important to compare the outcomes of these possible mismatches to that of the actual quality check that was provided in Objective One. When referring back to Section 4.5.1, it can be seen that the following were errors that were detected when the Checklist was applied to the dissertations, i.e. the product produced by the student and their supervisor from the dyadic relationships under study:

- Page numbering (no number, roman numerals, and numbering);
- Punctuation (hyphen use, semi-colons, full stops);
- Abbreviation use / numerical value use;
- Grammar (use of appropriate syntax, sentence structure and research jargon);
- Spelling inconsistency;
- Illogical flow of presented information;
- Technical presentation, formatting and table / figure presentation and
- Referencing method (in. text and in the reference list).

Thus, these dissertations all presented with technical errors, that are to be expected when a mismatch between expectations within the dyadic supervisory relationship exist. Therefore, all supervisors and students need to be made aware that when the roles and responsibilities of the student and the supervisor are discussed as part of the supervisory contract that these errors as determined through a checklist (Johnson and Green 2009: 11), which would need to be assigned to either the student or supervisor or both of them.

Slightly more than two thirds of the supervisors (24: 80%) expected that the research administrator would store the research materials (Q26). A similar number of supervisors (21: 70%) also stated that the research administrator was also responsible for contacting the AHPCSA to inform them that the student had successfully completed their research component of their degree (Q23). However, these expectations are in contrast to the students' expectations, with the student making the assumption that they are responsible throughout the research process (Section 4.5.2.10), where the supervisor may only consider responsibility once the research is complete. This suggestion is congruent with the practice in the department under study.

What does seem to be congruent between the student and the supervisor is that they both expect the student to book and keep appointments (Q22- 18: 60% and Section 4.5.2.5, Q22-

29: 96.7%). But, the duration of these meetings does not seem to be time spent on improving the quality of the dissertation, but rather time spent on discussing protocol and procedure as well as timelines to attain completion, as effective communication would allow for the dyadic relationship to realise that role ambiguity exists within its structure and therefore address it. This latter assertion is validated by the supervisors' responses in which they felt that they were mostly responsible for:

- managing timelines (Q21-17: 56.7%);
- research progress (Q20- 17: 56.7%);
- ensuring ethical clearance is obtained (Q19- 11: 36.7%);
- that the structure of the dissertation meets technical standards (for example: there is an Abstract (Q13- 12: 40.0%), aims and objectives (Q6- 13: 43.3%) and the literature review is appropriately structured (Q8- 13:43.3%).

An additional congruent expectation, in keeping with the previous paragraph, is that the student is expected to research and review articles for inclusion into the literature review (Q25- 26: 86.7%) and that it is the student's responsibility for compiling and developing this review.

In order to test the above assertions, the data was run through Chi-Square Tests, to determine any relationships and the strength of these relationships. This is covered in Objective Four and Five.



#### 4.5.4 Objective Four and Five

These objectives will be discussed together, where Objective Four centres on the comparison of knowledge, expectations and perceptual differences between students and their supervisors. This will then be discussed in the context of Objective Five, which addresses these relationships / associations in the context of the Checklist (quality measurement tool) (Appendix 22).

The following tables therefore illustrate, by means of the cross-tabulation tables and the Pearson's Chi-Square statistics whether the responses to statements by the students and the supervisors are independent (i.e. the Chi-Square statistic is greater than 0.05) or dependant / related (i.e. the Chi-Square statistic is less than 0.05). In addition, the Fisher's Exact Tests (two. tailed or one-tailed) indicate the direction of the relationship of the two variables, as being opposing or similar respectively.

##### 4.5.4.1 Significant cross-tabulations relating to knowledge, perceptions and expectations

**Table 4.31: A student was assigned to me**

		True	False	Total
Student	Count	17	13	30
	% within group	56.7%	43.3%	100.0%
Supervisor	Count	9	21	30
	% within group	30.0%	70.0%	100.0%
Total	Count	26	34	60
	% within group	43.3%	56.7%	100.0%

<b>Table 4.32: Chi-Square Test for Table 4.31</b>	<b>Value</b>	<b>Df</b>	<b>Asymp. Sig. (2-sided)</b>	<b>Exact Sig. (2-sided)</b>	<b>Exact Sig. (1-sided)</b>
Pearson Chi-Square	4.344 <sup>a</sup>	1	0.037		
Continuity Correction <sup>b</sup>	3.326	1	0.068		
Likelihood Ratio	4.402	1	0.036		
Fisher's Exact Test				0.067	0.034
Linear-by-Linear Association	4.271	1	0.039		
N of Valid Cases	60				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 13.00.

b. Computed only for a 2x2 table

From the information stated in Table 4.31, the data suggests that students and supervisors do not agree (i.e. their responses are opposite) when it comes to being placed in a supervisory relationship ( $p=0.037$ ). This is because the results showed that 56.7% of students indicated that they had been assigned a supervisor in contrast to 70% of supervisors indicating that the student had not been assigned to them. This indicates that there is a very different perception of the relationship by the parties concerned, which is

confirmed by the  $p=0.034$  on the Fisher's Exact Test and indicates that the relationship between the variables is a particular one way relationship. This research cannot however, determine the causality of the relationship as it was a cross-sectional study by nature. Therefore, it is suggested that future research should look at how supervisory relationships form, as this may be the basis for some of the outcomes achieved in the prior objectives (namely, role ambiguity between the student and their supervisor which has caused technical quality errors in the dissertation).

**Table 4.33: My student needed help in compiling the PG4a form**

		True	False	Total
Student	Count	26	4	30
	% within group	86.7%	13.3%	100.0%
Supervisor	Count	30	0	30
	% within group	100.0%	0.0%	100.0%
Total	Count	56	4	60
	% within group	93.3%	6.7%	100.0%

<b>Table 4.34: Chi-Square Test for Table 4.33</b>	<b>Value</b>	<b>Df</b>	<b>Asymp. Sig. (2-sided)</b>	<b>Exact Sig. (2-sided)</b>	<b>Exact Sig. (1-sided)</b>
Pearson Chi-Square	4.286 <sup>a</sup>	1	0.038		
Continuity Correction <sup>b</sup>	2.411	1	0.121		
Likelihood Ratio	5.831	1	0.016		
Fisher's Exact Test				0.112	0.056
Linear-by-Linear Association	4.214	1	0.040		
N of Valid Cases	60				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 2.00.

b. Computed only for a 2x2 table

From the information stated in Table 4.33, it is given to suggest that students and supervisors agreed that students require assistance in compiling the PG4a proposal ( $p=0.038$ ) (Pearson Chi-Squared statistic), with 86.7% of students agreeing and 100% of supervisors agreeing with the statement. Furthermore, the Fisher's Exact Test indicates that the relationship is borderline significant at  $p=0.056$ , indicating that a larger sample size may have been required for this study to achieve a significant difference in determining the relationship between the two factors. As a result, of the borderline significance, it is not possible to determine whether the relationship is bidirectional or unidirectional according to the Fisher's Exact Test.

**Table 4.35: My student accepted the stringent timelines that I set**

		True	False	Total
Student	Count	9	21	30
	% within group	30.0%	70.0%	100.0%
Supervisor	Count	21	9	30
	% within group	70.0%	30.0%	100.0%
Total	Count	30	30	60
	% within group	50.0%	50.0%	100.0%

<b>Table 4.36: Chi-Square Test for Table 4.35</b>	<b>Value</b>	<b>df</b>	<b>Asymp. Sig. (2-sided)</b>	<b>Exact Sig. (2-sided)</b>	<b>Exact Sig. (1-sided)</b>
Pearson Chi-Square	9.600 <sup>a</sup>	1	0.002		
Continuity Correction <sup>b</sup>	8.067	1	0.005		
Likelihood Ratio	9.874	1	0.002		
Fisher's Exact Test				0.004	0.002
Linear-by-Linear Association	9.440	1	0.002		
N of Valid Cases	60				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 15.00.

b. Computed only for a 2x2 table

From the results in Table 4.35, it is given to suggest that students and supervisors did not agree when it came to timeline management ( $p=0.002$ ), with 70% of students indicating that they did not meet the stringent deadlines set by their supervisors. In contrast, the supervisors indicated that they perceived that the students were meeting their goals (70%). This indicates that the relationship is perceived significantly differently by the parties concerned, which is confirmed by the bidirectional Fisher's Exact significance ( $p=0.004$ ). However, the  $p=0.002$  on the unidirectional Fisher's Exact Test seems to indicate that one vantage point may be stronger. This again indicates that within the group under study, the student and their supervisor had some inherent perceptual differences in terms of allocation and time line responsibilities. These role ambiguities may be cause for the outcomes found in Sections (Checklist Section 4.5.1.1; 4.5.1.2 and 4.5.1.3) of this chapter where the technical quality of the dissertation seems to suffer, possibly as a result of this role ambiguity.

**Table 4.37: A Master's student must complete their research within 2 years of registration**

		True	False*	Total
Student	Count	13	17	30
	% within group	43.3%	56.7%	100.0%
Supervisor	Count	26	4	30
	% within group	86.7%	13.3%	100.0%
Total	Count	39	21	60
	% within group	65.0%	35.0%	100.0%

Key: False\* indicate correct response to the question

<b>Table 4.38: Chi-Square Tests</b>	<b>Value</b>	<b>df</b>	<b>Asymp. Sig. (2-sided)</b>	<b>Exact Sig. (2-sided)</b>	<b>Exact Sig. (1-sided)</b>
Pearson Chi-Square	12.381 <sup>a</sup>	1	0.000		
Continuity Correction <sup>b</sup>	10.549	1	0.001		
Likelihood Ratio	13.079	1	0.000		
Fisher's Exact Test				0.001	0.000
Linear-by-Linear Association	12.175	1	0.000		
N of Valid Cases	60				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 10.50.

b. Computed only for a 2x2 table

Again a conflict is seen in this time related outcome, where the above tables (Table 4.37 and Table 4.38) suggest that students and supervisors did not agree when it came to timeline management ( $p=0.002$ ). This was indicated in Table 4.17, which showed that 56.7% of students indicated that they did not have 2 years to complete their research, as opposed to

86.7% of supervisors (Table 4.28) who thought that this was the case. In this context, the students are correct, in that the university in which this study took place allows for 3 years in which students are able to complete their research (Research and Postgraduate Support Guide 2014). This lack of congruence between the student and the supervisor seems to concur with the timeline perception difference noted in Tables 4.35 and 4.36 and may account for perceived differences in meeting stringent timelines. This again indicates that the relationship is perceived significantly differently by the parties concerned, which is confirmed by the  $p < 0.001$  on the Fisher's Exact Test as well as the bidirectional Fisher's Exact significance of  $p = 0.001$ . This outcome again seems to highlight time as a probable cause for misunderstanding between the student and the supervisor, making it a possible factor in the development of good quality dissertations (when available), but may lead to increased technical errors when not available / perceived not to be available.

**Table 4.39: There is no limit to the length of my student's research**

		True	False	Total
Student	Count	11	19	30
	% within group	36.7%	63.3%	100.0%
Supervisor	Count	4	26	30
	% within group	13.3%	86.7%	100.0%
Total	Count	15	45	60
	% within group	25.0%	75.0%	100.0%

<b>Table 4.40: Chi-Square Test for Table 4.39</b>	<b>Value</b>	<b>df</b>	<b>Asymp. Sig. (2-sided)</b>	<b>Exact Sig. (2-sided)</b>	<b>Exact Sig. (1-sided)</b>
Pearson Chi-Square	4.356 <sup>a</sup>	1	0.037		
Continuity Correction <sup>b</sup>	3.200	1	0.074		
Likelihood Ratio	4.490	1	0.034		
Fisher's Exact Test				0.072	0.036
Linear-by-Linear Association	4.283	1	0.038		
N of Valid Cases	60				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.50.

b. Computed only for a 2x2 table

Both the students and the supervisors seem to agree that there is a limit to the length of the mini-dissertation, however slightly more supervisors agreed with this statement than did the students. From the information supplied in Table 4.39, it is therefore suggested that students and supervisors agreed when it came to the fact that students do have a maximum length (in pages) of their dissertation when completing their research ( $p = 0.037$ ). In total 63.3% (Table 4.3 . Section 4.5.1.2) of students and 86.7% of supervisors (Table 28 . Section 4.5.3.7) agreed with the statement. In addition, the Fisher's Exact Test indicates that the relationship is significant for a one. directional relationship ( $p = 0.038$ ) with the one-sided Fisher Exact Test. The latter indicating the relationship is dependent on one of the two variables. Further study would be required to determine the causality of this outcome more effectively than this cross-sectional study would have been able to do. This further study would then be able to

shed light on the possible relationship between the factors of time, length of dissertation, and possibly the implication that these factors have a relationship with the technical quality of the dissertation as found in this study (Section 4.5.1.3; 4.5.1.2 and 4.5.1.1).

**Table 4.41: The university's computers provide software to assist with restricting plagiarism (for example: Turnitin)**

		True	False	Do not know	N/A	Total
Student	Count	14	13	3	0	30
	% within group	46.7%	43.3%	10.0%	0.0%	100.0%
Supervisor	Count	27	1	0	2	30
	% within group	90.0%	3.3%	0.0%	6.7%	100.0%
Total	Count	41	14	3	2	60
	% within group	68.3%	23.3%	5.0%	3.3%	100.0%

**Table 4.42: Chi-Square Test for Table 4.41**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	19.408 <sup>a</sup>	3	0.000
Likelihood Ratio	23.329	3	0.000
Linear-by-Linear Association	2.188	1	0.139
N of Valid Cases	60		

a. 4 cells (50.0%) have expected count less than 5. The minimum expected count is 1.00.

From the results stated in Table 4.41, it is given to suggest that students and supervisors disagreed when it came to the software available to detect plagiarism ( $p < 0.001$ ), with 46.7% of students agreeing that such software was available at the university and 90.0% of supervisors agreeing with the statement (Section 4.5.2.6 and 4.5.3.8). One of the numerous roles of the supervisor is to ensure that the student is educated about plagiarism and to ensure that plagiarism does not occur (Research and Postgraduate Support Guide 2014). It is, therefore, expected that supervisors have a greater knowledge of such software as they are expected to use this tool as a means of managing the dissertation development. However, the significant difference ( $p < 0.001$ ) between the students and the supervisors response indicate that the students are not being educated about the use of Turnitin as a developmental package for their own use. This discordance could be indicative of a number of possible options:

- the supervisor expects that the student is aware of software packages from prior training (differing perceptions);
- the supervisor uses the tool primarily as a checking tool and not a developmental tool, and therefore, does not see the need for the student to access or use the tool for their own development and
- there is a mismatch in expectations between the student and the supervisor, which was neither dealt with through the supervisory contract or through addressing their respective roles at the various stages of dissertation development.

The above assertions can only be supported by the fact that supervisors are aware that students receive a research methods and techniques module (Research Methods & Technology I) prior to starting their research, or that the supervisors know of the tool, but have limited access or leave the Turnitin checking to the proof-reader. The latter suggestion would concur with the previous suggestions of role ambiguity in the relationship between the student, the supervisor and various role players that assist them in their completion of a successful supervisory relationship (see Sections 4.5.3.12 and 4.5.2.10). Therefore, it would seem that role ambiguity plays a large part in the incorrect, inappropriate or complete lack of use of specific software that could assist in improving the technical quality of dissertations. This assertion, however, requires further assessment and it is, therefore suggested that prospective qualitative research investigating the motivations for use / lack thereof of software packages may be valuable in aiding the supervisors and their students in attaining improved quality products / dissertations.

**Table 4.43: My student is able to paraphrase research material easily**

		Strongly agree	Agree	Disagree	Strongly disagree	Total
Student	Count	8	14	6	2	30
	% within group	26.7%	46.7%	20.0%	6.7%	100.0%
Supervisor	Count	1	16	13	0	30
	% within group	3.3%	53.3%	43.3%	0.0%	100.0%
Total	Count	9	30	19	2	60
	% within group	15.0%	50.0%	31.7%	3.3%	100.0%

**Table 4.44: Chi-Square Test for Table 4.43**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.157 <sup>a</sup>	3	0.017
Likelihood Ratio	11.744	3	0.008
Linear-by-Linear Association	3.004	1	0.083
N of Valid Cases	60		

a. 4 cells (50.0%) have expected count less than 5. The minimum expected count is 1.00.

From the results stated in Table 4.43, it would suggest that there is a significant difference ( $p=0.017$ ) in the perception of what paraphrasing is and the extent to which the student and the supervisor feel that this has been achieved by the student. This may be an explanation why supervisors may employ or see the need to employ Turnitin to a greater extent than students. Thus, this may amount to a motivating factor that would define a reason for the difference between the groups. It is of interest to note however, that the supervisor seems to make use of the software to detect problems as opposed to the student who may expect that the supervisor play this role whilst reading and commenting on the dissertation development. This assertion needs further investigation, but is underpinned by the perception that role ambiguity may, in this study, be the reason for lowered quality output with regards to the technical quality of the dissertation.

**Table 4.45: The correct font for text information is Times New Roman**

		True*	False	Do not know	Total
Student	Count	7	23	0	30
	% within group	23.3%	76.7%	0.0%	100.0%
Supervisor	Count	20	8	2	30
	% within group	66.7%	26.7%	6.7%	100.0%
Total	Count	27	31	2	60
	% within group	45.0%	51.7%	3.3%	100.0%

Key: True\* indicates correct response to the question

<b>Table 4.46: Chi-Square Test for Table 4.45</b>	<b>Value</b>	<b>df</b>	<b>Asymp. Sig. (2-sided)</b>
Pearson Chi-Square	15.517 <sup>a</sup>	2	0.000
Likelihood Ratio	16.871	2	0.000
Linear-by-Linear Association	6.403	1	0.011
N of Valid Cases	60		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is 1.00.

The results in Table 4.45 indicates that the students and supervisors disagree to a significant degree ( $p < 0.001$ ) regarding the font for use in a dissertation, with 76.7% of students indicating that the statement was false as compared to 66.7% of the supervisors who indicated, that the statement was true. This highlights the fact that both students and supervisors do not seem to follow a prescribed guide (Department of Chiropractic and Somatology 2014) (although it would seem that students follow the manual more than supervisors) and in so doing comply with some of the technical requirements laid out by the department within the university. The lack of compliance, however, may be as a result of different perceptions / interpretations of the guide and / or as a result of differing research experiences of the student and the supervisor (Section 4.5.2.4 and 4.5.3.4). These differences may then also have a bearing on the agreement between the student and supervisor, which if not followed (as is seen by the lack of compliance to the Research Handbook (2011)), may be part of the reason for the perceived role ambiguity that the outcomes of this research seems to suggest.

**Table 4.47: The Durban University of Technology uses APA referencing**

		True	False*	Do not know	Unsure	Total
Student	Count	6	22	2	0	30
	% within group	20.0%	73.3%	6.7%	0.0%	100.0%
Supervisor	Count	2	11	2	15	30
	% within group	6.7%	36.7%	6.7%	50.0%	100.0%
Total	Count	8	33	4	15	60
	% within group	13.3%	55.0%	6.7%	25.0%	100.0%

Key: false\* indicates correct response to the question

<b>Table 4.48: Chi-Square Test for Table 4.47</b>	<b>Value</b>	<b>df</b>	<b>Asymp. Sig. (2-sided)</b>
Pearson Chi-Square	20.667 <sup>a</sup>	3	0.000
Likelihood Ratio	26.625	3	0.000
Linear-by-Linear Association	20.166	1	0.000
N of Valid Cases	60		

a. 4 cells (50.0%) have expected count less than 5. The minimum expected count is 2.00.

In a similar manner to the use of the correct font in the text of the dissertation, 73.3% of the students were able to identify that the statement about the use of APA referencing (American Psychological Association) as the technique for use in the department and the university was indeed incorrect. This is in contrast to the supervisors (50.0%) who were unsure of the referencing technique required. It would, therefore, suggest that this significant difference ( $p < 0.001$ ), along with the information stated in Table 4.45, suggests that the students are better at following prescribed rules and regulations (Research Handbook 2011) than the supervisors. This uncertainty may be the cause for some of the technical difficulties found in the dissertations, as it would seem that the supervisors had limited input into the technical components of the dissertations because they expected their students to complete this on their own. The results may also suggest that the supervisors require further training on what is expected in regards to the technical format of the dissertations being produced. These latter assertions, would however, require further investigation before conclusive outcomes could be reached. Nonetheless, the outcomes do indicate an area in which discordance between the student and their supervisor may exist that may be the reason for technical errors to increase when the dissertation is being compiled.



**Table 4.49: A statistician consultation form is not required at completion stage**

		True*	False	Total
Student	Count	15	15	30
	% within group	50.0%	50.0%	100.0%
Supervisor	Count	8	22	30
	% within group	26.7%	73.3%	100.0%
Total	Count	23	37	60
	% within group	38.3%	61.7%	100.0%

Key: True\* indicates correct response to the question

<b>Table 4.50: Chi-Square Test for Table 4.49</b>	<b>Value</b>	<b>df</b>	<b>Asymp. Sig. (2-sided)</b>	<b>Exact Sig. (2-sided)</b>	<b>Exact Sig. (1-sided)</b>
Pearson Chi-Square	3.455 <sup>a</sup>	1	0.063		
Continuity Correction <sup>b</sup>	2.538	1	0.111		
Likelihood Ratio	3.497	1	0.061		
Fisher's Exact Test				0.110	0.055
Linear-by-Linear Association	3.397	1	0.065		
N of Valid Cases	60				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 11.50.

b. Computed only for a 2x2 table

In congruence with the data supplied in Table 4.45 and Table 4.47, it can again be seen that the supervisors were unable to correctly identify this requirement in terms of the number of required copies for the submission of a dissertation for examination. Therefore, the assertions that were made in the discussions of Table 4.45 and Table 4.47 are equally applicable for the outcomes in this table (Table 4.49).

**Table 4.51: When including a graph in your work, the heading (for for example: Graph 1.1 gender) – is stated above the graph**

		True	False	Total
Student	Count	12	18	30
	% within group	40.0%	60.0%	100.0%
Supervisor	Count	2	28	30
	% within group	6.7%	93.3%	100.0%
Total	Count	14	46	60
	% within group	23.3%	76.7%	100.0%

<b>Table 4.52: Chi-Square Test for Table 4.51</b>	<b>Value</b>	<b>df</b>	<b>Asymp. Sig. (2-sided)</b>	<b>Exact Sig. (2-sided)</b>	<b>Exact Sig. (1-sided)</b>
Pearson Chi-Square	9.317 <sup>a</sup>	1	0.002		
Continuity Correction <sup>b</sup>	7.547	1	0.006		
Likelihood Ratio	10.116	1	0.001		
Fisher's Exact Test				0.005	0.002
Linear-by-Linear Association	9.161	1	0.002		
N of Valid Cases	60				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.00.

b. Computed only for a 2x2 table

In contrast to the previous two tables (Table 4.45 and 4.47), it is noted here that the students and supervisors significantly ( $p=0.002$ ) agree that Figures are not labelled above the Figure. This agreement is supported by the Fisher's Exact Sig (2-sided) ( $p=0.005$ ) and (1-sided) ( $p=0.002$ ) test. This inconsistent understanding of the required technical outcomes (font and

referencing style versus graph labelling) of the dissertation by the supervisors seems to indicate that this may be a cause of the technical difficulties found in the dissertation.

**Table 4.53: I believe research is not necessary for obtaining a chiropractic degree**

		Strongly agree	Agree	Disagree	Strongly disagree	Total
Student	Count	5	17	6	2	30
	% within group	16.7%	56.7%	20.0%	6.7%	100.0%
Supervisor	Count	5	4	15	6	30
	% within group	16.7%	13.3%	50.0%	20.0%	100.0%
Total	Count	10	21	21	8	60
	% within group	16.7%	35.0%	35.0%	13.3%	100.0%

<b>Table 4.54: Chi-Square Test for Table 4.53</b>	<b>Value</b>	<b>df</b>	<b>Asymp. Sig. (2-sided)</b>
Pearson Chi-Square	13.905 <sup>a</sup>	3	0.003
Likelihood Ratio	14.740	3	0.002
Linear-by-Linear Association	5.589	1	0.018
N of Valid Cases	60		

a. 2 cells (25.0%) have expected count less than 5. The minimum expected count is 4.00.

The results reflected in Table 4.53 seem to suggest that there is a significant difference ( $p=0.003$ ) between the student and their supervisor and their perception that research is necessary to obtain a Chiropractic degree. In this context, the supervisor seems to agree that research is necessary and students, by contrast, do not agree that research is necessary. The supervisors' perceived necessity to do research may be based on their:

- ability to contextualise the need for research in clinical practice (namely, they see the need for research in clinical practice);
- feeling that the research component of the programme is included to personally and professionally develop the student, enabling them to develop life-long skills and improve on their clinical ability and
- understanding of the value that knowing about research structures allows for evaluation of literature critically and can allow for future research engagement.

In contrast, the students may perceive research is not necessary as they are:

- required to manage the research process actively and it is the first time that they are expected to undertake such a large project
- the student does not see the value of the research process and the personal and professional development that the process provides and the fact that it enables them to develop of life-long skills.

The supervisors' positive perception seem to suggest that although they see research as a necessity as part of the programme, their positive perception of research is not translated

into enabling their student to achieve the best possible outcomes through following appropriate guidelines. This may be attributed to a number of possible factors including but not limited to:

- supervisors, not having an appropriate skill set that would enable a transfer of knowledge to their student to facilitate them in achieving a technically high quality dissertation. This seems to be evidenced by the supervisor uncertainty in their responses regarding questions surrounding the use of the appropriate referencing technique, the appropriate font style and not knowing the appropriate timelines for students to complete their studies, as based on the university timelines.
- supervisors, not having access to developing skill sets (for example: supervisor training) that would allow for effective development of supervision relationships. This may include an induction programme or supervisory skills training modules that may expose the supervisor to appropriate information as outlined in the bullet point above. This would be particularly relevant in a university climate where forms, guidelines and research requirements are often revised and upgraded.
- supervisors, not being self-reflective and therefore not able to develop areas or skill sets that would enable them to be more effective during supervision sessions. This would be particularly relevant in those scenarios where supervisors do not utilise feedback from examiners, statisticians and / or proof-readers where lack of the supervision capacity may be reflected in the comments borne out by one or more of these professionals who were involved with the student's dissertation at different stages of its compilation.
- a mismatch between the supervisors teaching style and the student's receptive learning style, which detracts from the student to learn because their supervisor is unable to adapt to their student's learning style.

Each, or all of the above factors, could potentially lead to role ambiguity in the supervisory relationship, where the role of supervisor may inadvertently be delegated to the proof-reader, statistician or the examiner. In this instance, for example, the proof-reader may find that they are commenting on technical errors that should have been resolved long before the document was submitted for proof-reading. Similarly, the proof-reader's comments may lead to friction between the student and their supervisor as such comments are an indictment on the supervisor's supervision ability and the student's consistency in applying supervision directives. Therefore, the resultant interaction between the supervisor and student may suffer from unmet expectations on both the supervisor's and the student's respective sides, leading to dissatisfaction with the relationship and the production of low quality research.

In contrast, if the proof-reader reports on a low number of technical errors, then the student and their supervisor are more likely to be satisfied with their supervisory relationship. This in turn should lead to a more positive tone, that should result in greater satisfaction between them, promoting learning and a higher quality dissertation, which the negative tone, conflict and dissatisfaction negate. Therefore, it is suggested that future research looks at qualitatively exploring the concerns of both students and supervisors in satisfactory and unsatisfactory relationships to test the assertions presented in this study.

**Table 4.55: I thoroughly enjoyed the research process**

		Strongly agree	Agree	Disagree	Strongly disagree	Total
Student	Count	2	4	9	15	30
	% within group	6.7%	13.3%	30.0%	50.0%	100.0%
Supervisor	Count	5	21	4	0	30
	% within group	16.7%	70.0%	13.3%	0.0%	100.0%
Total	Count	7	25	13	15	60
	% within group	11.7%	41.7%	21.7%	25.0%	100.0%

**Table 4.56: Chi-Square Test for Table 4.55**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	29.769 <sup>a</sup>	3	0.000
Likelihood Ratio	36.770	3	0.000
Linear-by-Linear Association	24.314	1	0.000
N of Valid Cases	60		

a. 2 cells (25.0%) have expected count less than 5. The minimum expected count is 3.50.

The information in Table 4.55 indicates that the majority of supervisors seemed to enjoy working with their student more than the student enjoyed working with their supervisor. This level of disagreement was statistically significant ( $p < 0.001$ ). This outcome seems to validate in part the assertions that were made under the discussion linked to Table 4.51. Supervisors who are not familiar with the research process and research requirements (Research Handbook 2011) would potentially have provided little or contradictory feedback to their student in terms of developing their dissertation. This lack of constructive feedback may have conveyed to their student: disinterest; lack of knowledge; ineffective communication and / or a mismatch of teaching and learning styles. In effect therefore, this outcome suggests that most students were not satisfied with their supervisory relationship in contrast to the supervisors who were more satisfied with their relationship. It is, therefore, not a contradiction that this study found a high number of technical errors in the dissertations, as a number of researchers assert that the quality of dissertations decrease with increased incidence of mismatched perceptions and therefore of unmet expectations (Lessing and Lessing 2004: 74; Kiley and Mullins 2005: 246; Hofstee 2006: 66; Drennan and Clarke 2009: 495; Cheon *et al.* 2009: 61; Ginns *et al.* 2009: 584; Lessing 2009: 256; Engebretson *et al.* 2008: 12; Murphy 2010: 297; Ismail, Abiddin and Hassan 2011: 79).

**Table 4.57: My student gave the impression they would like to study further**

		Strongly agree	Agree	Disagree	Strongly disagree	Total
Student	Count	8	16	5	1	30
	% within group	26.7%	53.3%	16.7%	3.3%	100.0%
Supervisor	Count	0	7	18	5	30
	% within group	0.0%	23.3%	60.0%	16.7%	100.0%
Total	Count	8	23	23	6	60
	% within group	13.3%	38.3%	38.3%	10.0%	100.0%

**Table 4.58: Chi-Square Test for Table 57**

	Chi-Square Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	21.536 <sup>a</sup>	3	0.000
Likelihood Ratio	25.419	3	0.000
Linear-by-Linear Association	19.299	1	0.000
N of Valid Cases	60		

a. 4 cells (50.0%) have expected count less than 5. The minimum expected count is 3.00.

Based on the results stated in Table 4.57, there was a significant difference ( $p < 0.001$ ) noted between students' and their supervisors' perceptions when the supervisors were asked "my student gave me the impression they would like to study further" (Section 4.5.3.10) and similarly when the students were asked "I would like to study further" (Section 4.5.2.8). The supervisors mostly disagreed indicating that the student gave the impression that they did not wish to study further, but in contrast however, it would seem that the students collectively responded that they would like to study further. This question shows that there is a mismatch in the perceived reality that the supervisor has of his / her student and that of their student's interest in furthering their studies. From an interactive perspective, within the supervisory relationship, this seems to suggest that the student and the supervisor do not communicate well with each other and are unable to communicate their respective realities well. Alternatively, the perception from the supervisors is based on the student's ability to work within the supervisory relationship. This perception is however, skewed, if the supervisor has ineffective means by which to manage the supervisory relationship to reduce technical errors (see discussion under 4.5.3.10). This may result in what is seen as a disinterested student, who does not work well and who may seem as though they are not potentially capable of further study and / or may be perceived to battle with further studies. Therefore, the outcome of this statistical analysis goes to support that role ambiguity, shifting of responsibility and the resultant impact of commentary by other role players in the research process may contribute to the supervisors' perceptions, which are not congruent with their student's ultimate aims concerning further study. This assertion would, however, need to be tested as there are a myriad of other possible reasons why a student may wish to study further that would be completely unrelated to the supervisory relationship that was the focus of this study.

Therefore, although this outcome may support the trend seen in the results of this study, this particular statistic needs to be interpreted with caution in this context.

**Table 4.59: My student did not understand my concerns relating to their research**

		Strongly agree	Agree	Disagree	Strongly disagree	Total
Student	Count	2	4	12	12	30
	% within group	6.7%	13.3%	40.0%	40.0%	100.0%
Supervisor	Count	0	4	24	2	30
	% within group	0.0%	13.3%	80.0%	6.7%	100.0%
Total	Count	2	8	36	14	60
	% within group	3.3%	13.3%	60.0%	23.3%	100.0%

**Table 4.60: Chi-Square Test for Table 59**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.143 <sup>a</sup>	3	0.004
Likelihood Ratio	14.775	3	0.002
Linear-by-Linear Association	1.183	1	0.277
N of Valid Cases	60		

a. 4 cells (50.0%) have expected count less than 5. The minimum expected count is 1.00.

When analysing Table 4.59, it becomes apparent that the student and supervisor significantly agreed ( $p=0.004$ ) that the supervisor is concerned about their student's research. Although both parties agreed, it is evident from Table 4.29, that the supervisors tended to agree as opposed to strongly agree whereas students were split 50:50 in terms of their responses (Table 4.18). This reflects that supervisors perceived that students did not always readily accept their concerns, but did consider them anyway. Students conversely seemed to take their supervisors concerns seriously, with 40% indicating that they strongly agreed and another 40% who agreed. In this context, it is seen that the students mostly look to their supervisors for guidance, whereas the supervisor seems to think that the advice he or she dispenses is not heeded. This latter supervisor perception may come from the perception that the student is seen as a disinterested student, who does not work well and who may seem as though they are not potentially capable of further study and / or may be perceived to battle with further studies. In contrast, the student sees the supervisor as a partner, and therefore, a guide in the research process and as such an expectation that the majority of support should come from their supervisor. These mismatched relationship expectations may be the grounds for dissatisfaction and the production of low quality dissertation.

**Table 4.61: My student was able to answer my questions knowledgeably**

		Strongly agree	Agree	Disagree	Total
Student	Count	14	13	3	30
	% within group	46.7%	43.3%	10.0%	100.0%
Supervisor	Count	3	23	4	30
	% within group	10.0%	76.7%	13.3%	100.0%
Total	Count	17	36	7	60
	% within group	28.3%	60.0%	11.7%	100.0%

<b>Table 4.62: Chi-Square Test for Table 4.61</b>	<b>Value</b>	<b>df</b>	<b>Asymp. Sig. (2-sided)</b>
Pearson Chi-Square	10.038 <sup>a</sup>	2	0.007
Likelihood Ratio	10.681	2	0.005
Linear-by-Linear Association	6.340	1	0.012
N of Valid Cases	60		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is 3.50.

The mismatch presented in the discussion of Table 4.59, may present the reason why a mismatch in the outcomes presented in Table 4.61 becomes apparent. This outcome reinforces the notion that the supervisors have a stereo-typical view of their students, indicating that they agree with the outcomes of Tables 4.57 and Table 4.59.

**Table 4.63: The hours the libraries are open to access research material is convenient**

		Strongly agree	Agree	Disagree	Strongly disagree	Total
Student	Count	9	19	0	2	30
	% within group	30.0%	63.3%	0.0%	6.7%	100.0%
Supervisor	Count	3	20	7	0	30
	% within group	10.0%	66.7%	23.3%	0.0%	100.0%
Total	Count	12	39	7	2	60
	% within group	20.0%	65.0%	11.7%	3.3%	100.0%

<b>Table 4.64: Chi-Square Test for Table 4.63</b>	<b>Value</b>	<b>df</b>	<b>Asymp. Sig. (2-sided)</b>
Pearson Chi-Square	12.026 <sup>a</sup>	3	0.007
Likelihood Ratio	15.642	3	0.001
Linear-by-Linear Association	2.952	1	0.086
N of Valid Cases	60		

a. 4 cells (50.0%) have expected count less than 5. The minimum expected count is 1.00.

In terms of the technical support, it would seem that students and supervisors agreed that the library was conveniently available for them during the research process. It would also seem to suggest that the student utilised the library for significant periods of time during the research process.

#### 4.5.4.2 Significant cross-tabulations concerning students and supervisors' roles and responsibilities

**Table 4.65: That names and spelling of references are correct**

		Supervisor	Proof-reader	Student	Supervisor / co-supervisor - proof-reader / student	proof-reader / student	Total
Student	Count	2	17	11	0	0	30
	% within group	6.7%	56.7%	36.7%	0.0%	0.0%	100.0%
Supervisor	Count	0	3	19	2	6	30
	% within group	0.0%	10.0%	63.3%	6.7%	20.0%	100.0%
Total	Count	2	20	30	2	6	60
	% within group	3.3%	33.3%	50.0%	3.3%	10.0%	100.0%

<b>Table 4.66: Chi-Square Test for Table 4.65</b>	<b>Value</b>	<b>df</b>	<b>Asymp. Sig. (2-sided)</b>
Pearson Chi-Square	21.933 <sup>a</sup>	4	0.000
Likelihood Ratio	26.840	4	0.000
Linear-by-Linear Association	12.312	1	0.000
N of Valid Cases	60		

a. 6 cells (60.0%) have expected count less than 5. The minimum expected count is 1.00.

From Table 4.65 it becomes apparent that the role ambiguity suggested earlier in this discussion (Section 4.5.1.1; 4.5.1.2 and 4.5.1.3), is indeed a real possibility, as it is not the proof-reader's task to ascertain that names and spelling of the references are correct (Phillips and Pugh 2000: 1; Lessing and Lessing 2004: 77; Department of Chiropractic and Somatology 2014: 7). These technicalities should be accurately and consistently applied by the student so that the proof-reader is only correcting the odd missing or altered reference. It is also not the role of the proof-reader to check the spelling of references either (Lessing and Lessing 2004: 77). Therefore, it is clear that the articulation of role responsibility is not evident in these supervisory relationships, which may be a result of poor communication or an inappropriate contract determining roles and responsibilities.



#### 4.5.4.3 Borderline significant cross-tabulations for students' and supervisors' knowledge, perceptions, and expectations

Comments for which there were borderline significances or that have limited interpretation ability because of the low minimum count. In both these instances, the results indicate that there were low counts per cell in the cross-tabulations, thus these outcomes need to be interpreted with caution and have limited ability to be extrapolated to the group generally:

- The question around whether it was the student's responsibility to ensure the title of their completed research matches that of their proposal was (significantly ( $p=0.028$ )) different in that the students agreed that this is their role yet supervisors agreed it was their role.
- In terms of the student interest in their dissertation, it would seem that both the students and the supervisors agreed that the student seemed interested in their research ( $p=0.004$ ), even though the supervisors seemed to only *agree* and the students *strongly agreed*.
- In terms of the student knowledge of the subject of their dissertation, it would seem that both the students and their supervisors agreed that the student's knowledge of the research process was good ( $p<0.001$ ), even though the supervisors seemed to only *agree* and the students *strongly agreed*.
- Similarly, the supervisors *agreed* that his / her student was knowledgeable with regards to the research process (66.7%), this contrasts with the students that *strongly agreed* 56.7% of the time.
- The question concerning *any* supervisor was instrumental in helping me with their research indicated that 56.7% of the students *strongly agreed* that their positive relationship with my supervisor was instrumental in helping them with their research. However, 70% of the supervisors *agreed*.
- In terms of the university's provision of the Internet service, 46.7% of the students *agreed* that their university's Internet access is fast, but in contrast 63.3% of the supervisors disagreed. A significance was noted at  $p=0.004$ .

In order to validate the above statements, it would be necessary that future research consider the possibility of increasing the numbers of participants in a similar study.

#### **4.5.4.4 Borderline significances – roles and responsibilities of students and supervisors concerning their knowledge, perceptions and expectations**

The same limitations that are applicable to ~~Borderline~~ significances . generalq i.e. results which have limited interpretation ability because of the low minimum count are also applicable to this section. Again, in both these instances the results showed that there were low counts per cell in some of the cross-tabulations. Thus, these outcomes need to be interpreted with caution and have limited ability to be extrapolated to the group generally:

- According to 53.3% of the students, the proof-reader is deemed to be responsible for the in-text and reference list citations in the dissertation. However, the supervisors indicated in 66.7% of the cases that they had allocated the role to the student ( $p=0.001$ ).
- According to 3.3% of the supervisors and 36.7% of the students, the proof-reader is deemed to be responsible for checking the correct method of writing out references in citations (namely, specific to the reference source for example: books, journals, interviews, and web-site addresses). By contrast, this role was ascribed to the students by 60.0% of the supervisors, when only 43.3% of the students ascribed this role to themselves. The remaining role allocation was principally to the supervisor, which ironically was roughly equal between the students and the supervisors.
- The proof-reader was deemed to be responsible for the alignment of numbers in the tables / page numbers of the dissertation. It was found that the supervisors allocated this task to students (53.5%), proof-readers 26.7%, but not to themselves. In contrast, the students allocated the tasks as follows: to themselves 30.0%, the supervisor 13.3%, and the proof-reader 50.0% of the time ( $p=0.023$ ).
- To the statement indicating that the student is deemed responsible for the Abstract; the supervisors indicated 30.0% of the time that it was the studentsq responsibility and 40% of the time their own responsibility. In contrast, the students thought it was their responsibility 63.3% of the time and allocated only 26.7% of the responsibility to the supervisors ( $p=0.012$ ).
- According to the supervisor, and in respect of the student supervisor relationship, the student was deemed to be responsible for booking appointments 60.0% of the time and the supervisor only 16.7%. The students concurred by indicating that it was the studentsqresponsibility in 96.7%% of cases and that the supervisor never booked appointments.

- Similarly, according to the supervisors, the role of contacting the Allied Health Professions Council post qualification, was seen to be the role of the research administrator (70%), the student (16.7%), and the supervisor (3.3%) of the time. In contrast, the students indicated that it was their role 80% of the time, with only 6.7% of the students allocating the role to their supervisor and 13.3% to the research administrator.
- Furthermore, and according to the supervisors, the role of storing research material after the completion of the research was seen as the role of the students (10.0%), supervisors (0%) and the research administrators, (80%) of the time. In contrast, the student saw it as their role according to 30.0% of their responses, and the supervisor in 16.7% of their responses and in 53.3% of responses, the role was allocated to the research administrator.

#### **4.6 Concluding discussion of the outcomes of the study**

Overall the data for the sample was developed on a 79% response rate, which depicted the average student as being 26.87 years of age (with a SD of 3.7 years), white, single females, who had a preference for the use of English as a means of verbal and written communication. Furthermore, the results suggest that the majority of the students were prepared for the research process, having completed an introductory research module in preparation for their research dissertation. In terms of the research process, the majority of the students were aware of: the need for signing a student-supervisor research contract; that they could request another supervisor if they were dissatisfied with their original choice; and that they could expect their supervisor to offer constructive feedback on their research. But, they were similarly aware that this process would require them to be involved in meetings with their supervisor to receive help with developing their dissertation. Generally, students felt that they ~~strongly agreed~~/ ~~agreed~~ that their supervisor was pivotal in assisting them with their research, and as such they preferred to work in dyadic partnerships as opposed to a hierarchical relationship with supervisor dominance. In terms of the university, the student also identified regular department meetings prevented delays in proposal acceptance but that they needed to take responsibility for processes around their dissertation. They also ~~strongly agreed~~ or ~~agreed~~ that the librarians were very helpful, that the library hours were convenient and that the university search engines supported their research requirements. In terms of the structure of the dissertation, the majority of the students perceived that it should contain technical jargon, that the participants are required to sign an Informed Consent Form and that all information generated from the research had to remain confidential. In terms of the research process however, the majority of the students ~~disagreed~~ or ~~strongly disagreed~~

that they enjoyed the research process but if they were given the opportunity, they would study further because of the confidence their supervisor had instilled in them. These factors when supported / refuted by the literature globally suggested that there were more factors related to the student participants that would seem to enable the development of a good quality dissertation than those that would detract from a good quality dissertation.

In contrast, the average supervisor was depicted as being 37.97 years of age (with an SD of 6.2 years), single or divorced, white males, who were part full-time employed in their clinical practice and associated with the university. Most did not have any dependants who required support. In terms of research, they preferred to communicate verbally or in writing using the English language. They all had computer access, one-third had Internet access but only a few had printer access at home, yet most of these facilities were available in their clinical practices. All supervisors had at least one previous Master's qualification and about two-thirds had been supervising research for more than 10 years, although only half of the supervisors had submitted and published six or more research manuscripts.

All of the supervisors indicated that they had accepted the responsibility of supervision because the student had approached them in that capacity. All supervisors indicated that their student(s) had required assistance with completing their proposal forms, that they (along with their student) were required to attend the departmental research meetings. Supervisors showed confusion about the ultimate approval and registration structures and were unsure as to who issued the ethics approval certificate in the university and that students had a limited time in which to complete their research. Most supervisors confirmed that they had completed a research contract with their student and that they could resign from the contract if the necessity arose. In this relationship, the supervisors indicated that their students expected them to recommend literature and that each student required their own unique manner in which they preferred to be supervised. There was, however, tension in that by contrast to the students (who indicated that the supervisors did not set timelines), the majority of supervisors indicated that the student respected time frames stated in the research contract and that they also accepted their %stringent+time frames. In agreement with the students, more than half of the supervisors indicated that their student would contact them to enquire about reasons for a delay in receiving feedback and most supervisors indicated that their student seemed to accept their comments and feedback on their work. In terms of developing a quality dissertation, the supervisors identified that the university had acquired software packages. However, the supervisors battled with and showed their confusion in answering the questions around technical presentation. By contrast, the supervisors agreed with the students that it was their role to confirm the title of the dissertation matched the finally approved title as per the FRC meeting. Comparing students

and supervisors, supervisors also felt that the majority of the student supervisor relationships were dyadic in nature and that they enjoyed working in this structure with their student. The supervisors also found that the librarians were always helpful and ready to assist, that the access to the library was convenient, both in terms of time and place. In contrast, the supervisors disagreed with students regarding the statement that research is not necessary for obtaining a Chiropractic degree, indicating that research was indeed necessary. The students' responses, however, indicated that they had not benefitted from the research process, but if they were given an opportunity they would participate in further studies or research if the opportunity arose. These factors when supported / refuted by the literature, globally suggested that there were approximately equal enablers and disablers related to the supervisor participants that would seem to contribute to the development of a good quality dissertation.

In terms of role perceptions, just more than 50% of the students expected that their statistician would confirm the arithmetic was correct, with about three-quarters expecting their statistician to be completely responsible for the production of the appropriate statistical analysis of the sample. Similarly, less than 50% of the supervisors expected that the statistician would confirm the arithmetic of the statistical analysis, whereas the majority expected that the statistician to be responsible for confirming and implementing the statistics required for the analysis of the data. These stances within the dyadic relationship mean that neither the student nor the supervisor actually took responsibility for the statistical analyses. Similarly, the student expected that the proof-reader proof-read their work, with over 66% expecting their proof-reader to additionally check for grammar and spelling, reference problems and technical presentation errors. In a similar manner, just less than 50% of the supervisors expected that the proof-reader would correct spelling and grammar and just 66% of supervisors expected the proof-reader to proof the dissertation. Thus, the students and their supervisor shared similar expectations regarding the role of the proof-reader which may contribute to a mismatch of expectations that the proof-reader may hold. Thus, it is possible that like the statistical analysis, the dissertation will present with errors that are due to the mismatch in the expectations of the parties concerned.

The above two concerns (statistical analysis and proof-reading) are re-enforced by supervisors who expect that their students take full responsibility for technical and referencing components of the dissertation without articulating that expectation. This is particularly true when these expectations are in contrast to the students' expectations and thus highlights the void in terms of accountability for these tasks and creates space for error.

Therefore, it is of interest to note that when analysing the results of the Checklist, several technical, referencing, and other errors were found in the dissertations. Thus, it would seem that these errors can be expected, when a mismatch in the expectations occurs within the dyadic supervisory relationship. This is particularly true when neither party takes overt accountability for these domains and default them without explicitly articulating that they have these expectations. As such, all supervisors and students need to be made aware that when their roles are discussed as part of the supervisory contract, these errors (as determined through the Checklist) would need to be assigned to one or both members of the dyadic relationship.

Congruency, however, is attained between the student and the supervisor in that they both expect the student to book and keep the appointed research meeting times. The time spent during these meetings, however, does not seem to improve the quality of the dissertation, as their communication does not seem to enable either party to overtly state their expectations to avoid mismatched expectations. An additional congruent expectation is that the student is expected to research and review articles for inclusion into the literature review and that it is the students responsibility for compiling and developing this review.

It would, however seem, that the enablers of a good quality dissertation are over-ridden by the disablers of a good dissertation when expectations are not overtly stated. This statement is supported by the outcomes of the cross-tabulations, and the application of the Chi-Squared Tests and the Fisher's Exact Testing.

#### 4.7 The outcomes of the study contextualised in the RATER behavioural factors

Table 4.67: RATER behavioural outcomes		
Behavioural factors	Description of the university research services, as characterised by the research supervisor	The impact of the study outcomes on RATER
Responsiveness	Staff are trained by the university as to the importance of prompt and constructive feedback	Students showed that they were receptive to receiving feedback on their draft dissertations and often queried delays in receiving feedback with their supervisors. In addition, the supervisors agreed that students were able to meet timelines set by their supervisor, accepted their comments and feedback and had queried delays in the return of their feedback. It was, however, apparent from the Checklist, that the dissertations produced many technical and other errors. This indicated that the student and their supervisors' communication was not effective and it also established that there may be 'gaps' around issues of supervisors providing appropriate feedback at the right time and in a manner that is conducive to the student's learning style. This process may also have been affected by the student's relatively negative view of the research process and the need for research. This may indicate that the student was only trying to please the supervisor by seeming to be receptive versus the supervisor who had a predominantly positive view of research and may have been more expectant of a higher level of active participation by their student. This latter assertion requires more research to validate the claims made here.
Assurance	The university engages staff (for example: supervisors, administrators and support facilitators, such as statisticians and proof-readers) who are expert in their field to help students achieve a quality dissertation	The results of this study established that this UoT had engaged the necessary staff to help students compile a quality dissertation. The perception of the role of the staff employed was however interestingly viewed by both the supervisor and the student. In essence, the dyad for the most part relied heavily on the statistician and the proof-reader to ensure that the statistical, language and technical presentations were correct and appropriate for the dissertation. This 'outsourcing' may be underpinned by the lack of positive engagement by the student, where there is undue reliance on these facilitators to provide significantly more input than should be expected. Conversely, the abdication of responsibility as seen by the supervisor, in conjunction with the student's lack of ownership may be principle reasons for the lack of quality in the dissertations.

<b>Table 4.67: RATER behavioural outcomes continued ...</b>		
<b>Behavioural factors</b>	<b>Description of the university research services, as characterised by the research supervisor</b>	<b>The impact of the study outcomes on RATER</b>
Tangibles	The university installs offices, computer hardware, software, and stationery for staff so they can carry out their services efficiently and for students . computer hardware and software as well as a library and a specialised postgraduate room for students to work.	The information stated in Section 4.5.2.6 highlighted that the university supplied the necessary tangibles to assist students and supervisors in achieving a quality dissertation. In respect of this study, the students and supervisors indicated that there is very little that a university can do to improve upon and promote their effectiveness.
Empathy	The university trains staff members, especially supervisors, in listening and communicating with care	The presence of role ambiguity in this study seems to suggest that effective and efficient communication was lacking in the supervisory dyads in this study. This would suggest that there is an increased need for supervisors to be trained in effective and efficient communication systems and in identifying their students' learning styles to promote improved communication in the supervisory dyad.
Reliability	A promise by a university / supervisor to educate students to improve on their respective reputations while providing a quality learning environment for students and staff	When reviewing tangibles, empathy, responsiveness and assurance, it can be seen that the results of this study indicated that even in light of the UoT being able to provide for an appropriate environment in which research can be done, the offering of supervisory services to help postgraduate students to achieve a quality dissertation needs some attention. This gap seems to centre on issues of communication, common understanding regarding operations, research goals, and effective interaction within the dyad. These problems may result from a lack of a detailed supervisory contract, supervisor inexperience or they may be symptomatic of psychosocial factors that are beyond the scope of this study (for example: supervisor / student work commitments outside of the research process). Therefore, it is suggested that these factors and how they impact on the dyad are further discussed.



Other than communication having an effect on responsiveness, empathy and assurance, and therefore cumulatively on reliability; it also has an important role in levelling the playing fields between the student (who has a predominately negative view on the need for research and the research process), and supervisor (who has a predominately positive view of the need for research and the learning potential within the research process). In this respect, communication enables the parties in the research dyad to understand each other's position and to clarify a common goal and a means by which to attain it. This is supported by Berry, Zeithaml, and Parasuraman (1990: 34) and Worthen and Isakson (2003: 8) who showed that reliability and empathy are the two most valued behavioural factors from the vantage point of a student. Therefore, it is not unexpected that students who do not appreciate the importance of these RATER factors and who also have a significantly negative view of the research process are less likely to take ownership thereof, with the result that the dissertation that is produced is of low quality.

Chapter Five concludes this study and offers methodological recommendations for future similar studies as well as practical recommendations for the Chiropractic programme and the University of Technology.

# **CHAPTER FIVE**

## **CONCLUSIONS AND RECOMMENDATIONS**

### **5.1 Introduction**

This chapter concludes this study that evaluated the knowledge, perception and expectations of students and their supervisors at the Chiropractic Department at a particular University of Technology. Conclusions are drawn from the results and discussions stated in Chapter Four. Recommendations will also be made regarding improvements to the methodology of a future similar study and what processes could be implemented to improve the relationship between the student and their supervisor so that quality research is consistently achieved.

### **5.2 Conclusions**

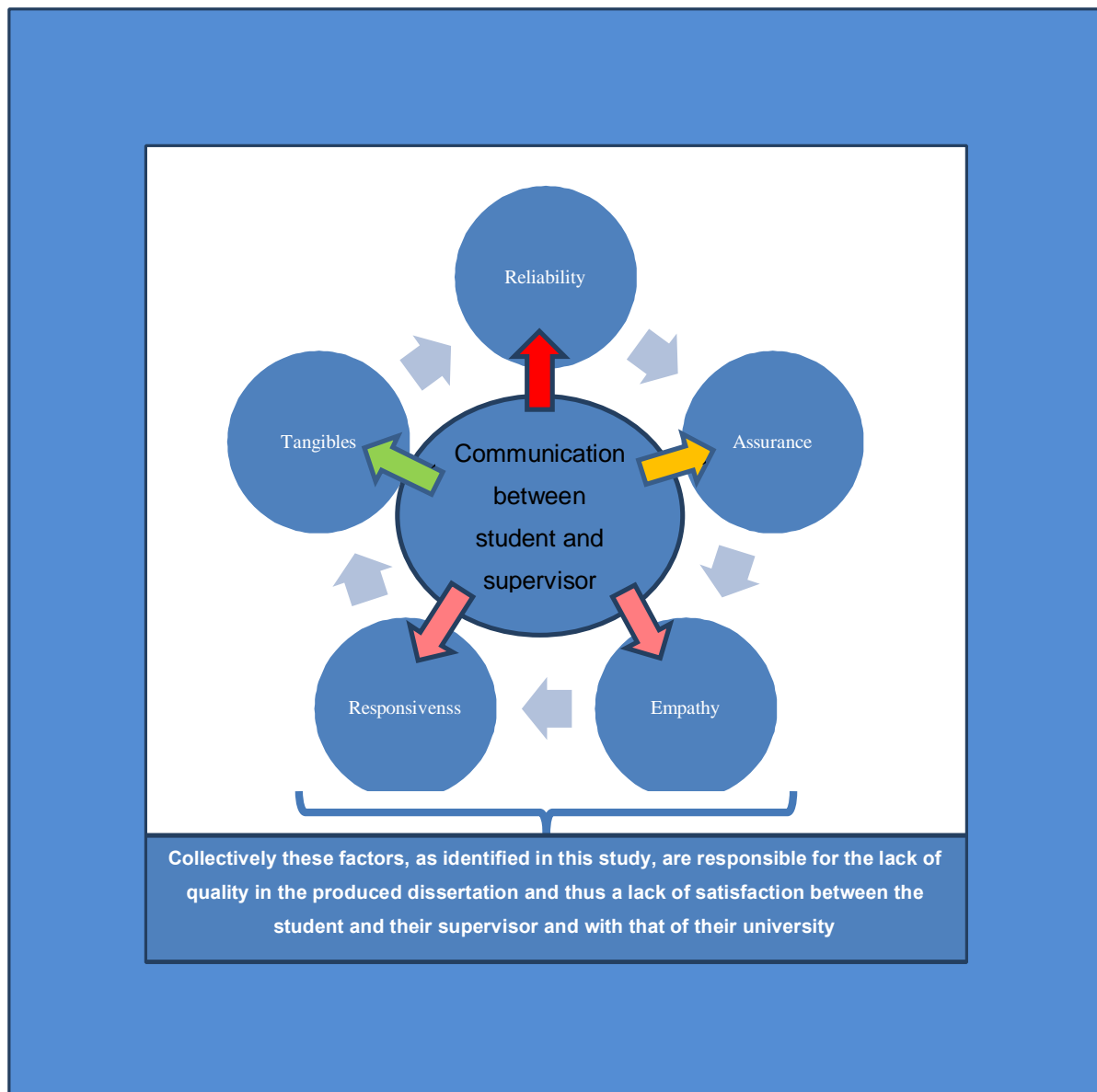
After having achieved an overall data set, which represented 79% of the total sample, it was noted that the student reflected the average Master's student within higher education, with perhaps the exception of age. The majority of students were aware and knowledgeable of what was expected of them in terms of the research process. These factors when supported / refuted by the literature, globally suggested that there were more factors related to the student participants that would seem to enable the development of a good quality dissertation than those that would detract from a good quality dissertation. By contrast, the average supervisor seemed to portray the opposite characteristics to the student in terms of demographic data and did not portray the norm for supervisors in terms of their qualification and academic affiliation.

Mostly, the supervisory contexts portrayed in this research resulted from the students approaching the supervisor. All procedural aspects of the relationship seem to have been by mutual agreement; however supervisors showed confusion about the approval and registration processes, were unsure as to the time students had to complete their research and presented contradictory answers around technical presentation. There was however tension, in that by contrast to the students (who indicated that the supervisors did not set timelines), the majority of supervisors indicated that the student respected time frames stated in the research contract and that they also accepted their ~~stringent~~ time frames. This tension is further heightened by supervisors disagreeing with students regarding the need for research in obtaining a chiropractic degree, particularly as students perceived limited benefit.

The above dyadic relationship was also seen to be affected by differing roles with regards to both student and supervisor expectations of each other as well as the statistician and the proof-reader. The mismatch in the expectations and lack of ensuring that expectations are clear and overt and the lack of responsibility taken by the supervisor and the student make it possible that both statistical analyses and / or technical errors could result from the dyadic relationship. This assertion is supported by the results of the Checklist analysis of the dissertations where several technical, referencing and other errors were found in the dissertations.

Thus, it would seem that these errors are to be expected when the mismatch in the expectations within the dyadic supervisory relationship are present. This is particularly true when neither party takes overt accountability for these domains and articulate roles to others without explicitly articulating that they have these expectations. Therefore, all supervisors and students need to be made aware that when the roles and responsibilities of the student and the supervisor are discussed as part of the supervisory contract that these errors as determined through a checklist would need to be assigned to one or both members of the dyadic relationship.

In the context of this study, it would however, seem that the incongruence of expectations and inadequate communication between the student and the supervisor, led to high numbers of technical errors that disabled the development of good quality dissertations. This stance is irrespective of the UoT providing appropriate enablers of the service and this collectively had a negative impact on students' and supervisors' satisfaction (Figure 5.1).



**Key:** The lack of communication . mostly affects **Red**, on average affects **Pink**; least affects **Amber** and no effect on **Green**

Figure 5.1: Illustrative summary of results of this study

Without appropriate communication to bridge the gap between supervisors' (positive) perspective and students' (negative) perspective of the research process and the seeming lack of a detailed common ground (research or student . supervisor contract), the relationship impairs and results in a lack of adequate and appropriate responsiveness and empathy. These gaps compromise assurance and reliability which ultimately decreases the quality of the learning environment for the student and quality of the teaching environment for the supervisor (namely, the student and supervisor becoming passive participants in the night+ only communicating superficially and with little real intent). Collectively, all of the RATER

behavioural factors, irrespective of the provision of appropriate tangibles by the university, seem to result in the production of a dissertation of low quality.

It is, therefore, suggested that further research be done to investigate the effects of overt, explicit or implicit role expectations of students and supervisors that are openly agreed to in a student-supervisor contract. This should open communication channels that would assist the student and their supervisor in identifying and rectifying role ambiguity and its effect on the production of good quality research which would in turn improve student and supervisor satisfaction as the learning and teaching environments respectively would have improved and facilitated better and more meaningful interactions.

## **5.3 Recommendations**

### **5.3.1 Methodological**

- An increase in the data sets over an extended period of time may allow for more definitive outcomes (particularly the cross-tabulation and Chi-Squared testing analyses), which may further validate the outcomes of this study.

### **5.3.2 Future studies**

- A qualitative design may yield more rich data (Kiley and Mullins 2005: 246), particularly with regards to expectations and perceptions as these seem to drive (in the context of Chiropractic research) the outcome of a good quality research dissertation.
- Additionally, future research should investigate the link between students' undergraduate progression and the quality of a dissertation achieved by the same students.
- Furthermore, a study is required to elucidate the relationship between time, length (number of pages) and the technical qualities of the dissertation.

### **5.3.3 Practical recommendations – The Chiropractic programme**

- The Chiropractic programme may need to offer group supervisory sessions because lack of time for supervision responsibilities was cited by supervisors as a problem due to their extensive lecturing load (Mutula 2011: 187). However, group supervisory sessions are not conducive to every student's learning style (Mountford, Jones and

Tucker 2006: 133). Therefore, the department may consider employing more staff whose main duty is to supervise students.

- The Chiropractic programme could consider incorporating a research component in the curriculum that focuses on teaching students how to write a research dissertation and responsibilities expected of them (Drennan and Clarke 2009: 499). This is because not all students were able to adapt to the postgraduate requirement to work autonomously from their classroom experiences, (i.e., requiring limited supervision) (Lessing and Schulze 2002: 140; Lessing and Lessing 2004: 78; Anderson, Day and McLaughlin 2006: 158; Republic of South Africa 2011: 83). This exposure should perhaps also include exposing students to the importance of research (Hawk, Cambron and Pahmeyer 2008: 302; McCoy 2008: 146) as well as developing a positive attitude, both of which would increase the likelihood of autonomous success (Newell and Cunliffe 2003: 118).
- The development of frequently made mistakes+brochures, for example: a Checklist of Common Errors or an on-line discussion web-site (de Beer and Mason 2009: 213) may enable students to understand what technical, statistical or other errors are common and which should be avoided. Information could include a recommendation that students check the results (for example: the arithmetic) of the data that the statistician returns and likewise, not blindly accept the proof-readers recommendations (Anderson, Day and McLaughlin 2006: 154).
- The Chiropractic programme could consider increasing training for the supervisors to decrease the role ambiguity, improve accountability and ensure that the supervisors understand the most current requirements of the research process and output. Other mechanisms may be the use of co-supervision, group supervision and peer training (Dysthe, Samara and Westrheim 2006: 316), including mentorship and advisor roles (Ellis 2001: 40).
- Gallifa and Batalle (2010: 160) suggest that a learning contract, signed prior to students and supervisors entering and embarking on a research journey, may help to clarify roles and expectations. This process should, however, require an overt discussion of expectations prior to the contract being signed. This overt method would clearly articulate each others responsibilities and reflect problems that can be dealt with early on (Kam 1997: 100).

- An analysis of learning and teaching styles may be important in addressing the reduction of mismatch of learning styles between the student and the supervisor. The Chiropractic programme could recommend testing (for example: Honey and Mumford Learning Style Questionnaire) (Honey and Mumford 1989: 1) to identify preferred methods of learning by the student, so that supervisors with appropriate teaching skills sets could be matched (Armstrong 2004: 42; Mountford, Jones and Tucker 2006: 135).
- For those students who have English as a second language, it may be necessary that supervisors identify this early on in their relationship and refer these students to academic writing support / writing centres (Weber and He 2010: 35).
- The Chiropractic programme may consider a number of interventions to address weaknesses in the delivery of the current research programme in order to measure the effect of these interventions. It is suggested that one or more tools focusing on research are applied, for example: Role Perception Rating Scale (Aspland, Edwards, O'Leary and Ryan 1999: 127).

#### **5.3.4 Practical recommendations – University of Technology**

- Establish writing centres or research clubs (Weber and He 2010: 35) where students may attend to receive help with their writing. However, even English speaking students often need help with their academic writing style because academic writing is so different to the short essay style that is more often required during examinations (Anderson, Day and McLaughlin 2006: 154). Therefore, supervisors should recommend to all students that they should attend classes, or at least read previous dissertations to gauge what is expected of them in compiling their research dissertation.

#### **5.4 A final word.....**

A reflective piece to indicate the personal value obtained from compiling my postgraduate research dissertation.

My postgraduate journey has been an incredible learning experience . interspersed with:

- Glee - (I have been given the opportunity to compile my Masters);

- Despair - (feelings of not been able to contextualise information within articles to match my title so that my dissertation flowed logically and / or hearing people say *you're still not at it?*);
- Delight - (light bulb moments of *it's* coming together);
- Exhaustion . (difficulties of balancing study, work and social life).

Boucher and Smyth (2004:346) say that without reflecting on what one does, learning cannot occur. According to the Honey and Mumford Learning Styles Questionnaire (Honey and Mumford 1989: 1), I am a natural reflector and theorist.

I have found that this style of learning has often caused me to flounder because I perceive myself as a plodder and as such, I find that reading articles, paraphrasing such information and contextualising it into my research takes me a very long time indeed. Therefore, without a supervisor who understood me as a unique individual, who may or may not share similar ways of compiling a large research investigation, I may not have completed this research.

I have an interest in research. However, I have also had the opportunity of reading many students' dissertations as well as having been required to complete many assignments in previous undergraduate studies. I do believe this has helped me with the perseverance to continue when feeling exhausted and in despair that *it's* just not working out fast enough.

Therefore, the value of this research dissertation is immense. My investigation has highlighted to me how two well-meaning people who come together within a student / supervisor dyadic relationship may be a disaster (Lessing and Schulze 2003: 160; 165; Cheon *et al.* 2009: 61; Manathunga 2009: 342; Nulty, Kiley and Meyers 2009: 694; Danjuma and Rasli 2012: 96). I have learnt that without one party realising such differences that learning styles may cause such problems, dissatisfaction and lack of interest in research and poor quality will result (Drennan and Clarke 2009: 495; Al-Alak and Alnaser 2012: 162). I feel extremely fortunate that my supervisor understood my needs . she was there for me and therefore listened when I needed to talk about my work (Thomas and Mengel 2008: 308) and as such offered constructive feedback without the criticism I feared (Eraut 2006: 111; Baker *et al.* 2013: 260).

Such value to my personal life is immeasurable because she helped to show me that I can complete postgraduate research; I can ask questions without feeling stupid; I can approach her when I felt the need to talk about my fears. In other words, she showed me that *things* are possible and *can* be done, given help and support. This in turn, has changed my faulty perception of what I may fear in life (Eysenck and Keane 1995: 93; Hayes 1994: 61) into a perception that fear can be challenged and overcome.



## REFERENCE LIST

Abiddin, N. Z. and West, M. 2007a. Effective Meeting in Graduate Research Student Supervision. *Journal of Social Sciences*, 3 (1): 27-35.

Abiddin, N. Z. and West, M. 2007b. Responsibilities of Graduate Student: The Review of Research Student Policies. *Journal of Social Sciences*, 3 (1): 7-17.

Al-Alak, B. A. and Alnaser, A. S. M. 2012. Assessing the Relationship Between Higher Education Service Quality Dimensions and Student Satisfaction. *Australian Journal of Basic & Applied Sciences*, 6 (1): 156-164.

Alexandrov, A. V. 2004. How to write a research paper. *Cerebrovascular diseases*, 18 (2): 135-138.

*The Allied Health Professions Council of South Africa (AHPCSA) Act 63 of 1982 (as amended 2001)*. Pretoria: Government Printer.

American Statistical Association. 2014. *What Do Statisticians Do?* (online). Available: <http://www.amstat.org/careers/whatdostatisticiansdo.cfm> (Accessed 10 January 2013).

Anderson, C., Day, K. and McLaughlin, P. 2006. Mastering the dissertation: lecturers' representations of the purposes and processes of Master's level dissertation supervision. *Studies in Higher Education*, 31 (2): 149-168.

Anderson, C., Day, K. and McLaughlin, P. 2008. Student perspectives on the dissertation process in a masters degree concerned with professional practice. *Studies in Continuing Education*, 30 (1): 33-49.

Angell, R. J., Heffernan, T. W. and Megicks, P. 2008. Service quality in postgraduate education. *Quality Assurance in Education*, 16 (3): 236-254.

Armstrong, S. J. 2004. The impact of supervisors' cognitive styles on the quality of research supervision in management education. *The British Journal Of Educational Psychology*, 74 (4): 599-616.

Armstrong, S. J., Allinson, C. W. and Hayes, J. 2004. The Effects of Cognitive Style on Research Supervision: A Study of Student-Supervisor Dyads in Management Education. *Academy of Management Learning & Education*, 3 (1): 41-63.

Asch, D. A., Christakis, N. A. and Ubel, P. A. 1998. Conducting physician mail surveys on a limited budget: a randomized trial comparing \$2 bill versus \$5 bill incentives. *Medical Care*, 36 (1): 95-99.

Aspland, T., Edwards, H., O'Leary, J. And Ryan, Y. 1999. Tracking new directions in the evaluation of postgraduate supervision. *Innovative Higher Education*, 24 (2): 127-147.

Baker, A., Perreault, D., Reid, A. and Blanchard, C. M. 2013. Feedback and organizations: Feedback is good, feedback-friendly culture is better. *Canadian Psychology/Psychologie canadienne*, 54 (4): 260.

Beecham, R. 2009. Teaching quality and student satisfaction: nexus or simulacrum? *London Review of Education*, 7 (2): 135-146.

Berry, L. L., Zeithaml, V. A. and Parasuraman, A. 1985. Quality Counts in Services, Too. *Business Horizons*, 28 (3): 44.

Berry, L. L., Zeithaml, V. A. and Parasuraman, A. 1990. Five Imperatives for Improving Service Quality. *Sloan Management Review*, 31 (4): 29-38.

Bhogal, S. K., Teasell, R. W., Foley, N. C. and Speechley, M. R. 2005. The PEDro scale provides a more comprehensive measure of methodological quality than the Jadad scale in stroke rehabilitation literature. *Journal of clinical epidemiology*, 58 (7): 668-673.

Billington, D. D. 2000. Seven characteristics of highly effective adult learning programs. *New Horizons for Learning*,

Black, E. 2008. A Retrospective Survey of the Career Paths and Demographics of Durban University of Technology (DUT) Chiropractic Graduates. M.Tech, Durban University of Technology.

Bland, M. 1996. *An introduction to Medical Statistics*. 2nd ed. Great Britain: Oxford University Press.

Blauth, C., McDaniel, J., Perrin, C. and Perrin, P. B. 2011. *Age-Based Stereotypes: Silent Killer of Collaboration and Productivity*. Tampa: Achieve Global.

Bloom, B. S. and Krathwohl, D. R. 1956. Taxonomy of educational objectives: The classification of educational goals. Handbook I: Cognitive domain.

Boucher, C. and Smyth, A. 2004. Up close and personal: reflections on our experience of supervising research candidates who are using personal reflective techniques. *Reflective Practice*, 5 (3): 345-356.

Boureau, Y.-L. 2005. Génétique et neurosciences du développement cognitif-TT2.

Bowden, J. L.-H. and D'Alessandro, S. 2011. Co-creating Value in Higher Education: The Role of Interactive Classroom Response Technologies. *Asian Social Science*, 7 (11): 35-49.

Brantingham, J. and Snyder, W. 1999. From Africa to Africa. *Chiropractic History: The Archives And Journal Of The Association For The History Of Chiropractic*, 19 (1): 53-59.

Brink, C. 2010. Quality and Standards: Clarity, Comparability and Responsibility. *Quality in Higher Education*, 16 (2): 139-152.

Brink, H. 2007. *Fundamentals of research methodology for health care practitioners*. Cape Town: Junta and Co.

Brunarski, D. J. 2011. The politics of chiropractic research. *Journal of the Canadian Chiropractic Association*, 55 (1): 20-22.

Brydon, K. and Fleming, J. 2011. The Journey Around My PhD: Pitfalls, Insights and Diamonds. *Social Work Education*, 30 (8): 995-1011.

Caldwell, K., Coleman, K., Copp, G., Bell, L. and Ghazi, F. 2007. Preparing for professional practice: How well does professional training equip health and social care practitioners to engage in evidence-based practice? *Nurse Education Today*, 27 (6): 518-528.

Cameron, C. 2007. Bridging the gap: working productively with ESL authors. *Science Education*, 30: 43-44.

Campbell, M. J. and Machin, D. 1999. *Medical Statistics. A Commonsense Approach*. 3rd ed. Great Britain: Wiley.

Cass, N., Shove, E. and Urry, J. 2005. Social exclusion, mobility and access<sup>1</sup>. *The sociological review*, 53 (3): 539-555.

Central Applications Office. 2013. *Hanbook Entry 2013*. Durban: Central Applications Office.

Chan, B. T. and Willett, J. 2004. Factors Influencing Participation in Obstetrics by Obstetrician. Gynecologists. *Obstetrics & Gynecology*, 103 (3): 493-498.

Chapman-Smith, D. 2000. *The Chiropractic Profession*. West Des Moines: NCMIC Group Inc.

Cheetham, A. 2007. Growing a Research Culture. In: Proceedings of *Address to Academic Senate*. University of Western Sydney,

Chelenyane, M. and Endacott, R. 2006. Self-reported infection control practices and perceptions of HIV/AIDS risk amongst emergency department nurses in Botswana. *Accident and emergency nursing*, 14 (3): 148-154.

Cheon, H.-S., Blumer, M., Shih, A.-T., Murphy, M. and Sato, M. 2009. The Influence of Supervisor and Supervisee Matching, Role Conflict, and Supervisory Relationship on Supervisee Satisfaction. *Contemporary Family Therapy: An International Journal*, 31 (1): 52-67.

Chiropractic Association of South Africa. 2014. *Chiropractic in South Africa*. (online). Available: <http://www.chiropractic.co.za/chiropractic/index.html> (Accessed 10 July 2012).

Copp, G., Caldwell, K., Atwal, A., Brett-Richards, M. and Coleman, K. 2007. Preparation for cancer care: Perceptions of newly qualified health care professionals. *European Journal of Oncology Nursing*, 11 (2): 159-167.

Council on Higher Education (CHE). 2009. *Postgraduate Studies in South Africa: A Statistical Profile*. (online). Available: <http://www.che.ac.za> (Accessed 10 January 2014).

Council on Higher Education (CHE). 2010. *Access and throughput in South African Higher Education: Three case studies*. Higher Education Monitor. (online). Available: [http://www.che.ac.za/sites/default/files/publications/Higher\\_Education\\_Monitor\\_9.pdf](http://www.che.ac.za/sites/default/files/publications/Higher_Education_Monitor_9.pdf) (Accessed 10 January 2014).

Cronin Jr, J. J. and Taylor, S. A. 1994. SERVPERF Versus SERVQUAL: Reconciling Performance-Based and Perceptions-Minus-Expectations Measurement of Service Quality. *Journal of Marketing*, 58 (1): 125-131.

Danjuma, I. and Rasli, A. 2012. Service Quality, Satisfaction and attachment in Higher Education Institutions: A theory of Planned Behaviour Perspective. *International Journal of Academic Research*, 4 (2): 96-103.

Dann, S. 2008. Applying Services Marketing Principles to Postgraduate Supervision. *Quality Assurance in Education: An International Perspective*, 16 (4): 333-346.

Darlaston Jones, D., Pike, L., Cohen, L., Young, A., Haunold, S. and Drew, N. 2003. Are they being served? Student expectations of higher education. *Issues in educational research* 13(1). Available: [http://www.iier.org.au/iier13/darlaston\\_jones.html](http://www.iier.org.au/iier13/darlaston_jones.html)

de Beer, M. and Mason, R. B. 2009. Using a Blended Approach to Facilitate Postgraduate Supervision. *Innovations in Education and Teaching International*, 46 (2): 213-226.

De Villiers, A. and Steyn, A. 2009. Effect of changes in state funding of higher education on higher education output in South Africa: 1986-2007. *South African Journal of Higher Education*, 23 (1): 43-68.

Delaney, P. M. and Fernandez, C. E. 1999. Commentary. Toward an evidence-based model for chiropractic education and practice. *Journal of Manipulative & Physiological Therapeutics*, 22 (2): 114-118.

Delnevo, C. D., Abatemarco, D. J. and Steinberg, M. B. 2004. Physician response rates to a mail survey by specialty and timing of incentive. *American Journal of Preventive Medicine*, 26 (3): 234-236.

Department of Chiropractic and Somatology. General Handbook for Students. 2014. Durban University of Technology.

Department of Education. 2003. *Funding of public higher education*. (online). Available: <http://www.info.gov.za/gazette/notices/2003/25824.pdf>. (Accessed 15 November 2013).

Donaldson, B. and McNicholas, C. 2004. Understanding the postgraduate education market for UK-based students: a review and empirical study. *International Journal of Nonprofit and Voluntary Sector Marketing*, 9(4): 346-360.

Dörnyei, Z. 2001. New themes and approaches in second language motivation research. *Annual review of Applied Linguistics*, 21: 43-59.

Doyle, A. 2014. Writing a Curriculum Vitae. (online). Available: <http://jobsearch.about.com/cs/curriculumvitae/a/curriculumvitae.htm>. (Accessed 15 March 2014).

Doyle, A. 2014. Interviewing. (online). Available: [http://alisondoyle.typepad.com/alison\\_doyle/interviewing/page/2/](http://alisondoyle.typepad.com/alison_doyle/interviewing/page/2/) (Accessed 15 March 2014).

Drennan, J. 2008. Postgraduate Research Experience Questionnaire: reliability and factor structure with Master's in Nursing graduates. *Journal of Advanced Nursing*, 62 (4): 487-498.

Drennan, J. and Clarke, M. 2009. Coursework master's programmes: the student's experience of research and research supervision. *Studies in Higher Education*, 34 (5): 483-500.

du Pré, R. 2010. *Universities of Technology– Deepening the Debate*. Pretoria: Council on Higher Education.

Dunn, R. S. and Dunn, K. J. 1979. Learning Styles/Teaching Styles: Should They...Can They...Be Matched? *Educational Leadership*, 36 (4): 238.

Dysthe, O., Samara, A. and Westheim, K. 2006. Multivoiced supervision of Master's students: a case study of alternative supervision practices in higher education. *Studies in Higher Education*, 31 (3): 299-318.

Ellis, E. M. 2001. The impact of race and gender on graduate school socialization, satisfaction with doctoral study, and commitment to degree completion. *Western Journal of Black Studies*, 25 (1): 30.

Engebretson, K., Smith, K., McLaughlin, D., Seibold, C., Terrett, G. and Ryan, E. 2008. The changing reality of research education in Australia and implications for supervision: a review of the literature. *Teaching in Higher Education*, 13 (1): 1-15.

Eraut, M. 2006. Feedback. *Learning in Health & Social Care*, 5 (3): 111-118.

Eysenck, M. W. and Keane, M. T. 1995. *Cognitive Psychology: A Student's Handbook*. East Sussex: Psychology Press.

Faculty of Health Sciences. 2014. Handbook. Department of Chiropractic and Somatology. University of Technology. Durban.

Fink, A. and Kosecoff, J. B. 1985. *How to conduct surveys: A step-by-step guide*: Sage Publications (Beverly Hills).

Fiorin, G. 2010. *Meaning and dyslexia: a study on pronouns, aspect, and quantification*. LOT.

Flanagan, J. 2002. The role of the institution in developing the next generation chiropractor: clinician and researcher. *Journal of Manipulative & Physiological Therapeutics*, 25 (3): 193-196.

Fleming, S. and McKee, G. 2005. The mature student question. *Nurse Education Today*, 25 (3): 230-237.

Foster, S. T. 2010. *Managing quality integrating the supply chain*. 4th ed. New Jersey: Pearson Education Inc.

Fridlund, B. 2006. Writing a scientific manuscript: Some formal and informal proposals. *European Journal of Cardiovascular Nursing*, 5 (3): 185-187.

Gallifa, J. and Batalle, P. 2010. Student Perceptions of Service Quality in a Multi-Campus Higher Education System in Spain. *Quality Assurance in Education: An International Perspective*, 18 (2): 156-170.

Garvin, D. A. 1987. Competing on the eight dimensions of quality. *Harvard Business Review*, 65 (6): 101-109.

Binns, P., Marsh, H. W., Behnia, M., Cheng, J. H. S. and Scalas, L. F. 2009. Using Postgraduate Students' Evaluations of Research Experience to Benchmark Departments and Faculties: Issues and Challenges. *British Journal of Educational Psychology*, 79 (3): 577-598.

Gordon, J. 2012. A study to explore the perceptions that South African chiropractors have regarding the perceived role and impact of research within the profession. M.Tech, Durban University of Technology.

Grant, B. 2006. A Study Investigating the Role of Psychosocial Factors in the Progression of Learners in an Applied Health Sciences Master's Programme- a Higher Education Perspective. M.Tech, Durban University of Technology.

Griffin, R. W. and Moorhead, G. 2010. *Organizational Behavior: Managing People and Organizations*,. Mason, OH: South-Western, Cengage Learning.

Grönroos, C. 1994. From marketing mix to relationship marketing: Towards a paradigm shift in marketing. *Asia-Australia Marketing Journal*, 2 (1): 9-29.

Haas, M., Bronfort, G. and Evans, R. L. 2006. Chiropractic clinical research: progress and recommendations. *Journal of Manipulative Physiological Therapeutics*, 29 (9): 695-706.

Halpern, S. D., Kohn, R., Dornbrand-Lo, A., Metkus, T., Asch, D. A. and Volpp, K. G. 2011. Lottery-Based versus Fixed Incentives to Increase Clinicians' Response to Surveys. *Health services research*, 46 (5): 1663-1674.

Hammick, M. and Acker, S. 1998. Undergraduate research supervision: a gender analysis. *Studies in Higher Education*, 23 (3): 335.

Harmer, J. 1991. The practice of English language teaching. *London/New York*,

Harvey, L. and Green, D. 1993. Defining quality. *Assessment & Evaluation in Higher Education*, 18 (1): 9.

Hawk, C., Cambron, J. and Pahmeyer, D. 2008. Issues in conducting research in chiropractic college clinics. *Journal of Manipulative & Physiological Therapeutics*, 31 (4): 301-307.

Hayes, N. 1994. *Foundations of Psychology: an Introductory Text*. London: Routledge.



Henkin, A. B. and Marchiori, D. M. 2003. Empowerment and organizational commitment of chiropractic faculty. *Journal of Manipulative Physiological Therapeutics*, 26 (5): 275-281.

Hennig-Thurau, T., Langer, M. F. and Hansen, U. 2001. Modeling and Managing Student Loyalty An Approach Based on the Concept of Relationship Quality. *Journal of Service Research*, 3 (4): 331-344.

Hicks, C. M. 2009. *Research methods for clinical therapists: applied project design and analysis*. Elsevier Health Sciences.

Higher Education in Context 2013. *VitalStats Public Higher Education 2011*. (online) Available: [http://www.che.ac.za/sites/default/files/publications/CHE\\_VitalStats\\_2011.pdf](http://www.che.ac.za/sites/default/files/publications/CHE_VitalStats_2011.pdf) (Accessed 15 July 2013).

Higher Education in Context. 2013. South African Higher Education Facts and Figures. (online) Available: [http://www.ufisa.aalto.fi/en/network/cput/facts\\_figures\\_section.pdf](http://www.ufisa.aalto.fi/en/network/cput/facts_figures_section.pdf) (Accessed 15 July 2013).

Hill, F. M. 1995. Managing service quality in higher education: the role of the student as primary consumer. *Quality Assurance in Education*, 3 (3): 10-21.

Hinton, P. R. 2001. *Statistics Explained. A Guide for Social Science Students*. Routledge: Great Britain.

Hoffman, J. C. and Julie, H. 2012. The academic transitional experiences of masters' students at the University of the Western Cape. *Curationis*, 35 (1): 1-8.

Hofstee, E. 2006. *Constructing a good dissertation : a practical guide to finishing a Master's, MBA or PhD on schedule*. Sandton [Johannesburg]: EPE.

Honey, P. and Mumford, A. 1989. *Learning styles questionnaire*. Organization Design and Development, Incorporated.

Howard, R. A., Carver, C. A. and Lane, W. D. 1996. Felder's learning styles, Bloom's taxonomy, and the Kolb learning cycle: tying it all together in the CS2 course. In: *Proceedings of ACM SIGCSE Bulletin*. ACM, 227-231.

Hussain, R. and Wearne, S. 2005. Problems and needs of project management in the process and other industries. *Chemical Engineering Research and Design*, 83 (4): 372-378.

Iacovidou, M., Gibbs, P. and Zopiatis, A. 2009. An Exploratory Use of the Stakeholder Approach to Defining and Measuring Quality: The Case of a Cypriot Higher Education Institution. *Quality in Higher Education*, 15 (2): 147-165.

International Organization for Standardization (ISO). 2013. Education about Standards, Contribution to postgraduate courses. (online). Available: <http://www.iso.org/iso/standards-in-education> (Accessed 12 February 2014).

International Organization for Standardization (ISO). 2014. *ISO 9000 - Quality Management*. (online). Available: [http://www.iso.org/iso/iso\\_9000](http://www.iso.org/iso/iso_9000) (Accessed 12 February 2014).

iParadigms LLC. 2014. *Reduce Plagiarism* (software). (online). Available: [http://turnitin.com/en\\_us/features/originalitycheck](http://turnitin.com/en_us/features/originalitycheck) (Accessed 13 March 2014).

Isik, Z., Arditi, D., Dikmen, I. and Birgonul, M. T. 2009. Impact of corporate strengths/weaknesses on project management competencies. *International Journal of Project Management*, 27 (6): 629-637.

Ismail, A., Abiddin, N. Z. and Hassan, A. 2011. Improving the Development of Postgraduates' Research and Supervision. *International Education Studies*, 4 (1): 78-89.

Ives, G. and Rowley, G. 2005. Supervisor selection or allocation and continuity of supervision: Ph.D. students' progress and outcomes. *Studies in Higher Education*, 30 (5): 535-555.

Jepson, C., Asch, D. A., Hershey, J. C. and Ubel, P. A. 2005. In a mailed physician survey, questionnaire length had a threshold effect on response rate. *Journal of Clinical Epidemiology*, 58 (1): 103-105.

Johnson, C. and Green, B. 2009. Submitting manuscripts to biomedical journals: common errors and helpful solutions. *Journal of Manipulative and Physiological Therapeutics*, 32 (1): 1-12.

Johnson, L., Lee, A. and Green, B. 2000. The PhD and the Autonomous Self: gender, rationality and postgraduate pedagogy. *Studies in Higher Education*, 25 (2): 135-147.

Jussim, L. and Harber, K. D. 2005. Teacher expectations and self-fulfilling prophecies: Knowns and unknowns, resolved and unresolved controversies. *Personality and Social Psychology Review*, 9 (2): 131-155.

Kam, B. H. 1997. Style and quality in research supervision: the supervisor dependency factor. *Higher Education*, 34 (1): 81-103.

Kasprzyk, D., Montaña, D. E., Lawrence, J. S. S. and Phillips, W. R. 2001. The effects of variations in mode of delivery and monetary incentive on physicians' responses to a mailed survey assessing STD practice patterns. *Evaluation & the Health Professions*, 24 (1): 3-17.

Keating, J. C. 1987. Claude O. Watkins: pioneer advocate for clinical scientific chiropractic. *Chiropractic History: The Archives And Journal Of The Association For The History Of Chiropractic*, 7 (2): 11-15.

Kew, M. F. 2006. The assessment of the knowledge and perception of personal trainers within Durban with respect to chiropractic. M.Tech, Durban University of Technology.

Keyter, K. 2010. The Perceptions of South African Chiropractors, Regarding Their Professional Identity. M.Tech, Durban University of Technology.

Kiley, M. and Mullins, G. 2005. Supervisors' conceptions of research: What are they? *Scandinavian Journal of Educational Research*, 49 (3): 245-262.

Kim, E., Newton, F. B., Downey, R. G. and Benton, S. L. 2010. Personal Factors Impacting College Student Success: Constructing College Learning Effectiveness Inventory (CLEI). *College Student Journal*, 44 (1)

King's College London. 2013. *Student Expectations and Perceptions of Higher Education*. (online). Available: <http://www.kcl.ac.uk/study/learningteaching/kli/research/student-experience/student-expectations-perceptions-HE.aspx> (Accessed 25 February 2014).

Knight, K. L. and Ingersoll, C. D. 1996. Structure of a scholarly manuscript: 66 tips for what goes where. *Journal of Athletic Training*, 31 (3): 201.

Kozina, I. 2002. What Determines the Status of Family "Breadwinner"? *Russian Education & Society*, 44 (6): 82-92.

Krupat, E., Sprague, J. M., Wolpaw, D., Haidet, P., Hatem, D. and O'Brien, B. 2011. Thinking critically about critical thinking: ability, disposition or both? *Medical Education*, 45 (6): 625-635.

Langworthy, J. M. and Smink, R. D. 2000. Chiropractic through the eyes of physiotherapists, manual therapists, and osteopaths in The Netherlands. *The Journal of Alternative and Complementary Medicine*, 6 (5): 437-443.

Lapane, K. L., Quilliam, B. J. and Hughes, C. M. 2007. A comparison of two distribution methods on response rates to a patient safety questionnaire in nursing homes. *Journal of the American Medical Directors Association*, 8 (7): 446-452.

Lee, A. and Green, B. 2009. Supervision as metaphor. *Studies in Higher Education*, 34 (6): 615-630.

Lee, H. S. 2013. Major Moderators Influencing the Relationships of Service Quality, Customer Satisfaction and Customer Loyalty. *Asian Social Science*, 9 (2): 1-11.

Leggat, P. A. and Martinez, K. 2010. Exploring emerging issues in research higher degree supervision of professional doctorate students in the health sciences. *Advances In Health Sciences Education: Theory And Practice*, 15 (4): 601-608.

Lekalakala-Mokgele, S. 2008. Expectations of postgraduate nursing students: an inquiry. *Curationis*, 31 (3): 44-50.

Lessing, A. 2009. The examination of research for dissertations and theses. *Acta academica*, 41 (1): 256.

Lessing, A. C. and Schulze, S. 2002. Postgraduate Supervision and Academic Support: Students' Perceptions. *South African Journal of Higher Education*, 16 (2): 139-149.

Lessing, A. C. and Schulze, S. 2003. Lecturers' Experience of Postgraduate Supervision in a Distance Education Context. *South African Journal of Higher Education*, 17 (2): 159-168.

Lessing, N. and Lessing, A. C. 2004. The Supervision of research for dissertation and theses. *Acta Commercii*, 4: 73.

Letcher, D. W. and Neves, J. S. 2010. Determinants of undergraduate business student satisfaction. *Research in Higher Education Journal*, 6

Leung, G. M., Johnston, J. M., Saing, H., Tin, K. Y., Wong, I. O. and Ho, L.-M. 2004. Prepayment was superior to postpayment cash incentives in a randomized postal survey among physicians. *Journal of clinical epidemiology*, 57 (8): 777-784.

Li, S. and Seale, C. 2007. Managing criticism in Ph. D. supervision: a qualitative case study. *Studies in Higher Education*, 32 (4): 511-526.

Lindorff-Larsen, K., Højgaard Rasmussen, H., Kondrup, J., Staun, M. and Ladefoged, K. 2007. Management and perception of hospital undernutrition. A positive change among Danish doctors and nurses. *Clinical Nutrition*, 26 (3): 371-378.

Lindström, M. 2008. Social capital, anticipated ethnic discrimination and self-reported psychological health: A population-based study. *Social Science & Medicine*, 66 (1): 1-13.

Louw, J. D. 2005. The knowledge of general practitioners about chiropractic as a factor that may influence health care integration in South Africa. M.Tech, Durban University of Technology.

Lovitts, B. E. 2005. Being a good course-taker is not enough: a theoretical perspective on the transition to independent research. *Studies in Higher Education*, 30 (2): 137-154.

Lovitts, B. E. 2008. The Transition to Independent Research: Who Makes It, Who Doesn't, and Why. *Journal of Higher Education*, 79 (3): 296-325.

Mackinnon, J. 2004. Academic Supervision: seeking metaphors and models for quality. *Journal of Further & Higher Education*, 28 (4): 395-405.

Malfroy, J. 2005. Doctoral supervision, workplace research and changing pedagogic practices. *Higher Education Research & Development*, 24 (2): 165-178.

Manathunga, C. 2007. Supervision as mentoring: the role of power and boundary crossing. *Studies in Continuing Education*, 29 (2): 207-221.

Manathunga, C. 2009. Supervision as a contested space: a response. *Teaching in Higher Education*, 14 (3): 341-345.

Martin, C. J. H. and Fleming, V. 2010. A 15-step model for writing a research proposal. *British Journal of Midwifery*, 18 (12): 791-798.

Martin, Y. M., Maclachlan, M. and Karmel, T. 2001. *Postgraduate completion rates*. Department of Education, Training and Youth Affairs Canberra.

Maund, L. 1999. *Understanding People and Organisations: An introduction to organisational behaviour*. Stanley Thornes.

Mazloomdoost, D., Mehregan, S., Mahmoudi, H., Soltani, A. and Embi, P. J. 2007. Perceived barriers to information access among medical residents in Iran: obstacles to answering clinical queries in settings with limited Internet accessibility. In: *Proceedings of AMIA Annual Symposium proceedings*. American Medical Informatics Association, 523.

McAlpine, L. and Norton, J. 2006. Reframing our approach to doctoral programs: an integrative framework for action and research. *Higher Education Research & Development*, 25 (1): 3-17.

McCormack, C. 2004. Tensions between student and institutional conceptions of postgraduate research. *Studies in Higher Education*, 29 (3): 319-334.

McCoy, M. 2008. Professional attitudes regarding research -- changing the culture one student at a time. *Journal of the Canadian Chiropractic Association*, 52 (3): 143-148.

McKenna, S. 2004. The intersection between academic literacies and student identities. *South African Journal of Higher Education*, 18 (3): 269-280.

McPhail, J. and Erwee, R. 2000. Developing professional relationships between supervisors and doctoral candidates. *Australian Journal of Management and Organisational Behaviour*, 3 (1): 76-90.

Mdepa, W. and Tshiwula, L. 2012. Student diversity in South African higher education. *Widening Participation and Lifelong Learning*, 10 (special issue).

Meelissen, M. R. M. and Drent, M. 2008. Gender differences in computer attitudes: Does the school matter. *Computers in Human Behavior*, 24: 969-985.

Meseke, C. A., Nafziger, R. and Meseke, J. K. 2010. Student attitudes, satisfaction, and learning in a collaborative testing environment. *Journal of Chiropractic Education*, 24 (1): 19-29.

Meyer, J. H. F., Shanahan, M. P. and Laugksch, R. C. 2007. Students' Conceptions of Research. 2: An exploration of contrasting patterns of variation. *Scandinavian Journal of Educational Research*, 51 (4): 415-433.

Moher, D., Hopewell, S., Schulz, K. F., Montori, V., Gøtzsche, P. C., Devereaux, P. J., Elbourne, D., Egger, M. and Altman, D. G. 2010. CONSORT 2010 Explanation and Elaboration: updated guidelines for reporting parallel group randomised trials.

Moonsamy, G. V. and Singh, S. 2012. A 21st century framework for quality management. *African Journal of Business Management*, 6 (45): 11231-11242.

Moore, D. and Bowden-Everson, J. L.-H. 2012. An Appealing Connection-The Role of Relationship Marketing in the Attraction and Retention of Students in an Australian Tertiary Context. *Asian Social Science*, 8 (14): 65-80.

Mountford, H., Jones, S. and Tucker, B. 2006. Learning styles of entry-level physiotherapy students. *Advances in Physiotherapy*, 8 (3): 128-136.

Mouton, J. 2001. *How to succeed in your Master's & Doctoral Studies*. Pretoria: Van Schaik.

Mrozek, J. P., Till, H., Taylor-Vaisey, A. L. and Wickes, D. 2006. Research in chiropractic education: an update. *Journal of Manipulative & Physiological Therapeutics*, 29 (9): 762-773.

Mulder, R. H. 2013. Exploring feedback incidents, their characteristics and the informal learning activities that emanate from them. *European Journal of Training and Development*, 37 (1): 49-71.

Murphy, D., Schneider, MJ, Seaman, DR, Perle, SM, Nelson CF. 2008. How can chiropractic become a respected mainstream profession? The example of podiatry. *Chiropractic & Osteopathy*, 16 (10): 1-9.

Murphy, K. L. 2010. Perceptions of the Student Teaching Triad: An Inquiry into Relationships and Supervision. *Asian Journal of Physical Education & Recreation*, 16 (1): 53-66.

- Murtonen, M. 2005. University Students' Research Orientations: Do negative attitudes exist toward quantitative methods? *Scandinavian Journal of Educational Research*, 49 (3): 263-280.
- Mutula, S. M. 2011. Challenges of postgraduate research: case of developing countries. *South African Journal of Library & Information Science*, 77 (2): 184.
- Myburgh, C. and Mouton, J. 2007. Developmental issues in chiropractic: a South African practitioner and patient perspective. *Journal of Manipulative & Physiological Therapeutics*, 30 (3): 206-214.
- Neill, U. S. 2007. How to write a scientific masterpiece. *Journal of clinical investigation*, 117 (12): 3599-3602.
- Nerurkar, R. 2008. Basics of statistics for postgraduates. *Indian Journal of Dermatology, Venereology and Leprology*, 74 (6): 691-695.
- Newell, D. and Cunliffe, C. 2003. Attitudes toward research in undergraduate chiropractic students. *Clinical chiropractic*, 6 (3): 109-119.
- North, D., Zewotir, T. and Murray, M. 2011. Demographic and academic factors affecting research productivity at the University of KwaZulu-Natal. *South African Journal of Higher Education*, 25 (7): 1416-1428.
- Nulty, D., Kiley, M. and Meyers, N. 2009. Promoting and recognising excellence in the supervision of research students: an evidence-based framework. *Assessment & Evaluation in Higher Education*, 34 (6): 693-707.
- Nyiendo, J., Haas, M. and Hondras, M. A. 1997. Outcomes research in chiropractic: the state of the art and recommendations for the chiropractic research agenda. *Journal of Manipulative & Physiological Therapeutics*, 20 (3): 185-200.
- Oplatka, I. 2009. Marketing the university: the subjective perceptions of Israeli academics of their role in attracting new students to their institution. *Journal of Higher Education Policy & Management*, 31 (3): 207-217.
- Parasuraman, A., Berry, L. L. and Zeithaml, V. A. 1993. More on improving service quality measurement. *Journal of Retailing*, 69 (1): 140-147.



Parasuraman, A., Zeithaml, V. A. and Berry, L. L. 1985. A conceptual model of service quality and its implications for future research. *Journal of Marketing*, 49 (4)

Parasuraman, A., Zeithaml, V. A. and Berry, L. L. 1994a. Reassessment of Expectations as a Comparison Standard in Measuring Service Quality: Implications for Further Research. *Journal of Marketing*, 58 (1): 111-124.

Parasuraman, A., Zeithaml, V. A. and Berry, L. L. 1994b. Reassessment of expectations as a comparison standard in measuring service quality: implications for further research. *the Journal of Marketing*: 111-124.

Park, J.-G. and Lee, J. 2014. Knowledge sharing in information systems development projects: Explicating the role of dependence and trust. *International Journal of Project Management*, 32: 153-165.

Pearson, M. and Brew, A. 2002. Research training and supervision development. *Studies in Higher Education*, 27 (2): 135-150.

Phillips, E. M. and Pugh, D. S. 2000. *How to get a PhD A handbook for students and their supervisors*. 3rd ed. Buckingham: Open University Press.

Pierson, D. J. 2004. The top 10 reasons why manuscripts are not accepted for publication. *Respiratory care*, 49 (10): 1246-1252.

Pilcher, N. 2011. The UK postgraduate Masters dissertation: an 'elusive chameleon'? *Teaching in Higher Education*, 16 (1): 29-40.

Pillay, H. 2002. Understanding Learner-centredness: does it consider the diverse needs of individuals? *Studies in Continuing Education*, 24 (1): 93-102.

Pintrich, P. R. 2002. The role of metacognitive knowledge in learning, teaching, and assessing. *Theory into practice*, 41 (4): 219-225.

Porter, L. W., Bigley, G. A. and Steers, R. M. 2003. *Motivation and work behavior*. McGraw-Hill/Irwin New York.

Redshaw, C. H. and Frampton, I. 2008. Optimising inter-disciplinary problem-based learning in postgraduate environmental and science education: Recommendations from a case study. *International Journal of Environmental & Science Education*, 3 (3)

Referencing Guide - Harvard Referencing Style. 2012. Durban University of Technology Library. Durban.

Rendón, L. I., Jalomo, R. E. and Nora, A. 2000. Theoretical considerations in the study of minority student retention in higher education. *Reworking the student departure puzzle*, 1: 127-156.

Republic of South Africa. 2011. *Department of Higher Education and Training*. 34883. Pretoria: 26 June 2013).

Research and Postgraduate Support Guide. 2014. *Postgraduate Student Guide 2014* (online). Available: [http://www.dut.ac.za/sites/default/files/research\\_postgrad/postgraduate\\_student\\_guide.pdf](http://www.dut.ac.za/sites/default/files/research_postgrad/postgraduate_student_guide.pdf) (Accessed 13 March 2014).

Research Handbook. 2011. Department of Chiropractic and Somatology. Durban University of Technology. Durban.

Rieder, R. 2010. The attitudes of Chiropractic students towards research at Durban University of Technology. M.Tech, Durban University of Technology.

Riley, D. L., Stewart, D. E. and Grace, S. L. 2007. Continuity of cardiac care: cardiac rehabilitation participation and other correlates. *International journal of cardiology*, 119 (3): 326-333.

Robertson, J., Walkom, E. J. and McGettigan, P. 2005. Response rates and representativeness: a lottery incentive improves physician survey return rates. *Pharmacoepidemiology and drug safety*, 14 (8): 571-577.

Rodrigues, J. F., Levay Lehmann, Â. V. and Fleith, D. D. S. 2005. Factors Mediating the Interactions between Adviser and Advisee during the Master's Thesis Project: a quantitative approach. *Quality in Higher Education*, 11 (2): 117-127.

Ross-Adjie, G. M., Leslie, G. and Gillman, L. 2007. Occupational stress in the ED: What matters to nurses? *Australasian Emergency Nursing Journal*, 10 (3): 117-123.

Sawyer, C., Haas, M., Nelson, C. and Elkington, W. 1997. Clinical research within the chiropractic profession: status, needs and recommendations. *Journal of Manipulative & Physiological Therapeutics*, 20 (3): 169-178.

Sayed, Y., Kruss, G. and Badat, S. 1998. Students' Experience of Postgraduate Supervision at the University of the Western Cape. *Journal of Further & Higher Education*, 22 (3): 275.

Schlebusch, G. and Thobedi, M. 2004. Outcomes-based education in the English second language classroom in South Africa. *The qualitative report*, 9 (1): 35-48.

Schutz, C. M., Gallagher, M. L. and Tepe, R. E. 2011. Differences in Learning and Study Strategies: Inventory Scores Between Chiropractic Students With Lower and Higher Grade Point Averages. *Journal of Chiropractic Education*, 25 (1): 5-10.

Sen, E. and Yurtsever, S. 2007. Difficulties experienced by families with disabled children. *Journal for Specialists in Pediatric Nursing*, 12 (4): 238-252.

Severinsson, E. 2012. Research supervision: supervisory style, research-related tasks, importance and quality - part 1. *Journal of Nursing Management*, 20 (2): 215-223.

Shah, A. 2009. The impact of quality on satisfaction, revenue, and cost as perceived by providers of higher education. *Journal of Marketing for Higher Education*, 19 (2): 125-141.

Shekarchizadeh, A., Rasli, A. and Hon-Tat, H. 2011. SERVQUAL in Malaysian universities: perspectives of international students. *Business Process Management Journal*, 17 (1): 67-81.

Silverman, D. 2001. *Interpreting Qualitative Data: Methods for Analysing Talk, Text and Interaction*. 2nd ed. Great Britain: Sage Publications.

Singer, A. J. and Hollander, J. E. 2009. How to write a manuscript. *The Journal of emergency medicine*, 36 (1): 89-93.

Snyder, M., Tanke, E. D. and Berscheid, E. 1977. Social Perception and Interpersonal Behavior: On the Self-Fulfilling Nature of Social stereotypes. *Journal of Personality and Social Psychology*, 35 (9): 656-666.

South Africa. 2011. *The General and Further Education and Training Qualifications Framework*.(Notice 34883).

South Africa Qualifications Authority. 2012. *The south african qualifications authority - Level Descriptors for the South African,National Qualifications Framework*. Waterkloof: South Africa Qualifications Authority. Available: [http://www.saqa.org.za/docs/misc/level\\_descriptors.pdf](http://www.saqa.org.za/docs/misc/level_descriptors.pdf) (Accessed 10 July 2013).

*The South African Concise Oxford Dictionary*. 2002. Cape Town: Oxford University Press.

Ssegawa, J. and Rwelamila, P. 2009. The research skill factor as a cause for high postgraduate attrition rate. *Journal of Engineering, Design and Technology*, 7 (3): 293-322.

Stodnick, M. and Rogers, P. 2008. Using SERVQUAL to Measure the Quality of the Classroom Experience. *Decision Sciences Journal of Innovative Education*, 6 (1): 115-133.

Straus, S. E. and Sackett, D. L. 2012. Clinician-trialist rounds: 10. Mentoring - part 4: attributes of an effective mentor. *Clinical Trials (London, England)*, 9 (3): 367-369.

Sumaedi, S., Bakti, I. G. M. Y. and Metasari, N. 2011. The Effect of Students' Perceived Service Quality and Perceived Price on Student Satisfaction. *Management Science & Engineering*, 5 (1): 88-97.

Suter, E., Vanderheyden, L. C., Trojan, L. S., Verhoef, M. J. and Armitage, G. D. 2007. How important is research-based practice to chiropractors and massage therapists? *Journal of Manipulative & Physiological Therapeutics*, 30 (2): 109-115.

Swinscow, T. D. V. 1996. *Statistics at Square One*. 9th ed. Great Britain: British Medical Journal Publishing Group.

Symon, A. G., McStea, B. and Murphy-Black, T. 2006. An exploratory mixed-methods study of Scottish midwives' understandings and perceptions of clinical near misses in maternity care. *Midwifery*, 22 (2): 125-136.

Talmage, G. 2007. An exploratory mixed-methods study to determine factors which may affect satisfaction levels of patients outside of a clinical setting. M.Tech, Durban University of Technology.

Tan, K. C. and Kek, S. W. 2004. Service quality in Higher Education using an enhanced SERVQUAL approach. *Quality in Higher Education*, 10 (1): 17-24.

Teferra, D. and Altbachl, P. G. 2004. African higher education: Challenges for the 21st century. *Higher Education*, 47 (1): 21-50.

Thapar, N., Warner, G., Drainoni, M.-L., Williams, S. R., Ditchfield, H., Wierbicky, J. and Nesathurai, S. 2004. A pilot study of functional access to public buildings and facilities for persons with impairments. *Disability & Rehabilitation*, 26 (5): 280-289.

Tharaldsen, J., Olsen, E. and Rundmo, T. 2008. A longitudinal study of safety climate on the Norwegian continental shelf. *Safety Science*, 46 (3): 427-439.

The National Center for Learning Disabilities Inc. 2014. *Dyslexia*. Available: <http://www.ncld.org/types-learning-disabilities/dyslexia> (Accessed 28 February 2014).

Thomas, J. and Mengel, T. 2008. Preparing project managers to deal with complexity. Advanced project management education. *International Journal of Project Management*, 26 (3): 304-315.

Thomson Reuters. 2014. *EndNote* (software). Available: <http://www.endnote.com> (Accessed 1 February 2014).

Till, A. and Till, H. 2000. Integration of chiropractic education into a hospital setting: a South African experience. *Journal of Manipulative & Physiological Therapeutics*, 23 (2): 130-133.

Tobbell, J. O'Donnell, V. and Zammit, M. 2010. Exploring transition to postgraduate study: shifting identities in interaction with communities, practice and participation. *British Educational Research*, 36 (2):261-278.

Tompson, A. 2006. How to write an English medical manuscript that will be published and have impact. *Surgery today*, 36 (5): 407-409.

Toncich, D. 2000. *Key factors in postgraduate research*. Brighton, Australia: Chrystobel Engineering.

Triano, J. J. 2009. Making lives better through practice and research. *Journal of the Canadian Chiropractic Association*, 53 (2): 87-94.

Unsworth, K. L., Turner, N., Williams, H. M. and Piccin-Houle, S. 2010. Giving thanks: The relational context of gratitude in postgraduate supervision. *Studies in Higher Education*, 35 (8): 871-888.

Van As, R. K. 2005. The knowledge and perception of vocational councillors in South Africa with respect to chiropractors. M.Tech, Durban University of Technology.

Van Aswegen, E. 2007. Postgraduate supervision: the role of the (language) editor: Sed quis custodiet ipsos custodes?(Juvenal, Satire 6, 346-348). *South African Journal of Higher Education: Postgraduate Supervision 2007: Special Edition 8*, 21: 1142-1154.

Van Der Westhuizen, S., De Beer, M. and Bekwa, N. 2011. Psychological Strengths as Predictors of Postgraduate Students' Academic Achievement. *Journal of Psychology in Africa*, 21 (3): 473-478.

Veeravagu, J., Muthusamy, C. and Marimuthu, R. 2010. Using Bloom's Taxonomy to Gauge Students' Reading Comprehension Performance. *Utiliser la taxonomie de bloom pour evaluer les performances de comprehension ecrite des eleves.*, 6 (3): 205-212.

Vellymalay, S. K. N. 2011. A study of the relationship between Indian parents' education level and their involvement in their children's education. *Kajian Malaysia: Journal of Malaysian Studies*, 29 (2): 47-65.

Vygotsky, L. 1978. Interaction between learning and development. *Readings on the development of children*: 34-41.

Wangler, M. and Wiles, M. 2011. World Federation of Chiropractic/Consortium of European Chiropractic Educators/Association of Chiropractic Colleges Education Conference 2010. *Journal of Chiropractic Education*, 25 (1): 44-56.

Watson, E., Hewitson, P., Brett, J., Bukach, C., Evans, R., Edwards, A., Elwyn, G., Cargill, A. and Austoker, J. 2006. Informed decision making and prostate specific antigen (PSA) testing for prostate cancer: a randomised controlled trial exploring the impact of a brief patient decision aid on men's knowledge, attitudes and intention to be tested. *Patient education and counseling*, 63 (3): 367-379.

Weber, K. A., II and He, X. 2010. Chiropractic students and research: assessing the research culture at a North American chiropractic college. *Journal of Chiropractic Education*, 24 (1): 35-45.

Wilson, L. ed. 2014. *Research Handbook for Chiropractic and Somatology*. Durban: Durban University of Technology, Faculty of Health Sciences.

Winberg, C. 2005. Continuities and discontinuities in the journey from technikon to university of technology. *South African Journal of Higher Education*, 19 (2): 189-200.

Wintre, M. G. and Yaffe, M. 2000. First-year students' adjustment to university life as a function of relationships with parents. *Journal of adolescent research*, 15 (1): 9-37.

Wisker, G., Robinson, G. and Shacham, M. 2007. Postgraduate research success: communities of practice involving cohorts, guardian supervisors and online communities. *Innovations in Education & Teaching International*, 44 (3): 301-320.

World Federation of Chiropractic. 2009. *Definitions of Chiropractic*. (online). Available: [https://www.wfc.org/website/index.php?option=com\\_content&view=article&id=90&Itemid=110](https://www.wfc.org/website/index.php?option=com_content&view=article&id=90&Itemid=110) (Accessed 10 July 2011).

World Health Organisation. 2005. *WHO guidelines on basic training and safety in Chiropractic*. Geneva: World Health Organisation.

World Medical Association Declaration of Helsinki. 2001. Ethical Principles for Medical Research Involving Human Subjects. *Bulletin of the World Health Organization*, 79 (4): 373-374.

Worthen, V. E. And Isakson, R. L. 2003. Enhancing supervisory relationships. Paper presented at the Annual Conference of the American Psychological Association (111<sup>th</sup>, Toronto, ON, Canada, August 7-10, 2003.

Wright, D. B. 1997. *Understanding Statistics. An Introduction for the Social Sciences*. Great Britain: Sage Publications.

Wright, R. E. 1996. Quality factors in higher education: The students' viewpoint. *College Student Journal*, 30 (2): 269.

Wright, T. and Cochrane, R. 2000. Factors Influencing Successful Submission of PhD Theses. *Studies in Higher Education*, 25 (2): 181-195.

Yang, L.-R., Huang, C.-F. and Wu, K.-S. 2011. The association among project manager's leadership style, teamwork and project success. *International Journal of Project Management*, 29 (3): 258-267.

Yelkikalan, N. and Ayhun, S. E. 2013. Examination of the conflicts between X and Y generations: Research for academicians. *European Scientific Journal*, 9 (19): 19-33.

Yukl, G. 2008. How leaders influence organizational effectiveness. *The Leadership Quarterly*, 19 (6): 708-722.

Zeithaml, V. A. and Berry, L. L. 1988. Communication and Control Processes in the Delivery of Services. *Journal of Marketing*, 52 (2): 35-48.

Zhang, J. Q. 1996. Research attitudes among chiropractic college students. *Journal of Manipulative & Physiological Therapeutics*, 19 (7): 446-453.



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## Appendix 1: Research and Ethics Committee Approval Form



31 March 2011

Reference: Proposal Ratification: BG JONES, Student number 18700879

Dear Ms Jones

### MASTERS DEGREE OF TECHNOLOGY: QUALITY

This serves to confirm the ratification of your research proposal by the Higher Degrees Committee, at its meeting on 03 March 2011, as follows:

1. Research proposal and provisional dissertation title:

**FACTORS IN POSTGRADUATE SUPERVISION THAT IMPACT ON THE QUALITY OF RESEARCH AT A SELECTED DEPARTMENT AT A UNIVERSITY OF TECHNOLOGY**

Supervisor: Dr C Korporaal

Co-supervisor: Dr S Singh

Please note that any proposed changes in the dissertation title require the approval of your supervisor/s, the Faculty Research Committee, as well as ratification thereof by the Higher Degrees Committee.

2. Research budget to the amount of R10 000.00

Please note that this funding is not a scholarship or bursary and is therefore not paid directly to you, but is controlled by your supervisor. Any proposed changes to use of this funding allocation require the approval of your supervisor and the Faculty Research Committee.

The Institutional Research Committee has stipulated that:

- (a) The funding for the Research budget allocated to you is subject to compliance with the Intellectual Property Rights from Publicly Financed Research and Development Act No. 51, 2008 (including the Regulations) in force from time to time;
- (b) This University retains the ownership of any Intellectual Property (patent, design, etc.) registered in respect of the results of your Masters/Doctors Degree in Technology studies as a result of the award and the provisions of the above Act;
- (c) Should any amounts accrue to you in respect of the disposal of any tangible assets developed or created during the course and scope of your Masters/Doctors Degree in Technology, such amount will first be directed towards repaying the University the funding

For approval and signature of the Institutional Research Committee, please refer to the attached document.



investment which the University has made in approving your request for funding, with the balance being retained by you;

- (d) If the University provided the equipment/materials for the creation of artefacts, this cost must be refunded to the University if such artefacts are sold;
- (e) Should you find any of the terms above not acceptable then you are given the option to decline the Research budget award to your project in writing.

May we remind you that in terms of Rule G25(2)(b), if you fail to obtain the Masters/Doctors degree within the maximum time period allowed after first registering for the qualification, Senate may refuse to renew your registration or may impose any conditions it deems fit. You may apply to the Faculty Research Committee for an extension.

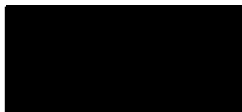
Please note that you are required to re-register each year.

Should you experience any problems relating to your research, your supervisor must be informed of the matter as soon as possible. If the difficulties persist, you should then approach your Head of Department and thereafter the Executive Dean of the Faculty.

Please refer to the 2011 General Rule Book concerning the rules relating to postgraduate studies, which include *inter alia* acceptable minimum and maximum timeframes, submission of thesis/dissertations, etc. You are also advised to read the Postgraduate Students' Guide which is available on the DUT website.

Please do not hesitate to contact this office for any assistance. We wish you success in your studies.

Kind regards,



Prof S Moyo

Interim Director: Postgraduate Development and Support

Cc Faculty officer: Ms R Pankhurst

TIP Research Finance: Ms R Govender

Head of Department: Mr R Naidoo

Supervisor: Dr C Korporaal

## Appendix 2

### Letter to Head of Department to request permission to place an advertisement on their departmental notice board

16 Melrose Avenue  
Westville  
3630

24 August 2010

Heads of Departments

To whom it may concern

#### LETTER TO REQUEST PERMISSION TO PLACE AN ADVERTISEMENT ON YOUR DEPARTMENT'S NOTICE BOARD

I have registered with the Faculty of Management Sciences, Department of Operations and Quality Management to start my MTech in Quality. As part of my Master's degree qualification, I wish to conduct a survey to assess the knowledge, perceptions and expectations of students and their supervisors when they participate in research.

**The title of my study is:**

Factors in postgraduate supervision that impact on the quality of research at a selected department at a University of Technology

**Name of research student:**

Bronwyn Jones

Contact number: (084 4478120)

**Name of research supervisor:**

Dr C. Korporaal

Contact number: (031 3732611)

M. Tech: Chiropractic, CCFC, CCSP, ICSSD

I am writing to you to request permission to place an advertisement on your department's notice board to recruit students and supervisors to participate in my study.

Yours faithfully

Bronwyn Jones

If you accept my request please will you print and sign your name and tear off this reply slip:

-----  
Code

Permission is hereby given to Bronwyn Jones to place an advertisement recruiting supervisors and their students to participate in research entitled: Factors within the research student and supervisor relationship that impact on the quality of research at a selected University of Technology.

Name:..... Head of Department of .....

Date:..... Signature: .....

Thank you

## LETTER OF INFORMATION AND CONSENT FORM – FOCUS GROUP (PHASE ONE)

I would like to welcome you to this focus group and to thank you for participating in my study.

Factors within the research student and research supervisor relationship that impact on the quality of research at a selected University of Technology

Bronwyn Jones                      Contact number: (084 4478120)

Dr C. Korporaal Contact number: (031 3732611)  
M. Tech: Chiropractic, CCFC, CCSP, ICSSD

Dr S. Singh                                  Contact number: (031 373 5159)  
Senior lecturer: Department of Operations and Quality Management

The reason for holding this focus group is to stimulate your thinking about the research topic and to encourage you to develop ideas about it (Salant and Dillman, 1994). Therefore, you as the postgraduate / proof-reader / editor and quality representative would be required to comment on the appropriateness or inappropriateness of this particular checklist. Please comment on it as if it were a tool to assess quality criteria for assessing research. Focus groups according to Salant and Dillman (1994) also encourages individuals other than those participating in the research process to support the research by increasing the relevance of the research.

In order to do this, I, the researcher, will proceed to read each question from this checklist, out aloud to you, in a sequential fashion. In this way each question will be put forward to you to determine if the questions will be, according to Hicks (2004) and Bernard (2000):

- relevant to the study;
- understandable and unambiguous; and if the
- clear in setting out the research requirement.

This research would require you as members of this focus group to assist in highlighting as many pertinent factors as possible related to identifying the necessary criteria related to submitting research. It will enable me, as the researcher to gather feedback from you, as representatives with expert knowledge related to the specific requirements that promotes quality in research. Please will you critically assess the relevance of the criteria stated on the checklist by:

- Deleting, adding to or inserting more information (Foster, 2004),

so to improve on the clarity of the statements presented. For this to be done, the group needs to democratically reach a consensus that the new adjusted statement would be more easily understood and interpreted by the layman (Mouton, 2001). For examination purposes, this meeting will be recorded as evidence of the individuals involved and the content of the discussion. (Silverman, 2001).

Your participation in this study is much appreciated and you are assured that your comments and contributions pertaining to the discussion will be kept confidential. The results of the discussion will only be used for the purposes of research.

Bronwyn Jones  
084 447 8120 / 031 337 2533

[illegible]

**INFORMED CONSENT FORM (PHASE ONE)**  
**(TO BE COMPLETED BY THE PARTICIPANTS OF THE FOCUS GROUPS)**

**Title of research**

Factors in Postgraduate supervision that impact on the quality of research at a selected department at a University of Technology

<b>NAME OF RESEARCHER</b>	Bronwyn Jones	Contact number 084 447 8120
<b>NAME OF SUPERVISOR</b>	Dr C. Korporaal	Contact number 031-373 2611
<b>NAME OF CO-SUPERVISOR</b>	Dr S. Singh	Contact number 031 373 5159

Please circle the appropriate answer:

- |  | <b>YES</b> | <b>NO</b> |
|--|------------|-----------|
| 1 Have you read the research information sheet?  | Yes        | No        |
| 2 Have you had an opportunity to ask questions regarding this study?                             | Yes        | No        |
| 3 Have you received satisfactory answers to your questions?                                      | Yes        | No        |
| 4 Have you had an opportunity to discuss this study?   | Yes        | No        |
| 5 Have you received enough information about this study?   | Yes        | No        |
| 6 Do you understand the implications of your involvement in this study?                          | Yes        | No        |
| 7 Do you understand that you are free to:  | Yes        | No        |
| a) Withdraw from this study at any time?   | Yes        | No        |
| b) Withdraw from this study at any time, without giving reasons?                                 | Yes        | No        |
| c) Withdraw from the study at any time without affecting your future studies at the University?. |            |           |
| 8 Do you agree to voluntarily participate in this study?   | Yes        | No        |
| 9 Who have you spoken to regarding this study?_____  | Yes        | No        |

If you have answered NO to any of the above, please obtain the necessary information from the researcher and / or supervisor before signing. Thank you.

**Please print in block letters:**

Focus Group Member:	Signature:	Date:
Witness Name:	Signature	Date:
Researcher's Name:	Signature:	Date:
Supervisor's Name:	Signature	Date:



## CODE OF CONDUCT AND CONFIDENTIALITY STATEMENT (PHASE ONE)

**This form needs to be completed by every member of the respective Focus Groups prior to the commencement of the Focus Groups meeting.**

As a member of this committee I agree to abide by the following conditions:

1. All information contained in the research documents and any information discussed during the Focus Group meeting will be kept private and confidential. This is especially binding to any information that may identify any of the participants in the research process.
2. None of this information shall be communicated to any other individual or organization outside of this specific Focus Group as to the decisions of this Focus Group.
3. This information from this Focus Group will be made public in terms of a journal publication, which will in no way identify any participants of this research.

[illegible]

## Appendix 6

### PRE- FOCUS CHECKLIST OF RESEARCH REQUIREMENTS (PHASE ONE)

#### Title of Research

Factors in postgraduate supervision that impact on the quality of research at a selected department at a University of Technology

	Measurement tool to assess research quality in non-clinical research papers	An x indicates a problem area	A ✓ indicates a correct work
1	Plagiarism of published work . automatic failure		
2	Plagiarism of other students work . automatic failure		
<b>3</b>	<b>STRUCTURE</b> (Named in order of requirements)		
4	Cover page (University set page)		
5	Dedication		
6	Abstract		
7	Acknowledgements		
8	Table of Contents		
9	List of Tables		
10	List of Figures		
11	List of Appendices		
12	List of Abbreviations		
13	Definition of Terms		
<b>14</b>	<b>Abstract</b>		
15	Do not use in-text referencing		
16	An abstract for a dissertation must be between 400-500 words		
17	The following heading for your dissertation may be used: Background Objectives Method Results Conclusion/s and Recommendations		
18	Do not use tables, pictures, or diagrams in the abstract		
19	Key words follow the abstract		
<b>20</b>	<b>Chapter One: Introduction</b>		
21	1.1 Background		
22	1.2 Aims and Objectives and Null Hypothesis (if required)		
23	1.3 Rationale		
24	1.4 Benefits		
25	1.5 Limitations		
26	1.6 Conclusions		
<b>27</b>	<b>Chapter Two: Literature Review</b>		
28	2.1 Introduction		
29	Write in the past tense		
30	The literature must be critically reviewed . i.e. an extensive search must be carried out concerning your title		
31	Use of tables, figures and / or diagrams is highly suggested		
32	End your literature review with a conclusion		

<b>33</b>	<b>Chapter Three: Methodology</b>		
34	3.1 Introduction		
35	3.2 Study Design		
36	3.3 Methodology		
37	3.3.1 Sampling Procedure		
38	3.3.2 Participant Sampling		
39	3.3.3 Allocation		
40	3.3.4 Sample Characteristics		
41	Inclusion criteria		
42	Exclusion criteria		
43	3.4 Procedure		
44	3.5 Questionnaire Background and Development		
45	3.5.1 Focus Group		
46	3.5.2 Pilot Study		
47	3.5.3 Final Questionnaire		
48	3.5.4 Data Analysis		
<b>49</b>	<b>Chapter 4: Results</b>		
50	4.1 Introduction		
51	4.2 Primary Data		
52	4.3 Secondary Data		
53	4.4 Key of abbreviations in this chapter		
54	4.5 Response Rate		
55	4.6 Discussion of Results		
<b>56</b>	<b>Chapter 5: Discussion</b>		
<b>57</b>	<b>5.1 Introduction</b>		
<b>58</b>	<b>5.2 Discussion of results</b>		
<b>59</b>	<ul style="list-style-type: none"> <li>Your results need to be compared and therefore discussed against the literature that you have stated</li> </ul>		
<b>60</b>	<ul style="list-style-type: none"> <li>Write in the past tense</li> </ul>		
61	Chapter 6: Conclusions and Recommendation		
62	References		
63	Appendices		

	<b>Assessment rubric for Common referencing errors</b>	<b>An x indicates a problem area</b>	<b>A ✓ indicates a correct work</b>
64	I feel that your work has been plagiarised from a published source		Automatic failure
65	I feel that your work has been plagiarised from another student		Automatic failure
66	Your work does not include in-text referencing		
67	Your work has some missing in-text referencing		
68	Your work does not include a reference list		
69	Not all in-text references are included in your reference list		
70	References names are spelt incorrectly		
71	References names are differently spelt between in-text and reference list		

72	References names which include dots or %on vowels are not included		
73	References containing two names are not all stated		
74	References containing three names are not all stated		
75	All reference names are not included the first time in use		
76	Reference list is not in alphabetical order		
77	Reference list is not typed in accordance with DUT Harvard referencing		
78	References are very old		
79	The same reference is used too often		
80	New references have been brought into Chapter 4 or 5		
81	In text references have not been stated from most current to oldest		
82	References have been stated mostly at the end of the sentence *		
83	Comparison of references information have not been made		
84	Pp is incorrectly included in the reference list to indicate page numbers		
85	If references have the same name and year, a and b or even c are not included		
86			
87	*Suggested ways of starting a sentence, instead of just typing out your information and following it up with a reference or references.		
88	1. According to Reference (year),		
89	2. Reference (year) indicated / stated / proposed / highlighted / asserted /		
90	3. Research has found ..... (reference, year)		
91	4. Studies have shown ..... (reference, year)		
92	Grammatical errors often found during referencing		
93	1. Have you included a comma after stating the reference and year . see 1		
94	2. Have you included a comma between name and year . see 3 or 4		
95	3. Have you included all full stops, and commas when typing out the reference list		

	<b><u>Common grammatical or errors often found in a Research dissertation</u></b>	<b><u>A X indicates a problem area</u></b>	<b><u>A ✓ indicates a correct work</u></b>
<b><u>96</u></b>	<b><u>Presentation</u></b>		
<b><u>96a</u></b>	<b><u>Cover page as per DUT requirements</u></b>		
<b><u>97</u></b>	<b><u>Page layout</u></b>		
98	Chapters have not been given headings e.g. Chapter 2: Literature Review		
99	Full page justification has not been used		
<b><u>100</u></b>	<b><u>Headings</u></b>		
101	Headings for chapters do not have the same font consistency		
102	Numbered headings are not consecutively numbered		
<b><u>103</u></b>	<b><u>Paragraph structure</u></b>		

104	Spell check is not used		
105	Grammar is poor Common errors, comma is not used correctly after certain words e.g., However,... Similarly,..... In addition,.....		
106	1.5 line spacing is not consistently used		
107	Sentences are too long		
108	Too much repetition		
109	Information has not been thoroughly discussed in the context of your work		
110	Information concerning a study in an overseas country is discussed without drawing down to the relevancy in your country of research e.g. South Africa		
111	Information discussed has lost the Golden Thread		
112	The heading and the information are on separate pages		
113	Information has not been written in the past tense		
114	Not enough scientific information has been included i.e.. not enough evidence to support argument		
115	There are not enough participants in the study for the results to be generalisable		
116	Design of the research has not been fully explained e.g. quantitative or qualitative		
117	Study type of the research has not been fully identified e.g., case study		
118	Design of the questionnaire has not been clearly explained e.g., Likert scale, open or closed ended questions; structured or unstructured questions		
119	Analysis of data collection methods has not been explained i.e. the use of SPSS		
120	Terms such as validity, reliability has not been included or explained against your results		
<b>121</b>	<b>Arithmetic</b>		
122	Arithmetic does not add to total number of respondents. If it does not add to the total specified, the word missing must appear with the number.		
123	Arithmetic is not correct		
124	Arithmetic does not equal to 100%		
125	Numbers must be typed so that units are under units, tens under tens, - this means they are aligned under each other		
<b>126</b>	<b>Diagrams / Pictures / Figures / Tables</b>		
127	Headings for Tables must be above the Table		
128	Tables must be numbered and correlated with numbers in the List		
129	Tables must have headings within the Table		
130	Numbers within the Table must be aligned		
131	Numbers and percentages must not be in the same column		
132	Name of the Figure must be written below it		
133	Diagrams / Pictures/images must be acknowledged		

## Appendix 7

### LETTER OF INFORMATION AND CONSENT FORM (PHASE TWO) STUDENT AND SUPERVISOR FOCUS GROUP

Dear Participant,

I would like to welcome you to this focus group and to thank you for participating in my study.

#### **The title of my research is:**

Factors in postgraduate supervision that impact on the quality of research at a selected department at a University of Technology

#### **NAME OF RESEARCH STUDENT**

Bronwyn Jones Contact number: (084 4478120)

#### **NAME OF RESEARCH SUPERVISOR**

Dr C. Korporaal Contact number: (031 3732611)  
M. Tech: Chiropractic, CCFC, CCSP, ICSSD

#### **NAME OF CO-SUPERVISOR**

Dr S. Singh Contact number: (031 373 5159)  
Senior lecturer: Department Operations and Quality Management

#### **Focus group:**

The reason for holding this focus group is to stimulate individuals thinking about the research topic and to encourage them to develop ideas about it (Salant and Dillman, 1994).

According to these researchers, focus groups also encourages individuals other than those participating in the research process to support it by increasing its relevance.

Therefore, you as students and supervisors would be required to comment on the appropriateness or inappropriateness of these questions to assist in identifying as many pertinent factors as possible that relate to knowledge, perceptions and expectations of the research process. It will enable me, as the researcher to gather feedback from you, as people with similar demographics and characteristics of the participants who will be participating in my study to critically assess the relevance of the questions stated in Student Questionnaire and Supervisor's Questionnaire.

In order to do this, I, the researcher, will proceed to read each question from this questionnaire, out aloud to you, in a sequential fashion. In this way each question will be put forward to you to determine if the questions will be:

- relevant to the study;
- understandable and unambiguous; and if the
- instructions to answer the questions will be clear and simple to follow.

Therefore, please will you:

- add to, insert or delete information that you feel, as a group would promote the essence of this study (Foster, 2004).

This needs to be done to improve on the understanding and interpretation of the questions being asked so the layman can more easily identify with the questions (Mouton, 2001). For examination purposes, this will be recorded as evidence of the individuals involved and the content of the discussion. (Silverman, 2001).

Your participation in this study is much appreciated and you are assured that your comments and contributions pertaining to the discussion will be kept confidential. The results of the discussion will only be used for the purposes of research. If you have any further questions please feel free to contact me: .

Bronwyn Jones  
084 4478120

**Please sign and date the register**

Researcher's  
name (print)     Bronwyn Jones

Researcher's  
signature

Date

Supervisor's name (print) Dr. Charmaine Korporaal

Supervisor's  
signature

Date

Your name  
(print)

Your  
signature

Date

Your name  
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signature

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Date

## Appendix 8

### INFORMED CONSENT FORM (PHASE TWO)

#### (TO BE COMPLETED BY THE PARTICIPANTS OF THE FOCUS GROUPS)

##### Title of research

Factors in postgraduate supervision that impact on the quality of research at a selected department at a University of Technology

<b>NAME OF RESEARCHER</b>	Bronwyn Jones	Contact number 084 447 8120
<b>NAME OF SUPERVISOR</b>	Dr C. Korporaal	Contact number 031-373 2611
<b>NAME OF CO-SUPERVISOR</b>	Dr S. Singh	Contact number 031-373 5159

Please circle the appropriate answer:

- |  | <b>YES</b> | <b>NO</b> |
|--|------------|-----------|
| 1 Have you read the Letter of Information sheet?   | Yes        | No        |
| 2 Have you had an opportunity to ask questions regarding this study?                             | Yes        | No        |
| 3 Have you received satisfactory answers to your questions?                                      | Yes        | No        |
| 4 Have you had an opportunity to discuss this study?   | Yes        | No        |
| 5 Have you received enough information about this study?   | Yes        | No        |
| 6 Do you understand the implications of your involvement in this study?                          | Yes        | No        |
| 7 Do you understand that you are free to:  | Yes        | No        |
| a) Withdraw from this study at any time?   | Yes        | No        |
| b) Withdraw from this study at any time, without giving reasons?                                 | Yes        | No        |
| c) Withdraw from this study at any time without affecting your future studies at the University? |            |           |
| 8 Do you agree to voluntarily participate in this study?   | Yes        | No        |
| 9 Who have you spoken to regarding this study? _____   | Yes        | No        |

If you have answered NO to any of the above, please obtain the necessary information from the researcher and / or supervisor before signing. Thank you.

**Please print in block letters:**

Focus Group Member:	Signature:	Date:
Witness Name:	Signature	Date:
Researcher's Name:	Signature:	Date:
Supervisor's Name:	Signature	Date:



## Appendix 9

## CODE OF CONDUCT AND CONFIDENTIALITY STATEMENT (PHASE TWO)

**This form needs to be completed by every member of the respective Focus Groups prior to the commencement of the Focus Groups meeting.**

As a member of this committee I agree to abide by the following conditions:

1. All information contained in the research documents and any information discussed during the Focus Group meeting will be kept private and confidential. This is especially binding to any information that may identify any of the participants in the research process.
2. None of this information shall be communicated to any other individual or organization outside of this specific Focus Group as to the decisions of this Focus Group.
3. This information from this Focus Group will be made public in terms of a journal publication, which will in no way identify any participants of this research.

[illegible]

## Appendix 10

### PRE-FOCUS STUDENTS' QUESTIONNAIRE (PHASE TWO)

Please note: This questionnaire is anonymous so please do not write your name or student number that may identify you

#### Section A: Demographic Data

Please complete the questionnaire by marking an 'x' in the appropriate block

DEMOGRAPHICS							
1	Age as of today's date						
2	Gender		Female		Male		
3	Ethnicity		White		Black	Coloured	Indian
			Other, please specify				
4	Marital Status		Single	Married	Living together	Separated	Divorced
			Other, please specify				
5	Do you have any dependents i.e., children, elderly people or any other people who are dependant on you for their well-being?		Yes			No	
6	If yes, what age group? And please indicate number of people who fall into that category		0-3 years		4 -7 years		8-12 years
			13-17 years		18-21 years		Young adults with mental or physical challenges living at home
			Older adults with mental or physical challenges living at home		Elderly parents living at home		Extended family members living in your home
			Other, please specify				
7	Please indicate if you have difficulties in the following areas		Using English as the medium of communicating	Dyslexia	Auditory difficulties	Visual difficulties	No difficulties
8	Please indicate if you feel that these challenges .....		Restrict access to library/lecture rooms	Restrict access to supervisor's office	Make it more difficult for me to balance my study, work, and social time	Cause difficulties with writing speedily	Restrict reading journals / books easily
							Restrict hearing my supervisor properly
9	Please indicate your home language		English	Afrikaans	IsiZulu	SiXhosa	SeSotho
			SiSwazi	XiTsonga	SeSwana	TshiVenda	Sepedi
							Other
10	Please indicate the language with which you prefer to write and converse		English	Afrikaans	IsiZulu	SiXhosa	SeSotho
			SiSwazi	XiTsonga	SeTswana	TshiVenda	Sepedi
							Other
11	Please indicate how you are financially supported		Self- funding	Student loan	Parents / guardian	Siblings	Spouse or partner
							Other
12	Do you work part time or full time?			Full time		Part time	
13	Do you have a computer at home?			Yes		No	
14	Do you have internet access at home?			Yes		No	
15	Did you study towards Chiropractic directly after school?			Yes		No	
16	Have you failed a research subject before?			Yes		No	
17	Where are you in the research process?			17.1 - PG4 (DUT 186) has been passed by the department			
17.2 - I am in the data collection phase							
17.3 - I am writing up my mini-dissertation							
17.4 - I am waiting for the proof-readers report							
17.5 - I am waiting the examiners reports							

18	In connection with Q 17 please indicate how long you have been in this stage of the research process?	0 - 8 weeks	2 - 6 months	6 - 9 months	9 - 12 months
		Other, please specify			
19	Please indicate your parents highest level of education			Maternal	Paternal
	19.1 - Achieved a Postgraduate qualification i.e. Masters or PhD.				
	19.2 - Achieved a tertiary undergraduate qualification i.e. BSc or Honours.				
	19.3 - Achieved the National Senior Certificate i.e., completed final year at school.				
	19.4 - Did not complete school.				

## Section B –

		Agree	Disagree
	Research for a Masters degree produces new knowledge		
	Research needs to be completed within 2 years of registration		
	The chiropractic department meets regularly to prevent delay in proposal acceptance		
	After the chiropractic department has accepted the proposed title, it is registered by the Faculty		
	An ethics clearance certificate is a Faculty requirement		
	My supervisor was allocated to me		
	The PG4b completed form needs to be discussed during a departmental meeting involving the student and supervisor		
	Faculty Research Meeting approves the PG4b form		
	My supervisor is required to help me compile my PG4b form		
	I have completed a learning contract with my supervisor		
	My supervisor preferred me not to contact him/her after hours		
	My supervisor always found time to respond to my queries within 24 hours		
	It is my responsibility to confirm the title on my completed mini-dissertation matches my proposal		
	My supervisor insisted I hand in something for him/her to mark within a 2 week period		
	The university's computers are set up with programmes to use to help with referencing e.g. Endnote		
	My supervisor always returned work when he/she promised to do so		
	The university's computers are set up with programmes to use to restrict plagiarism e.g. Turnitin		
	My supervisor regularly recommended reading material		
	My supervisor used different methods to explain work if first time round I didn't understand		
	My research must contain scientific information i.e. jargon related the information being reviewed		
	I am not expected to publish an article based on my findings		
	My supervisor always gave constructive feedback		
	My supervisor contacts me to enquire reasons for delay in handing in work		
	Participants are expected to sign a form giving permission to be involved in the study		
	Unless permission is received all information relating to participants remains confidential		
	The Durban University of Technology uses APA referencing		
	When including a table in your work, the heading (for e.g.) Table 1.1 ethnic group - is stated at the bottom of the table		
	When including a figure in your work, the heading (for e.g.) Figure 1.1 age group - is stated at the top of the figure		
	Tables must be justified to the left		

		Agree	Disagree
	Headings for tables must be in the same font as writing text		
	The correct font for text information is Roman Times		
	The abstract, literature review, methodology, results, discussion, conclusion, and recommendations all include in-text referencing		
	If I am not satisfied with my supervisors teaching methods I know can request another supervisor		
	The hypothesis, if required is written as: %The identified psychosocial factors affect throughput rates+		
	When including a graph in your work, the heading (for e.g.) Graph 1.1 gender . is stated at the top of the graph		
	The Focus Group discussion is usually tape-recorded		
	There is no limit to the length of my mini-dissertation		
	A statistician consultation form is not required		
	I am expected to submit one hard-bound copy to the examiners		
	My supervisor is responsible for storing my completed mini-dissertation		

		Strongly Agree	Agree	Disagree	Strongly Disagree
	I thoroughly enjoyed the research process and I would like to study further				
	My positive relationship with my supervisor was instrumental in helping me with my research				
	The university's computer equipment has up-to-date programmes enabling me to access research material				
	My supervisor made time to listen to my research concerns				
	Research has a negative impact on my personal life				
	The university's library's postgraduate study room is useful				
	I believe research is not necessary for obtaining a chiropractic degree				
	I did not find the research guidebook very useful				
	My supervisor was not interested in my well-being				
	The university's library's staff is very helpful				
	My supervisor was able to answer my questions knowledgeably				
	The university's internet access is fast				
	My supervisor did not understand my research concerns				
	I am able to paraphrase information from journal articles easily				
	The university's open hours for access to research material (internet and books) are convenient				
	My supervisor preferred supervisory group sessions				
	The Focus Group helped formulate my questions in line with my research topic				
	It is not necessary to include a Pilot Group if questions have been accepted by a Focus Group				

		Strongly Agree	Agree	Disagree	Strongly Disagree
	My supervisor always found ways to encourage me				
	The chiropractic staff are all approachable with regards to research information				
	My supervisor often had to refer work to their colleague				
	My supervisor is knowledgeable with regards to the research process				
	My supervisor made sure I knew how to how to access internet research articles				
	My supervisor preferred to domineer our conversations				
	I prefer to work in partnership with my supervisor				
	My supervisor often changed his/her mind concerning previous comments				
	If given the choice I would change my supervisor				
	My supervisor promoted my confidence in understanding/compiling research				
	I prefer accumulating all the information concerning my research topic before doing the writing				
	I have difficulty reading my supervisor's handwriting				
	My supervisor caused me to feel apprehensive in their company				
	I am in a hurry to complete my research				
	My supervisor and co-supervisor did not always agree with each others' comments				
	My supervisor knowledge of the research process was poor				
	My study methods include mind maps				
	My supervisor conscientiously went over my work with me				
	I disagree with my supervisor's intervention but I did what the supervisor thought best				

### Section C:

Please place an 'x' in the relevant block indicating who you believe is responsible for:

		Research administrator	Supervisor	Co-supervisor	Statistician	Proof-reader	student
1	Checking spelling and grammar (including full stops, commas, brackets, inverted commas, dashes, use of capital letters and brackets)						
2	Correct analyses of information in the literature review						
3	Confirming that all relevant information is included in the literature review						
4	Confirming that aims and objectives have been answered						
5	Confirming that the null hypotheses have been included						
6	Ensuring that the correct font type and size has been used						
7	Confirming that plagiarism has not occurred						

		Research admin- istrator	Supervisor	Co- supervisor	Statis- tician	Proof- reader	student
8	Checking that names and spelling of references are correct						
9	Confirming that all in-text references against statements have been included						
10	Checking that all in-text references are included in the reference list						
11	Calculating the sample numbers required for statistical purposes						
12	Booking appointments with the supervisor						
13	Monitoring my progress						
14	Researching the material required for my literature review						
15	Calculating that the arithmetic is correct						
16	Ensuring alignment with numbers is correct, i.e., units below units . tens below tens						
17	Confirming that appendices, are all attached						
18	Proof-reading my work						
19	Ethical clearance has been received						
20	Correct spacing, justification and margins are in place						
21	The abstract has been included						
22	The Table of Contents page numbers match with the information pages in the research paper						
23	Monitoring that each section of work is completed timeously						
24	Confirming that the method of writing out references for e.g., books, journals, interviews, and web-site addresses are correct						
	Storing completed mini-dissertation						
	Contacting the Allied Health Professions Board after confirmation of a Masters Degree has been received						

## Appendix 11

### PRE- FOCUS SUPERVISORS' QUESTIONNAIRE (PHASE TWO)

#### Title of research

Factors in postgraduate supervision that impact on the quality of research at a selected department at a University of Technology

#### Section A: Demographic Data

Please place a tick in the relevant BLOCK

DEMOGRAPHICS							
1	Age as of today's date						
2	Gender	Female		Male			
3	Ethnicity	White	Black	Coloured	Indian		
		Other, please specify					
4	Marital Status	Single	Married	Living together	Separated	Divorced	
		Other, please specify					
5	Do you have any dependants i.e., children, elderly people or any other people who are dependant on you for their well-being?	Yes			No		
6	If yes, what age group? And please indicate number of people who fall into that category.	0-3 years		4 -7 years		8-12 years	
		13-17 years		18-21 years		Young adults with mental or physical challenges living at home	
		Older adults with mental or physical challenges living at home		Elderly parents living at home		Extended family members living in your home	
		Other, please specify					
7	Please indicate your home language	English	Afrikaans	IsiZulu	IsiXhosa	Sesotho	IsiNdebele
		Siswati	Xitsonga	Setswana	Tshivenda	Sepedi	Other
8	Please indicate the language with which you most commonly write and converse	English	Afrikaans	IsiZulu	IsiXhosa	Sesotho	IsiNdebele
		Siswati	Xitsonga	Setswana	Tshivenda	Sepedi	Other
9	Please indicate your highest qualification level	Honours	Masters	PhD	Other-please specify		
10	How long have you been supervising?	0-1 year	More than 1 year but less than 3 years	More than 3 years but less than 5 years	More than 5 years but less than 10 years	More than 10 years	
11	Approximately how many research papers have you <b>supervised?</b>	1-5 papers	6-10	More than 10 but less than 20	More than 20 but less than 50	More than 50 papers	
12	Approximately how many research papers have you submitted for <b>publication?</b>	1-5 papers	6-12	More than 13 but less than 20	More than 20 but less than 35	More than 35	
13	The reason I am supervising is because ..... (more than one option may be ticked)	I was nominated to supervise because the student's area	I accepted the student's request to be their supervisor	I am the only person knowledgeable in the subject area	I need to increase the number of research students I have supervised for professional	Other, please specify	

		of interest matches my subject area of expertise/ interest			development purposes	
14	Please indicate if you have or had difficulties in the following areas	Using English as the medium of communicating	dyslexia	Auditory difficulties	Visual difficulties	No difficulties
15	Please indicate if you feel that these challenges stated in question 7.....	Restrict access to contacting students	Restrict access to conversing with students	Other-please specify		

## Section B: Environment and Previous Experience/ initial stages of research / contact

Please tick in the relevant column which statement best reflects your academic journey with your student:

		Yes	No
1	I have completed a learning contract with my student		
2	I have completed a research methodology course prior to starting my supervisory role		
3	Do you know your student's highest qualification?		
4	Have you had previous experience in submitting large volumes of work i.e. more than 20 pages discussing information		
5	Have you ever chatted to your student prior to taking on the role of supervisor about their interest area		
6	I am aware of the student's previous academic abilities, skills and attitude		
7	I am always open and honest with my student		
8	I feel that I am conscientious towards my student		
9	I have previously participated in Focus Groups and Pilot Groups		
10	I contact my student if I feel they are slow in contacting me regarding their progress		

## Section C: Expectations

Please tick in the relevant column indicating who you believe is responsible for:

		Supervisor	Co-supervisor	Statistician	Proof-reader	student
1	Checking spelling and grammar (including full stops, commas, brackets, inverted commas, dashes, use of capital letters and brackets)					
2	Correct analyses of information in the literature review					
3	Confirming that all relevant information is included in the literature review					
4	Confirming that aims and objectives have been answered					
5	Confirming that the null hypotheses have been included					
6	Ensuring that the correct font type and size has been used					
7	Confirming that plagiarism has not occurred					
8	Checking that names and spelling of references are correct					
9	Confirming that all in-text references has been included					
10	Checking that all in-text references are included in the reference list					



		Supervisor	Co-supervisor	Statistician	Proof-reader	student
11	Calculating the sample numbers required for statistical purposes					
12	Booking appointments to see the supervisor					
13	Monitoring the student's progress					
14	Researching the material required for the literature review					
15	Calculating that the arithmetic is correct					
16	Ensuring alignment with numbers is correct, i.e., units below units . tens below tens					
17	Confirming that appendices, are all attached					
18	Proof-reading the student's work					
19	Ethical clearance has been received					
20	Correct spacing, justification and margins are in place					
21	The abstract has been included					
22	The Table of Contents page numbers match with the information pages in the research paper					
23	Monitoring that each section of work is completed timeously					
24	Confirming that the method of writing out references for e.g., books, journals, interviews, and web-site addresses are correct					

## Section D: Knowledge

Please tick if you agree or disagree with the following statements

		Agree	Disagree
1	The Durban University of Technology uses APA referencing		
2	The Durban University of Technology uses Harvard Referencing		
3	The correct method of referencing for a book with a single author is: Smith, B, (2009) The art of the human body, London, Facet Publishing, ISB 60003421		
4	The correct method of referencing for a journal is: Means, K.M. , O'Sullivan, P.S., Rodell, D.E. (2003) Psychosocial effects of an exercise program in older persons who fall. Journal of Rehabilitation Research & Development, 40(1): 49-58.		
5	The correct method of referencing for a web-site is: Lumpkin, A. The role of the internet in education. Australian Journal of Education [online], 25(5):23-30. Available at: <a href="http://www.indiana.edu.au/intro/role.html">http://www.indiana.edu.au/intro/role.html</a> [accessed 24 March 2010].		
6	Books with multiple authors are referenced as: McNiff, J., & Whitehead, J. (2005). Action research for teachers: A practical guide. London: David Fulton		
7	When including a table in your work, the heading (for e.g.) Table 1.1 ethnic group - is stated at the bottom of the table		
8	When including a figure in your work, the heading (for e.g.) Figure 1.1 age group - is stated at the top of the figure		
9	Tables must be justified to the left		
10	Headings for tables must be in the same font as writing text		
11	The correct font for text information is Roman Times		
12	The abstract, literature review, methodology, results, discussion, conclusion, and recommendations all include in-text referencing		
13	If I am not satisfied with my supervisors teaching methods I know can request another supervisor		
14	The hypothesis, if required is written as: %The identified psychosocial factors affect		

		Agree	Disagree
	throughput rates+		
15	When including a graph in your work, the heading (for e.g.) Graph 1.1 gender . is stated at the top of the graph		

## Section E: Perception

Please rate the following factors by placing a tick in the relevant column to indicate the degree to which you believe these statements affected the quality of student's research

		Strongly Agree	Agree	Disagree	Strongly Disagree
1	Personal conflict with my student existed				
2	Lack of self motivation negatively contributed to the poor progress the student made in their research				
3	I felt that the student struggled to complete their research in the stated time				
4	My student did not advice me of their personal problems				
5	I felt that my student's understanding of the requirements of research was poor				
6	I found it highly stressful working with this student on their research				
7	My student's communication skills contributed to their difficulties				
8	What I thought to be Informative research guidelines did not help my student to understand of the research process				
9	My support and encouragement did not promote my student's confidence				
10	My guidance helped my student prepare for their research				
11	I was able to help my student to relate previous research to their findings				
12	I was able to give sufficient time to my student's questions and concerns				
13	I felt I consistently worked hard at helping my student to write their research				
14	I was able to reply to my student's questions within 24 hours				
15	Resources, i.e., computers with internet and the relevant books on research were readily available				
16	The workshops I attended on supervisory responsibilities helped me to supervise my student's research				
17	Regular support on how to help students write a research paper was offered				
18	I felt my student corrected all errors consciously				
19	I had difficulty helping my student to understand the requirements of the research methodology for this particular paper				
20	I found that the student had difficulty writing up their proposal				
21	I was able to direct my student toward the relevant research material				
22	My experiences in submitting papers for journals positively contributed towards helping my student with their research				
23	I was able to help my student analyse previous research				
24	I advised my student of the relevant workshops on research in sufficient time				
25	I felt my student spoke too much about their private life				
26	I feel that the student may pass with corrections				
27	Sometimes I felt I could not explain things to my student				
28	I felt that my student was very nervous about my their abilities to write up their research				
29	My student was never satisfied with my efforts				
30	I thoroughly enjoy researching information for my student's research paper				

		Strongly Agree	Agree	Disagree	Strongly Disagree
31	I feel it extremely important that research forms part of a student's qualification				
32	I feel my student becomes too sensitive to my constructive criticism				
33	Through a step-by-step process I helped my student to link past research findings to their research findings				
34	I have difficulty getting through to my student, i.e. they don't seem to understand the way I explain information to them				
35	I feel that the time given to complete a research paper from start to finish is not long enough				
36	I feel that the majority of students that I have supervised could go on to further studies i.e. towards a PhD				
37	I feel that the proof-reader has been very helpful in picking up errors				
38	I feel that the co-supervisor has taken on a very supportive role i.e. recommended important information for the literature review or research procedure				
39	I am satisfied with my student's attitude and corrections of their research paper				
40	I have discussed the process of a research dissertation including the different parties responsibilities, and time for completion				
41	I have highlighted the time scale to my student on the duration of time it will take to complete my research				
42	My positive professional relationship with my student has contributed to their confidence				
43	The books that I have recommended to my students are mostly available				
44	I felt the student pressurised me to help them complete their research on time				
45	I felt the student had issues with the way I corrected their work				
46	My student only contacted me when they felt problems arose, by which time there was a great deal more work to undo and redo				
47	I feel that the student does not fully understand me because we use English as a common language of which s/he is not fully fluent				
48	My student was willing to see me afterhours (weekends and at night)				

## Appendix 12

### POST FOCUS / PRE- PILOT CHECKLIST OF RESEARCH REQUIREMENTS (PHASE ONE)

To achieve a mini dissertation of high quality, has the student incorporated the following sections?			PGDS Reqs	
			YES	NO
<b>Sections</b>		<b>Checklist</b>		
<b>Cover page</b>	A1	Does your cover page give the title of your research?		
	A2	Have you stated that this dissertation is in partial compliance with the requirements for your master's degree?		
	A3	Have you declared that this dissertation is representative of your own work?		
	A4	Have you stated your name on the cover page?		
	A5	Have you included that your dissertation has been approved by your supervisor/co-supervisor?		
	A6	Does your cover page state the name(s) of your supervisor / co-supervisor?		
	A7	Have you included your supervisor's / your co-supervisor's qualifications?		
	A8	Have you provided sufficient space, to the right of all names for dates and signatures?		
	A9	Have you avoided numerically numbering your cover page (i.e. 1)?		
	A10	Have you avoided roman numerically numbering your cover page (i.e. i)?		
		<b>Total</b>		
<b>Dedication</b>	B1	Have you numbered this page with roman numerical (e.g., i) . even though this is your second page after your cover page?		
		<b>Total</b>		
<b>Acknowledgements</b>	C1	Have you thanked the relevant parties who may have assisted you?		
	C2	Have you numbered this page with roman numerical (e.g., ii)?		
		<b>Total</b>		
<b>Abstract</b>	D1	Is your abstract written in line with the publication requirements?		
	D2	Have you included the required headings (i.e. Background, Method, Results, and Conclusion)?		
	D3	Have you avoided using references?		
	D4	Have you preceded non-standard abbreviations/acronyms with the term in full?		
	D5	If you have used standard abbreviations such as kg and m are you aware that the full term need not precede them?		
	D6	Have you avoided the use of numbers (e.g., The sample size was 100)?		
	D7	Have you separately paragraphed information under each heading?		
	D8	Have you avoided pictures, tables, diagrams in your abstract?		
	D9	Have you included key words as a follow on from the abstract?		
	D10	Have you numbered this page with roman numerical (e.g. iii)?		
	<b>Total</b>			
<b>Table of Contents</b>	E1	Have you stated: Title page, Acknowledgements, Abstract, Table of Contents, List of Appendices, List of Figures, List of Tables, List of Acronyms; List of Abbreviations and Definition under this heading?		
	E2	Have you checked the pages numbers stated against your headings and sub-headings match the actual page numbering?		
	E3	Is there suitable spacing between page numbers and text information?		
		<b>Total</b>		
<b>List of Tables</b>	F1	Have you included all cited tables?		
		<b>Total</b>		
<b>List of Figures</b>	G1	Have you included all cited figures?		
		<b>Total</b>		
<b>List of Abbreviations</b>	H1	Have you included all abbreviations used?		
		<b>Total</b>		
<b>Chapter One</b>				
<b>Introduction</b>	I1	Have you briefly introduced your research?		
<b>Aim/s and Research Objectives</b>	I2	Have you precisely stated your aim/s of the study?		
	I3	Have you stated your research objective/s?		
	I4	Have you numbered your research objectives under headings?		
<b>Hypothesis / (plural) hypotheses</b>	I5	Have you included the Null hypotheses?		
	I6	Are the null hypotheses written under the specific objective to which it relates?		
	I7	Are the hypotheses written negatively?		
<b>Rationale</b>	I8	Have you numerically stated reasons for conducting this study?		
	I9	Have you motivated your reason/s for the study with in-text references?		
<b>Benefits</b>	I10	Have you stated how this research could benefit a larger population (e.g.,		

To achieve a mini dissertation of high quality, has the student incorporated the following sections?			PGDS Reqs	
			YES	NO
<b>Sections</b>		<b>Checklist</b>		
		other students, university, general population, reduction in costs)?		
<b>Limitations</b>	I11	Have you stated that a degree of bias may unwittingly be portrayed (if the researcher is a student / staff member / employee and the research is part of their vested interest) in terms of their qualification?		
	I12	Have you included the expectation of participants / respondents in completing the questionnaire / subjective measures honestly?		
<b>Outline of Chapters</b>	I13	Have you stated what the reader could expect in each of the chapters?		
	I14	Have you outlined inclusions in this chapter?		
<b>Total</b>				
<b>Chapter Two</b>				
<b>Literature Review</b>	J1	Have you always used your own words, i.e. paraphrased and used in-text referencing?		
	J2	Have you used inverted commas for quotes mentioned?		
	J3	Have you broken up your information under relevant headings . (beginning with an introduction and ending with a conclusion)?		
	J4	Have you regularly referred your review of the information to your particular study?		
	J5	Have you used where possible, mostly current theory, (i.e., within the last 5 years)?		
	J6	Have you indicated below an image/picture its source?		
	J7	Is your information scientifically rigorous?		
	J8	Have you discussed your information, linking it with your title?		
	J9	Is it easy to identify the golden thread of your information?		
<b>Total</b>				
<b>Chapter Three</b>				
<b>Methodology</b>	K1	Have you included all abbreviations pertinent to this chapter?		
<b>Introduction</b>	K2	Have you stated what this chapter will be discussing (e.g., this chapter will describe the research methodology, the development of the questionnaire as well as the collection and analysis of data)?		
<b>Study design</b>	K3	Has the design been stated?		
		Does the compliance of the study design comply with Helsinki Declaration of 1975?		
		Have you stated that you have received ethical clearance?		
<b>Advertising</b>	K4	Have you stated if advertising was required?		
	K5	Have you stated if advertising was not required?		
<b>Sample</b>	K6	Have you described who your sample group?		
<b>Sampling method</b>	K7	Have you state the method of allocation of participants within the sample groups to sub-groups?		
	K8	Have you indicated the appropriate method from the literature?		
<b>Sampling size:</b>	K9	Have you stated the total number of participants you are involving and if they are from different sectors of the country / university or another environment?		
	K10	Have you stated that participants included in the focus group are excluded from the main study?		
<b>Sample characters</b>	K11	Have you included your inclusion and exclusion criteria?		
<b>Research procedure</b>	K12	Have you stated exactly how you proceeded with your research?		
<b>Research tool</b>	K13	Have you stated exactly how you chose your appropriate measurement tool?		
		Have you identified the appropriate procedure for the type of study you have completed (e.g. questionnaires, clinical trials, observations, experimental trials)?		
	K14	<b>If the study is questionnaire based, please answer K14 only:</b>		
		Have you included characteristics of your focus group?		
		Have you stated the necessity of using a focus group?		
		Have you included the information they need to receive to take part?		
		Have you included their corrections and suggestions?		
		Have you included characteristics of your pilot group?		
		Have you included the necessity of using a pilot group?		
		Have you included their corrections and suggestions?		
		Have you included information regarding the final questionnaire?		
		Have you stated the frequency required for completion of the final questionnaire?		
<b>total</b>				

To achieve a mini dissertation of high quality, has the student incorporated the following sections?				PGDS Reqs	
				YES	NO
<b>Sections</b>		<b>Checklist</b>			
	K15	<b>If the research relates to other studies, please answer K15 only:</b>			
		Was there a procedure for choosing the measurement tools?			
		Was cognisance given to reliability?			
		Was cognisance given to specificity?			
		Was cognisance given to sensitivity?			
		Appropriateness of measurement tool to outcomes?			
		total			
	K23	Have you stated your statistical methodology?			
K24	Have you incorporated in-text referencing?				
K25	Have you written in past tense?				
		<b>Total</b>			
<b>Chapter Four</b>					
Results	L1	Have you included an introduction?			
	L2	Have you included all your abbreviations pertinent to this chapter?			
	L3	Have you included what your primary data involves?			
	L4	Have you included what your secondary data involves?			
	L5	Have you stated your response rate?			
	L6	Is the wording in your Bar Graphs / Figures / Tables clearly printed?			
	L7	Have you avoided duplicating results from table form to figure form?			
	L8	Have you stated what you found before showing the table / figure?			
	L9	Have you remembered to use italics when stating $p < 0.05$ ?			
	L10	Have you remembered to state the Table heading above the table?			
	L11	Have you remembered to state the Figure heading below the figure?			
	L12	When referring to a % have you inserted it immediately after the number (e.g. 50 %?)			
	L13	When referring to % in text, have you written it out in full?			
		<b>Total</b>			
<b>Chapter Five</b>					
Discussion	M1	Have you included an introduction?			
	M2	Have you avoided restating the results?			
	M3	Have you compared / contrasted your results with the information you reported in the literature review?			
	M4	Have you remembered to write in the past tense?			
		<b>Total</b>			
<b>Chapter Six</b>					
Conclusions and recommendations	N1	Have you included an introduction?			
	N2	Have you summarised your findings/discussion?			
	N3	Have you offered recommendations concerning perhaps: Improvements to your methodology?			
	N4	Are your recommendations appropriate to your results?			
		<b>Total</b>			
<b>General Errors</b>					
In-text referencing	O1	Have you avoided using older references as supporting theory for more current information (e.g., Newton (2005) explains that the first skill that people need to learn when coming into project management is planning). Datta & Mukherjee (2001) confirms that the initial phase of any project is the planning phase. <b>or</b> However, Bryman (1993) supports Eldabi et al (2002) by stating that .....			
	O2	Does your paragraph structure flow according to year order?			
	O3	Have you always paraphrased your information with the accompanying in-text references?			
	O4	Have you consistently typed multiple in-text references either from most current to oldest or oldest to most current?			
			<b>Total</b>		
Questionnaire	P1	Have you given credit to the original researcher (e.g., adapted from.....)?			
	P2	Have you received permission from the original researcher to use their questionnaire or adapt their questionnaire for your research?			
	P3	Have you referenced any measurement tools that have been utilised?			
		<b>Total</b>			
Inconsistencies	Q1	If you have used a dash between words, have you consistently done so?			
	Q2	If there are two ways to spell a word, have you consistently used the same spelling?			
	Q3	Have you consistently used semi colons / full stops behind each bulleted statement?			

To achieve a mini dissertation of high quality, has the student incorporated the following sections?			PGDS Reqs	
			YES	NO
Sections	Checklist			
	Q4	Have you included UK or SA spelling as opposed to using USA spelling?		
	Total			
Page numbers	R1	Have you avoided numbering your cover (title) page?		
	R2	Have you started numbering your second page, which is your Dedication page with roman numerals ii?		
	R3	Have you numbered all other preliminary pages with roman numerals?		
	R4	Have you numbered pages from Chapter One to the end of the references pages with numbers 1, 2, 3....?		
	Total			
Length	S1	Do your page numbers fall between mini-research guidelines of 60-80 excluding preliminary pages, reference pages and appendices?		
	Total			
Font	T1	Have you used Arial or Times New Roman, size 12 font for normal text?		
	Total			
Spacing	U1	Have you incorporated 1.5 width lines spacing in text?		
	Total			
Headings	W1	Have you typed headings in capital letters and used bold font?		
	W2	Have you avoided indenting headings?		
	Total			
Numbering of sub-headings	X1	Have you sequentially numbered headings to clarify importance and interrelation of events?		
	X2	Have you placed a full-stop between numbers designating subdivisions (e.g., 2.1)?		
	X3	Have you avoided placing a full stop after the last number-unless the number is only one digit (e.g. 2. Introduction or 2.1 Background)?		
	X4	Have you left one space between the number and heading?		
	Total			
Sub-headings	Y1	Have you typed sub-headings in non-capitals and used bold font?		
	Y2	Have you avoided indenting headings?		
	Y3	Have you sequentially numbered headings to clarify importance and interrelation of events?		
	Total			
Language	Z1	Have you sent your dissertation to a reputable proof-reader prior to final submission?		
	Z2	Have you avoided terms such as: ±.....and so onq/ and so forth / etc		
	Z3	Have you avoided emotive terms such as: obviously.....qor eloutq ?		
	Z4	Have you included commas behind the following terms: However,.....Similarly,.....In addition,....., Furthermore, .....Thus,.....As a result of this,.....		
	Z5	Have you remembered to insert a full stop at the end of each sentence?		
	Z6	When you have stated ±.....discussed belowq is the information actually described below?		
	Total			
Numbers	AA1	Have you written out numbers below 10 in full?		
	AA2	Have you avoided starting a sentence with a number?		
	Total			
Abbreviations	BB1	When you have used abbreviations, have you always typed the term out in full prior to the abbreviation?		
	BB2	Have you confirmed abbreviations such as: &, kg, and m, are acceptable to use?		
	Total			
Italics	CC1	Have you only used italics for foreign words or Latin terminology?		
	Total			
Figures	DD1	Have you titled your Figures below the diagram?		
	DD2	Have you ensured your typed words can be clearly read?		
	DD3	Have you included a key to explain abbreviations?		
	DD4	When referring to Figures . have you used a capital letter F?		
	Total			
Table	EE1	Have you titled your Table above it?		
	EE2	When referring to Tables . have you used a capital letter T?		
	EE3	Have you indicated below Tables that you have adapted your work from a particular source?		
	EE4	Have you avoided duplicating all your results from your table in text form?		
	EE5	Have you avoided numbering Tables according to the chapter in which they are cited?		

To achieve a mini dissertation of high quality, has the student incorporated the following sections?			PGDS Reqs	
			YES	NO
Sections	Checklist			
	EE6	Have you avoided repeating the heading of the table in the Table itself?		
	EE7	Have you used vertical and horizontal lines only to separate headings and total portion of the Table?		
	EE8	Have you avoided using footnotes?		
	EE9	Are your headings in lower case-non capitals?		
	EE10	Have you been consistent in using the appropriate format?		
	EE11	Have you used a comma to indicate decimal points?		
	EE12	Have you inserted a 0 in front of decimals less than 1 (e.g. 0, 9)?		
	EE13	Have you included a space between figures which are in their hundreds and thousands (e.g. 1 000)?		
Total				
Layout of text	FF1	Have you always used full page justification?		
	Total			
Paragraph structure	GG1	Have you left a blank space between paragraphs?		
	GG2	Have you started each chapter on a new page?		
	Total			
Footnotes	HH1	Have you avoided using footnotes?		
	Total			
Paper usage	II1	Have you used A4 size (210mm x 297mm) white paper?		
	Total			
Margins	JJ1	Have you incorporated the following margins? Top margin: 25mm		
	JJ2	Right margin: 25mm		
	JJ3	Left margin: 40mm		
	JJ4	Bottom margin: 40mm		
	Total			



## Appendix 13

### PRE-TEST EVALUATION FORM (PHASE TWO)

1 What is your opinion of the subject presented in this questionnaire?

(Please mark the most appropriate box)

- 1.1 Extremely interesting
- 1.2 Interesting
- 1.3 Average
- 1.4 Boring
- 1.5 Very boring


2 Do you think the topics raised in this questionnaire were adequately covered?

- 2.1 Yes
- 2.2 No


3 What is your opinion about the covering letter?

(Please mark one box only)

- 3.1 Very clear
- 3.2 Clear
- 3.3 Adequate
- 3.4 Unclear
- 3.5 Needs revising


4 How would you describe the instructions accompanying each of the questions?

(Please mark one box only)

- 4.1 Very clear
- 4.2 Clear
- 4.3 Adequate
- 4.4 Unclear
- 4.5 Needs revising


5 Do you think the questionnaire is too long?

- 5.1 Yes
- 5.2 No


6 What is your opinion of the wording of the questionnaire?

(Please mark the appropriate box/es)

- 6.1 The meaning of **all** questions is absolutely clear
- 6.2 The meaning of **most** questions is clear
- 6.3 There is too much chiropractic/ medical jargon
- 6.4 The questions will not be understood by lay persons
- 6.5 The questionnaire needs to be revised because it is unclear


If you had any difficulty answering any question/s, please write the number/s of the question/s in the space below with a suggestion on how the question/s can be improved?

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---

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Thank you for your most valuable time in helping me with my research project.  
Please be reminded that the topics discussed above are strictly confidential.

## Appendix 14

### POST FOCUS / PRE- PILOT GROUP STUDENTS' QUESTIONNAIRE (PHASE TWO)

#### Title of Research

Factors in postgraduate supervision that impact on the quality of research at a selected department at a University of Technology

#### Students' Questionnaire

#### Section A: Demographic Data

Please complete the questionnaire by

1. marking a ~~x~~q in the appropriate block
2. writing the required answer.

DEMOGRAPHICS							
1	Age	years					
2	Gender	Female		Male			
3	Ethnicity	Black	Coloured	Indian	White		
		Other, please specify					
4	Current marital status	Divorced	Married	Separated	Single		
		Other, please specify					
5	Do you have any dependents who are reliant on you for their well-being?	Yes			No		
6	If yes, what age group? And please indicate number of people who fall into that category in the same block as your response(s)	0-10 years		10-20 years		Adults with mental or physical challenges living at home	
Elderly parents			Extended family members living in your home				
Other, please specify							
7	Please indicate if you have difficulties in the following areas	Using English as the medium of communicating	Dyslexia	Auditory difficulties	Visual difficulties	Physical difficulties	No difficulties
		Other, please specify					
8	Please indicate if you feel that these challenges .....	Restrict access to library / lecture / toilet rooms	Restrict access to supervisors office	Make it more difficult for me to balance my study, work, and social time	Cause difficulties with writing speedily	Restrict reading journals / books easily	Restrict hearing or speaking to my supervisor properly
		Other, please specify					
9	Please indicate your home language	Afrikaans	English	IsiZulu	Sepedi	SeSotho	SeSwana
		SiNdebele	SiSwazi	SiXhosa	TshiVenda	XiTsonga	
		Other, please specify					
10	Please indicate the language in which you prefer to write	Afrikaans	English	IsiZulu	Sepedi	SeSotho	SeSwana
		SiNdebele	SiSwazi	SiXhosa	TshiVenda	XiTsonga	
		Other, please specify					
11	Please indicate how you are financially supported (more than one option may be crossed)	Self- funding	Student loan	Parents / guardian	Siblings	Spouse or partner	Bursary/ incentives/ scholarship
		Other, please specify					
12	Are you employed?, if yes			Full time		Part time	

13	Do you have a computer at home?	Yes	No
14	Do you have a printer at home?	Yes	No
15	Do you have internet access at home?	Yes	No
16	Did you enrol in M.Tech Chiropractic programme directly after completing school?	Yes	No
17	When did you first register for a M.Tech Chiropractic programme?		
18	Have you completed a masters research before?	Yes	No
19	Have you failed a research subject before?, such as Research Methods and Techniques I and the research module of Chiropractic Principles and Practice III	Yes	No
20	Please indicate your significant other, e.g. parent, partner, role model highest level of education	Post graduate qualification (i.e. Master's or PhD)	Undergraduate qualification (i.e. B.Tech, BSc or Honours)
		National Senior Certificate (i.e., completed final year at school)	Did not complete school
21	Please indicate if you received support from your significant other	Yes	No
22	Did you feel that their knowledge of postgraduate studies aided you in your research?	Yes	No

## Section B

Please place a cross in the box against the statement indicating whether it is True or False

		True	False
1	A supervisor, to guide me with my research, was assigned to me		
2	I have completed a research contract with my supervisor		
3	If I was not satisfied with my supervisors teaching methods I could request another supervisor		
4	My supervisor always gave constructive feedback		
5	My supervisor contacted me to enquire reasons for delay in handing in work		
6	My supervisor was required to help me compile my PG4a form		
7	My supervisor preferred me not to contact him/her after hours		
8	My supervisor recommended reading material related to research		
9	My supervisor responded to the agreed timeframes as per the research contract		
10	My supervisor sets stringent timelines		
11	My supervisor used different methods to explain work if at first I did not understand		
12	My supervisor was able to keep to time lines in returning work		
13	My supervisor is based at the university		
14	After the chiropractic programme has accepted the proposed topic, it is registered by the Faculty of Health Science and Research and Ethics Committee		
15	An ethics clearance certificate is issued by Faculty on a PG4a approval		
16	Faculty approves the PG4a form		
17	The chiropractic programme meets regularly to prevent delay in proposal acceptance		
18	The completed PG4a form needs to be discussed during a chiropractic departmental meeting involving the student and supervisor		
19	A masters student must complete their research within 2 years of registration		
20	My research must contain scientific information i.e. jargon related to the information being reviewed		
21	Research for a masters degree, submitted post examination produces new knowledge		
22	There is no limit to the length of my research		
23	The university's computers provide software to assist with referencing e.g. Endnote		
24	The university's computers provide software to assist with restricting plagiarism e.g. Turnitin		
25	Participants who formed part of my study were expected to sign a form giving permission to be involved in the study		
26	Tables, inclusive of contents, must be justified to the left		
27	The abstract, literature review, methodology, results, discussion, conclusion, and recommendations all include in-text referencing		
28	The correct font for text information is Roman Times Roman		
29	The Durban University of Technology uses APA referencing		
30	The Focus Group discussion is usually tape-recorded		
31	The headings for tables must be in the same font as writing text		
32	The null hypothesis, if required is written as: %The identified psychosocial factors affect throughput rates+		
33	Unless permission was received, all information relating to participants remains confidential		
34	When including a figure in your work, the heading (for e.g. Figure 1.1 age group) - is stated at the top of the figure		
35	When including a graph in your work, the heading (for e.g. Graph 1.1 gender) . is stated at the top of the graph		
36	When including a table in your work, the heading (for e.g. Table 1.1 ethnic group) - is stated at the bottom of the table		
37	A statistician consultation form is not required at completion stage		
38	It is my responsibility to ensure the title of my completed research matches that of my proposal		
39	I am not expected to publish an article based on my findings		
40	I am expected to submit three hard-bound copy to the examiners		
41	My supervisor is responsible for storing my completed hardbound research dissertation		

## Section C

Please place an x in the box against the statement that you believe to be correct

		Strongly Agree	Agree	Disagree	Strongly Disagree
1	I am able to paraphrase research material easily				
2	I believe research is not necessary for obtaining a chiropractic degree				
3	I did not find the research handbook very useful				
4	I disagreed with my supervisor's intervention but I did what the supervisor thought best				
5	I have difficulty reading my supervisor's handwriting				
6	I prefer accumulating all the information concerning my research topic before doing the writing				
7	I prefer to work in partnership with my supervisor				
8	I thoroughly enjoyed the research process				
9	I was in a hurry to complete my research				
10	I would like to study further				
11	If given the choice I would have changed my supervisor				
12	It is not necessary to include a pilot group if questions have been accepted by a focus group				
13	My supervisor caused me to feel apprehensive in discussing research				
14	My supervisor conscientiously went over my work with me				
15	My supervisor did not understand my research concerns				
16	My supervisor dominated our research conversations				
17	My supervisor often changed his/her mind concerning previous corrections				
18	My supervisor often had to refer work to a colleague				
19	My supervisor preferred supervisory group sessions				
20	My supervisor promoted my confidence in the research process				
21	My supervisor seemed disinterested in my progress				
22	My supervisor was able to answer my questions knowledgeably				
23	My supervisor's knowledge of the research process was poor				
24	My positive relationship with my supervisor was instrumental in helping me with my research				
25	My supervisor and co-supervisor did not always agree with each others' comments				
26	My supervisor is knowledgeable with regards to the research process				
27	My supervisor made sure I knew how to access internet research articles				
28	Research had a negative impact on my personal life				
29	The chiropractic staff are all approachable with regards to research information				
30	The focus group helped formulate my questions in line with my research topic				
31	The hours the libraries are open to access research material is convenient				
32	The university's computer search engines allow access to research material				
33	The university's internet access is fast				
34	The university's librarians were very helpful				
35	The university's libraries provided adequate support in facilitating me with research material				

## Section D:

Please place a cross in the relevant block indicating who you believe is responsible for (only one answer is permissible):

			Research administrator	Supervisor	Co-Supervisor	Statistician	Proof-reader	Student
Calculating:	1	That the arithmetic is correct						
	2	The sample numbers required for statistical purposes						
Checking:	3	Spelling and grammar (including full stops, commas, inverted commas, dashes, use of capital letters and brackets)						
	4	That all in-text references are included in the reference list						
	5	That names and spelling of references are correct						
Confirming that:	6	Aims and objectives have been answered						
	7	References against statements have been included in text						
	8	All relevant information is included in the literature review						
	9	Appendices, are all attached						
	10	Plagiarism has not occurred						
	11	The method of writing out references for e.g., books, journals, interviews, and web-site addresses are correct						
	12	The null hypotheses have been included						

			Research administrator	Supervisor	Co-Supervisor	Statistician	Proof-reader	Student
	13	The abstract has been included						
	14	The Table of Contents page numbers match with the information pages in the mini dissertation						
Correcting:	15	Analysis of information in the literature review						
	16	Spacing, justification and margins are in place						
Ensuring:	17	Alignment with numbers is correct, i.e., units below units . tens below tens						
	18	That the correct font type and size have been used						
	19	That ethical clearance has been received						
Monitoring:	20	The research progress						
	21	That each section of work is completed on time						
Other:	22	Booking appointments with the supervisor						
	23	Contacting the Allied Health Professions Council upon qualification of a master's Degree has been received						
	24	Proof-reading my work						
	25	Researching the material required for the literature review						
	26	Storing the completed research questionnaires, mini-dissertation, and DVD						

## Appendix 15

### POST FOCUS / PRE -PILOT GROUP SUPERVISORS' QUESTIONNAIRE (PHASE TWO)

#### Title of Research

Factors in postgraduate supervision that impact on the quality of research at a selected department at a University of Technology

#### Supervisors' Questionnaire

#### **Section A: Demographic Data**

Please complete the questionnaire by

3. marking a ~~x~~ in the appropriate block
4. writing the required answer.

DEMOGRAPHICS							
1	Age	years					
2	Gender	Female		Male			
3	Ethnicity	Black	Coloured	Indian	White		
Other, please specify							
4	Current marital status	Divorced	Married	Separated	Single		
Other, please specify							
5	Do you have any dependents who are reliant on you for their well-being?	Yes			No		
6	If yes, what age group? And please indicate number of people who fall into that category in the same block as your response(s)	0-10 years		10-20 years		Adults with mental or physical challenges living at home	
		Elderly parents		Extended family members living in your home			
		Other, please specify					
7	Please indicate if you feel that these challenges .....	Restrict access to library / lecture / toilet rooms	Restrict student access	Make it more difficult for me to balance my work, study, and social time	Cause difficulties with writing speedily	Restrict reading journals / books easily	Restrict hearing or speaking to my student properly
8	Please indicate your home language	Afrikaans	English	IsiZulu	Sepedi	SeSotho	SeSwana
		SiNdebele	SiSwazi	SiXhosa	TshiVenda	XiTsonga	
		Other, please specify					
9	Please indicate the language in which you prefer to write	Afrikaans	English	IsiZulu	Sepedi	SeSotho	SeSwana
		SiNdebele	SiSwazi	SiXhosa	TshiVenda	XiTsonga	
		Other, please specify					
10	Please indicate if you have difficulties in the following areas	Using English as the medium of communicating	Dyslexia	Auditory difficulties	Visual difficulties	Physical difficulties	No difficulties
		Other, please specify					
11	Are you employed?	Full time		Part time			
12	Do you have a computer at home?	Yes		No			
13	Do you have a printer at home?	Yes		No			
14	Do you have internet access at home?	Yes		No			
15	Please indicate your highest	PhD		Master's		Honours	

DEMOGRAPHICS						
	qualification level	Other, please specify				
16	How long have you been supervising?	0-1 year	1 < but < 3 years	3 < but < 5 years	5 < but < 10 years	10 < years
17	Approximately how many research papers have you <b><i>supervised?</i></b>	1-5 papers	6-10	11 - 20	21 - 50	51 or more
18	Approximately how many research papers have you submitted for <b><i>publication?</i></b>	1-5 papers	6-12	13 - 20	21 - 35	36 or more
19	The reason I am supervising is because .....  (more than one option may be ticked)	I was nominated to supervise because the student's area of interest matches my subject area of expertise/ interest	I accepted the student's request to be their supervisor	I am the only person knowledgeable in the subject area	I need to increase the number of research students I have supervised for professional development purposes	
		Other, please specify				

## Section B

Please place a cross in the box against the statement indicating whether it is True or False

		True	False
1	A student was assigned to me		
2	I have completed a research contract with my student		
3	If there was conflict between my student and I, I am able to resign from my supervisory capacity		
4	My student always accepted my feedback		
5	My student would always contact me to enquire reasons for delay in returning feedback		
6	My student needed help in compiling the PG4a form		
7	My student did not want me to contact him/her after hours		
8	My student required reading material related to research to be recommended		
9	My student responded to the agreed timeframes as per the research contract		
10	My student accepted the stringent timelines that I set		
11	My student required different methods of explanation if at first they did not understand		
12	My student was able to keep to time lines in returning work		
13	My student is based at the university		
14	After the chiropractic programme has accepted the proposed topic, it is registered by the Faculty of Health Science and Research and Ethics Committee		
15	An ethics clearance certificate is issued by Faculty on a PG4a approval		
16	Faculty approves the PG4a form		
17	The chiropractic programme meets regularly to prevent delay in proposal acceptance		
18	The completed PG4a form needs to be discussed during a chiropractic departmental meeting involving the student and supervisor		
19	A master's student must complete their research within 2 years of registration		
20	My research must contain scientific information i.e. jargon related to the information being reviewed		
21	Research for a master's degree, submitted post examination produces new knowledge		
22	There is no limit to the length of my student's research		
23	The university's computers provide software to assist with referencing (e.g. Endnote)		
24	The university's computers provide software to assist with restricting plagiarism (e.g. Turnitin)		
25	Participants who formed part of my student's study were expected to sign a form giving permission to be involved in the study		
26	Tables, inclusive of contents, must be justified to the left		
27	The abstract, literature review, methodology, results, discussion, conclusion, and recommendations all include in-text referencing		
28	The correct font for text information is Roman Times Roman		
29	The Durban University of Technology uses APA referencing		
30	The Focus Group discussion is usually tape-recorded		
31	The headings for tables must be in the same font as writing text		
32	The null hypothesis, if required is written as: %the identified psychosocial factors affect throughput rates+		
33	Unless permission was received, all information relating to participants remains confidential		
34	When my student includes a figure in their work, the heading (for e.g. Figure 1.1 age group) - is stated above the figure		
35	When including a graph in your work, the heading (for e.g. Graph 1.1 gender) . is stated above the graph		
36	When including a table in your work, the heading (for e.g. Table 1.1 ethnic group) - is stated below the table		
37	A statistician consultation form is not required at completion stage		
38	It is my student's responsibility to ensure the title of their completed research matches that of their proposal		

		True	False
39	My student is not expected to publish an article based on their findings		
40	My student is expected to submit three hard-bound copy to the examiners		
41	My student is responsible for storing their completed hardbound research dissertation		

### Section C

Please place an x in the box against the statement that you believe to be correct

		Strongly Agree	Agree	Disagree	Strongly Disagree
1	My student is able to paraphrase research material easily				
2	I believe research is not necessary for obtaining a chiropractic degree				
3	I did not find the research handbook very useful				
4	My student did not like it when I intervened with their research				
5	I have difficulty reading my student's handwriting				
6	My student preferred to accumulating all the information concerning their research topic before handing it in to me for feedback				
7	I prefer to work in partnership with my student				
8	I thoroughly enjoyed working with my student during their research				
9	My student was in a hurry to complete their research				
10	My student gave the impression they would like to study further				
11	If given the choice, I would have reassigned my student to another supervisor				
12	It is not necessary to include a pilot group if questions have been accepted by a focus group				
13	My student caused me to feel apprehensive in discussing research				
14	My student conscientiously listened to my feedback				
15	My student did not understand my concerns relating to their research				
16	My student dominated our research conversations				
17	My student often changed his/her mind concerning previous corrections				
18	My student preferred to discuss their work with their friends than with me				
19	My student preferred student group sessions				
20	My student's confidence in the research process increased by final hand in date				
21	My student seemed disinterested in their research				
22	My student was able to answer my questions knowledgeably				
23	My student's knowledge of the research process was poor				
24	My positive relationship with my student was instrumental in helping them with their research				
25	My student and the and co-supervisor did not always agree with each others comments				
26	My student is knowledgeable with regards to the research process				
27	My student knew how to access internet research articles				
28	Research had a negative impact on my student's personal life				
29	The chiropractic staff are all approachable with regards to research information				
30	The focus group helped formulate my student's questions in line with their research topic				
31	The hours the libraries are open to access research material is convenient				
32	The university's computer search engines allow access to research material				
33	The university's internet access is fast				
34	The university's librarians were very helpful to my student				
35	The university's libraries provided adequate support in facilitating me with research material				



**Section D:**

Please place a cross in the relevant block indicating who you believe is responsible for (only one answer is permissible):

			Research administrator	Supervisor	Co-Supervisor	Statistician	Proof-reader	Student
Calculating:	1	That the arithmetic is correct						
	2	The sample numbers required for statistical purposes						
Checking:	3	Spelling and grammar (including full stops, commas, inverted commas, dashes, use of capital letters and brackets)						
	4	That all in-text references are included in the reference list						
	5	That names and spelling of references are correct						
Confirming that:	6	Aims and objectives have been answered						
	7	References against statements have been included in text						
	8	All relevant information is included in the literature review						
	9	Appendices, are all attached						
	10	Plagiarism has not occurred						
	11	The method of writing out references for e.g., books, journals, interviews, and web-site addresses are correct						
	12	The null hypotheses have been included						
	13	The abstract has been included						
Correcting:	14	The Table of Contents page numbers match with the information pages in the mini dissertation						
	15	Analysis of information in the literature review						
Ensuring:	16	Spacing, justification and margins are in place						
	17	Alignment with numbers is correct, i.e., units below units . tens below tens						
	18	That the correct font type and size have been used						
Monitoring:	19	That ethical clearance has been received						
	20	The research progress						
	21	That each section of work is completed on time						
Other	22	Booking appointments with the student						
	23	Contacting the Allied Health Professions Council upon receipts of my student's master's Degree						
	24	Proof-reading my student's work						
	25	Researching the material required for the literature review						
	26	Storing the completed research questionnaires, mini-dissertation, and DVD						

## Appendix 16

### LETTER OF INFORMATION AND CONSENT FORM-STUDENT

Dear Student Participant,

Welcome to my research project. You have been invited to take part in a study to determine the factors within the research student and supervisor relationship that impact on the quality of research at this specific University of Technology.

**Title of research:**

Factors in Postgraduate supervision that impact on the quality of research at a selected department at a University of Technology

**NAME OF RESEARCH STUDENT**

Bronwyn Jones

Contact number: (084 4478120)

**NAME OF RESEARCH SUPERVISOR**

Dr C. Korporeal

Contact number: (031 3732611)

M. Tech: Chiropractic, CCFC, CCSP, ICSSD

**NAME OF THE CO-SUPERVISOR**

Dr S. Singh

Contact number: (031 373 5159)

Senior lecturer: Department of Operations and Quality Management

Brief introduction and purpose of the study:

This selected University is promoting undergraduate students to study at a postgraduate level through offering financial incentives, workshops, and guides to complete their research in their chosen qualification (Postgraduate Student Guide, 2009). However, because a number of students have received a low pass symbol or been within the research process for a protracted period of time, it is thought that students or supervisors have an incorrect perception of their roles within the research process (Korporeal, 2010). This in turn has led to mismatched expectations (Mouton, 2001), as well as having a negative impact on the University as it detracts students and supervisors from future research and therefore counteracts the promotion of research within this University.

Therefore, the aim of this study will be to determine the knowledge, perceptions and expectations that students and supervisors have on their respective research roles that possibly impact on the quality of research.

Procedures:

You, as the student and your supervisor have shown an interest to participate in this study. Upon final acceptance you will be allocated in a student group no.1 and supervisor group no. 2. There are four further steps to this research:

1. Measurement of your knowledge of the research process;
2. Measurement of your perceptions and expectations of the research process;
3. Comparing your results with that of the results of your supervisors who will also be asked to complete a questionnaire on the research process; and
4. Determining the associations between step 3 and the results that I score from marking your research.

To measure your knowledge of the research process, I, the researcher will mark your research according to a validated focus group checklist. This is a tool that has been itemised to highlight research requirements and it is also a compilation of errors commonly found in research. Although this information is available in the literature (Mouton, 2001; Postgraduate Student Guide 2009), it is unknown how it is perceived by students. This result sheet, with your name removed will be inserted into a ballot box.

To complete the second step, I will contact you to organise a time for you to complete the Student Questionnaire which is based on your knowledge, perceptions and expectations of the research process. I

will hand-deliver the final questionnaire (Appendix 21), this Letter of Information and Consent Form (Appendix 17) and Informed Consent Form (Appendix 19) about the study and wait for you to complete the questionnaire. It will take you approximately 20 minutes to complete. On completion, I will ask you to place your completed questionnaire into the ballot box stamped "Student Questionnaires". I can assure you of your anonymity and confidentiality because I will only know that you have inserted your questionnaire into the ballot box. As you have answered the questions anonymously, I will not know your specific answers. Only once, I have reached my target sample of 30 complete sets of questionnaires, will the ballot boxes be opened. Even though, your questionnaire remains anonymous, all returned questionnaires will be stored in a locked drawer to prevent anyone having access to this sensitive data.

Risks, discomfort, and research-related injury

None

Benefits

This study will be of benefit to departments who are involved in research because it will investigate the relationships between the quality of research and the factors related to the student and the supervisor that leads to high or poor quality research. The results from this study will enable supervisors to assist their departments in formulating internal quality assurance programmes. This would form a framework for self-evaluation and improved knowledge of the research process, which would promote accountability and increase the university's acceptance for accreditation purposes (QPU, 1997).

Reason why the subject/s may be withdrawn from the study

Either the student or the supervisor may be withdrawn from this study if either one decides against participating in this research. This is because a student and a supervisor will need to be linked through the student's research and if either one of them withdraws from the study, the results from the other questionnaire will be invalid.

Remuneration and costs of the study:

None

Confidentiality

All participants will be assured of their anonymity and confidentiality to discussions. Only the researcher and her supervisor and the examiners will have knowledge of the participants.

Persons to Contact in the Event of Any Problems or Queries

Bronwyn Jones: 084 447 8120

Statement of Agreement to Participate in the Research Study: Please complete:

I, .....your full name and ID number  
.....have read this document in its entirety and  
understand its contents. Where I have had any questions or queries, these have been explained to me by  
..... to my satisfaction. Furthermore, I fully understand that I  
may withdraw from this study at any stage without any adverse consequences my work with this specified  
University of Technology will not be compromised.

Participant's name (print) .....	Participant's signature .....	Date .....
Researcher's name (print) Bronwyn Jones	Researcher's signature .....	Date .....
Witness's name (print) .....	Witness's signature .....	Date .....

## Letter of Information and Consent Form-Supervisor

Welcome to my research project. You have been invited to take part in a study to determine the factors within the research student and supervisor relationship that impact on the quality of research at this specific University of Technology.

Factors in postgraduate supervision that impact on the quality of research at a selected department at a University of Technology

Bronwyn Jones                      Contact number: (084 4478120)

Dr C. Korporaal Contact number: (031 3732611)  
M. Tech: Chiropractic, CCFC, CCSP, ICSSD

Dr S. Singh                      Contact number: (031 373 5159)  
Senior lecturer: Department of Operations and Quality Management

This selected University is promoting undergraduate students to study at a postgraduate level through offering financial incentives, workshops, and guides to complete their research in their chosen qualification (Postgraduate Student Guide, 2009). However, because a number of students have received a low pass symbol or been within the research process for a protracted period of time, it is thought that students or supervisors have an incorrect perception of their roles within the research process (Korporaal, 2010). This in turn has led to mismatched expectations (Mouton, 2001), as well as having a negative impact on the University as it detracts students and supervisors from future research and therefore counteracts the promotion of research within this University.

Therefore, the aim of this study will be to determine the knowledge, perceptions and expectations that students and supervisors have on their respective research roles that possibly impact on the quality of research.

You, as the supervisor and your student have shown an interest to participate in this study. Upon final acceptance you will be allocated in a student group no.1 and supervisor group no. 2. There are four further steps to this research:

1. Measurement of your knowledge of the research process;
2. Measurement of your perceptions and expectations of the research process;
3. Comparing your results with that of the results of your students who will also be asked to complete a questionnaire on the research process; and
4. Determining the associations between step 3 and the results that I score from marking your students's research.

To measure your students' knowledge of the research process, I, the researcher will mark your students research according to a validated focus group checklist. This is a tool that has been itemised to highlight research requirements and it is also a compilation of errors commonly found in research. Although this information is available in the literature (Mouton, 2001; Postgraduate Student Guide 2009), it is unknown how it is perceived by students. This result sheet, with your students' name removed will be inserted in a ballot box.

To complete the second step, I will contact you to organise a time for you to complete the Supervisor Questionnaire which is based on your knowledge, perceptions and expectations of the research process. I will hand-deliver the final questionnaire (Appendix 22), this Letter of Information and Consent Form

(Appendix 18) and Informed Consent Form (Appendix 20) about the study, and wait for you to complete the questionnaire. It will take you approximately 20 minutes to complete. On completion, I will ask you to place it into the ballot box stamped %Supervisor Questionnaires+. I can assure you of your anonymity and confidentiality because I will only know that you have inserted your questionnaire into the ballot box. As you have answered the questions anonymously, I will not know your specific answers. Only once, I have reached my target sample of 30 complete sets of questionnaires, will the ballot boxes be opened. Even though, your questionnaire remains anonymous, all returned questionnaires will be stored in a locked drawer to prevent anyone having access to this sensitive data.

Risks, discomfort, and research-related injury

None

Benefits

This study will be of benefit to departments who are involved in research because it will investigate the relationships between the quality of research and the factors related to the student and the supervisor that leads to high or poor quality research. The results from this study will enable supervisors to assist their departments in formulating internal quality assurance programmes. This would form a framework for self-evaluation and improved knowledge of the research process, which would promote accountability and increase the university's acceptance for accreditation purposes (QPU, 1997).

Reason why the subject/s may be withdrawn from the study

Either the student or the supervisor may be withdrawn from this study if either one decides against participating in this research. This is because a student and a supervisor will need to be linked through the student's research and if either one of them withdraws from the study, the results from the other questionnaire will be invalid.

Remuneration and costs of the study

None

Confidentiality

All participants will be assured of their anonymity and confidentiality to discussions. Only the researcher and her supervisor and the examiners will have knowledge of the participants.

Persons to Contact in the Event of Any Problems or Queries

Bronwyn Jones 084 447 8120

Statement of Agreement to Participate in the Research Study: Please complete.

I, .....your full name and ID number  
.....have read this document in its entirety and  
understand its contents. Where I have had any questions or queries, these have been explained to me by  
..... to my satisfaction. Furthermore, I fully understand that I  
may withdraw from this study at any stage without any adverse consequences my work with this specified  
University of Technology will not be compromised.

Participant's name (print)	.....	Participant's signature	.....	Date	.....
Researcher's name (print)	Bronwyn Jones	Researcher's signature	.....	Date	.....
Witness's name (print)	.....	Witness's signature	.....	Date	.....
Supervisor's name (print)	Dr. Charmaine Korporaal	Supervisor's signature	.....	Date	.....

**INFORMED CONSENT FORM - STUDENT****TITLE OF RESEARCH**

Factors in postgraduate supervision that impact on the quality of research at a selected department at a University of Technology

<b>NAME OF RESEARCHER</b>	Bronwyn Jones	Contact number 084 447 8120
<b>NAME OF SUPERVISOR</b>	Dr C. Korporaal	Contact number 031-373 2611
<b>NAME OF CO-SUPERVISOR</b>	Dr S. Singh	Contact number 031-373 5159

Please circle the appropriate answer:

- |   | <b>YES</b> | <b>NO</b> |
|---|------------|-----------|
| 1 Have you read the Letter of Information sheet?  | Yes        | No        |
| 2 Have you had an opportunity to ask questions regarding this study?                            | Yes        | No        |
| 3 Have you received satisfactory answers to your questions?                                     | Yes        | No        |
| 4 Have you had an opportunity to discuss this study?  | Yes        | No        |
| 5 Have you received enough information about this study?  | Yes        | No        |
| 6 Do you understand the implications of your involvement in this study?                         | Yes        | No        |
| 7 Do you understand that you are free to:   | Yes        | No        |
| a) Withdraw from this study at any time?  | Yes        | No        |
| b) Withdraw from this study at any time, without giving reasons?                                | Yes        | No        |
| c) Withdraw from the study at any time without affecting your future studies at the University? |            |           |
| 8 Do you agree to voluntarily participate in this study?  | Yes        | No        |
| 9 Who have you spoken to regarding this study? _____  | Yes        | No        |

If you have answered NO to any of the above, please obtain the necessary information from the researcher and / or supervisor before signing. Thank you.

**Please print in block letters:**

Participant's Name:

Signature:

Date:

Witness Name:

Signature

Date:

## Appendix 19

### INFORMED CONSENT FORM - SUPERVISOR

#### TITLE OF RESEARCH

Factors in postgraduate supervision that impact on the quality of research at a selected department at a University of Technology

<b>NAME OF RESEARCHER</b>	Bronwyn Jones	Contact number 084 447 8120
<b>NAME OF SUPERVISOR</b>	Dr C. Korporaal	Contact number 031-373 2611
<b>NAME OF CO-SUPERVISOR</b>	Dr S. Singh	Contact number 031-373 5159

Please circle the appropriate answer:

- |   | <b>YES</b> | <b>NO</b> |
|---|------------|-----------|
| 1 Have you read the Letter of Information sheet?  | Yes        | No        |
| 2 Have you had an opportunity to ask questions regarding this study?                            | Yes        | No        |
| 3 Have you received satisfactory answers to your questions?                                     | Yes        | No        |
| 4 Have you had an opportunity to discuss this study?  | Yes        | No        |
| 5 Have you received enough information about this study?  | Yes        | No        |
| 6 Do you understand the implications of your involvement in this study?                         | Yes        | No        |
| 7 Do you understand that you are free to:   | Yes        | No        |
| a) Withdraw from this study at any time?  | Yes        | No        |
| b) Withdraw from this study at any time, without giving reasons?                                | Yes        | No        |
| c) Withdraw from the study at any time without affecting your future studies at the University? |            |           |
| 8 Do you agree to voluntarily participate in this study?  | Yes        | No        |
| 9 Who have you spoken to regarding this study? _____  | Yes        | No        |

If you have answered NO to any of the above, please obtain the necessary information from the researcher and / or supervisor before signing. Thank you.

**Please print in block letters:**

Participant's Name:	Signature:	Date:
Witness Name:	Signature	Date:

## Appendix 20

### POST PILOT GROUP (FINAL) STUDENTS' QUESTIONNAIRE

#### Title of Research

Factors in postgraduate supervision that impact on the quality of research at a selected department at a University of Technology

#### Students' Questionnaire

##### Section A: Demographic Data

Please complete the questionnaire by

1. marking a ~~x~~ in the appropriate block
2. writing the required answer.

DEMOGRAPHICS							
1	Age	years					
2	Gender	Female		Male			
3	Ethnicity	Black	Coloured	Indian	White		
		Other, please specify					
4	Current marital status	Divorced	Married	Separated	Single		
		Other, please specify					
5	Do you have any dependents who are reliant on you for their well-being?	Yes			No		
6	If yes, what age group? And please indicate number of people who fall into that category in the same block as your response(s)	0-10 years		10-20 years		Adults with mental or physical challenges living at home	
		Elderly parents		Extended family members living in your home			
		Other, please specify					
7	Please indicate if you have difficulties in the following areas	Using English as the medium of communicating	Dyslexia	Auditory difficulties	Visual difficulties	Physical difficulties	No difficulties
		Other, please specify					
8	Please indicate if you feel that these challenges .....	Restrict access to library / lecture / toilet rooms	Restrict access to supervisors office	Make it more difficult for me to balance my study, work, and social time	Cause difficulties with writing speedily	Restrict reading journals / books easily	Restrict hearing or speaking to my supervisor properly
		Other, please specify					
9	Please indicate your home language	Afrikaans	English	IsiZulu	Sepedi	SeSotho	SeSwana
		SiNdebele	SiSwazi	SiXhosa	TshiVenda	XiTsonga	
		Other, please specify					
10	Please indicate the language in which you prefer to write	Afrikaans	English	IsiZulu	Sepedi	SeSotho	SeSwana
		SiNdebele	SiSwazi	SiXhosa	TshiVenda	XiTsonga	
		Other, please specify					
11	Please indicate how you are financially supported (more	Self- funding	Student loan	Parents / guardian	Siblings	Spouse or	Bursary/ incentives/



	than one option may be crossed)					partner	scholarship
		Other, please specify					
12	Are you employed?, if yes	Full time			Part time		
13	Do you have a computer at home?	Yes			No		
14	Do you have a printer at home?	Yes			No		
15	Do you have internet access at home?	Yes			No		
16	Did you enrol in M.Tech Chiropractic programme directly after completing school?	Yes			No		
17	When did you first register for a M.Tech Chiropractic programme?						
18	Have you completed a masters research before?	Yes			No		
19	Have you failed a research subject before?, such as Research Methods and Techniques I and the research module of Chiropractic Principles and Practice III	Yes			No		
20	Please indicate your significant other, e.g. parent, partner, role model highest level of education	Post graduate qualification (i.e. Master's or PhD)			Undergraduate qualification (i.e. B.Tech, BSc or Honours)		
		National Senior Certificate (i.e., completed final year at school)			Did not complete school		
21	Please indicate if you received support from your significant other	Yes			No		
22	Did you feel that their knowledge of postgraduate studies aided you in your research?	Yes			No		

## Section B

Please place a cross in the box against the statement indicating whether it is True or False

		True	False
1	A supervisor, to guide me with my research, was assigned to me		
2	I have completed a research contract with my supervisor		
3	If I was not satisfied with my supervisors teaching methods I could request another supervisor		
4	My supervisor always gave constructive feedback		
5	My supervisor contacted me to enquire reasons for delay in handing in work		
6	My supervisor was required to help me compile my PG4a form		
7	My supervisor preferred me not to contact him/her after hours		
8	My supervisor recommended reading material related to research		
9	My supervisor responded to the agreed timeframes as per the research contract		
10	My supervisor sets stringent timelines		
11	My supervisor used different methods to explain work if at first I did not understand		
12	My supervisor was able to keep to time lines in returning work		
13	My supervisor is based at the university		
14	After the chiropractic programme has accepted the proposed topic, it is registered by the Faculty of Health Science and Research and Ethics Committee		
15	An ethics clearance certificate is issued by Faculty on a PG4a approval		
16	Faculty approves the PG4a form		
17	The chiropractic programme meets regularly to prevent delay in proposal acceptance		
18	The completed PG4a form needs to be discussed during a chiropractic departmental meeting involving the student and supervisor		
19	A masters student must complete their research within 2 years of registration		
20	My research must contain scientific information i.e. jargon related to the information being reviewed		
21	Research for a masters degree, submitted post examination produces new knowledge		
22	There is no limit to the length of my research		
23	The university's computers provide software to assist with referencing e.g. Endnote		
24	The university's computers provide software to assist with restricting plagiarism e.g. Turnitin		
25	Participants who formed part of my study were expected to sign a form giving permission to be involved in the study		
26	Tables, inclusive of contents, must be justified to the left		
27	The abstract, literature review, methodology, results, discussion, conclusion, and recommendations all include in-text referencing		
28	The correct font for text information is Roman Times Roman		
29	The Durban University of Technology uses APA referencing		
30	The Focus Group discussion is usually tape-recorded		
31	The headings for tables must be in the same font as writing text		
32	The null hypothesis, if required is written as: %The identified psychosocial factors affect throughput rates+		
33	Unless permission was received, all information relating to participants remains confidential		
34	When including a figure in your work, the heading (for e.g. Figure 1.1 age group) - is stated at the top of the figure		
35	When including a graph in your work, the heading (for e.g. Graph 1.1 gender) . is stated at the top of the		

		True	False
	graph		
36	When including a table in your work, the heading (for e.g. Table 1.1 ethnic group) - is stated at the bottom of the table		
37	A statistician consultation form is not required at completion stage		
38	It is my responsibility to ensure the title of my completed research matches that of my proposal		
39	I am not expected to publish an article based on my findings		
40	I am expected to submit three hard-bound copy to the examiners		
41	My supervisor is responsible for storing my completed hardbound research dissertation		

## Section C

Please place an x in the box against the statement that you believe to be correct

		Strongly Agree	Agree	Disagree	Strongly Disagree
1	I am able to paraphrase research material easily				
2	I believe research is not necessary for obtaining a chiropractic degree				
3	I did not find the research handbook very useful				
4	I disagreed with my supervisor's intervention but I did what the supervisor thought best				
5	I have difficulty reading my supervisor's handwriting				
6	I prefer accumulating all the information concerning my research topic before doing the writing				
7	I prefer to work in partnership with my supervisor				
8	I thoroughly enjoyed the research process				
9	I was in a hurry to complete my research				
10	I would like to study further				
11	If given the choice I would have changed my supervisor				
12	It is not necessary to include a pilot group if questions have been accepted by a focus group				
13	My supervisor caused me to feel apprehensive in discussing research				
14	My supervisor conscientiously went over my work with me				
15	My supervisor did not understand my research concerns				
16	My supervisor dominated our research conversations				
17	My supervisor often changed his/her mind concerning previous corrections				
18	My supervisor often had to refer work to a colleague				
19	My supervisor preferred supervisory group sessions				
20	My supervisor promoted my confidence in the research process				
21	My supervisor seemed disinterested in my progress				
22	My supervisor was able to answer my questions knowledgeably				
23	My supervisor's knowledge of the research process was poor				
24	My positive relationship with my supervisor was instrumental in helping me with my research				
25	My supervisor and co-supervisor did not always agree with each others' comments				
26	My supervisor is knowledgeable with regards to the research process				
27	My supervisor made sure I knew how to access internet research articles				
28	Research had a negative impact on my personal life				
29	The chiropractic staff are all approachable with regards to research information				
30	The focus group helped formulate my questions in line with my research topic				
31	The hours the libraries are open to access research material is convenient				
32	The university's computer search engines allow access to research material				
33	The university's internet access is fast				
34	The university's librarians were very helpful				
35	The university's libraries provided adequate support in facilitating me with research material				

**Section D:**

Please place a cross in the relevant block indicating who you believe is responsible for (only one answer is permissible):

			Research administrator	Supervisor	Co-Supervisor	Statistician	Proof-reader	Student
Calculating:	1	That the arithmetic is correct						
	2	The sample numbers required for statistical purposes						
Checking:	3	Spelling and grammar (including full stops, commas, inverted commas, dashes, use of capital letters and brackets)						
	4	That all in-text references are included in the reference list						
	5	That names and spelling of references are correct						
Confirming that:	6	Aims and objectives have been answered						
	7	References against statements have been included in text						
	8	All relevant information is included in the literature review						
	9	Appendices, are all attached						
	10	Plagiarism has not occurred						
	11	The method of writing out references for e.g., books, journals, interviews, and web-site addresses are correct						
	12	The null hypotheses have been included						
	13	The abstract has been included						
Correcting:	14	The Table of Contents page numbers match with the information pages in the mini dissertation						
	15	Analysis of information in the literature review						
Ensuring:	16	Spacing, justification and margins are in place						
	17	Alignment with numbers is correct, i.e., units below units . tens below tens						
	18	That the correct font type and size have been used						
Monitoring:	19	That ethical clearance has been received						
	20	The research progress						
	21	That each section of work is completed on time						
Other:	22	Booking appointments with the supervisor						
	23	Contacting the Allied Health Professions Council upon qualification of a master's Degree has been received						
	24	Proof-reading my work						
	25	Researching the material required for the literature review						
	26	Storing the completed research questionnaires, mini-dissertation, and DVD						

## Appendix 21

### POST PILOT GROUP (FINAL) SUPERVISORS' QUESTIONNAIRE

#### Title of Research

Factors in Postgraduate supervision that impact on the quality of research at a selected department at a University of Technology

#### Supervisors' Questionnaire

#### Section A: Demographic Data

Please complete the questionnaire by

1. marking a ~~x~~qin the appropriate block
2. writing the required answer.

DEMOGRAPHICS							
1	Age	years					
2	Gender	Female		Male			
3	Ethnicity	Black	Coloured	Indian	White		
		Other, please specify					
4	Current marital status	Divorced	Married	Separated	Single		
		Other, please specify					
5	Do you have any dependents who are reliant on you for their well-being?	Yes			No		
6	If yes, what age group? And please indicate number of people who fall into that category in the same block as your response(s)	0-10 years		10-20 years		Adults with mental or physical challenges living at home	
Elderly parents			Extended family members living in your home				
Other, please specify							
7	Please indicate if you have difficulties in the following areas	Using English as the medium of communicating	Dyslexia	Auditory difficulties	Visual difficulties	Physical difficulties	No difficulties
		Other, please specify					
8	Please indicate if you feel that these challenges.....	Restrict access to library / lecture / toilet rooms	Restrict student access	Make it more difficult for me to balance my work, study and social time	Cause difficulties with writing speedily	Restrict reading journals / books easily	Restrict hearing or speaking to my student properly
		Have no impact on your work					
9	Please indicate your home language	Afrikaans	English	IsiZulu	Sepedi	SeSotho	SeSwana
		SiNdebele	SiSwazi	SiXhosa	TshiVenda	XiTsonga	
		Other, please specify					
10	Please indicate the language in which you prefer to write	Afrikaans	English	IsiZulu	Sepedi	SeSotho	SeSwana
		SiNdebele	SiSwazi	SiXhosa	TshiVenda	XiTsonga	
		Other, please specify					

DEMOGRAPHICS						
11	Are you employed?	Full time		Part time		
12	Do you have a computer at home?	Yes		No		
13	Do you have a printer at home?	Yes		No		
14	Do you have internet access at home?	Yes		No		
15	Please indicate your highest qualification level	PhD	Master's (MTech)		Honours	
Other, please specify						
16	How long have you been supervising?	0-1 year	1 < but < 3 years	3 < but < 5 years	5 < but < 10 years	10 < years
17	Approximately how many research papers have you <b>supervised?</b>	1-5 papers	6-10	11 - 20	21 - 50	51 or more
18	Approximately how many research papers have you submitted for <b>publication?</b>	1-5 papers	6-12	13 - 20	21 - 35	36 or more
19	The reason I am supervising is because.....  (more than one option may be ticked)	I was nominated to supervise because the student's area of interest matches my subject area of expertise/ interest	I accepted the student's request to be their supervisor	I am the only person knowledgeable in the subject area	I need to increase the number of research students I have supervised for professional development purposes	
Other, please specify						

## Section B

Please place a cross in the box against the statement indicating whether it is True or False

		True	False
1	A student was assigned to me		
2	I have completed a research contract with my student		
3	If there was conflict between my student and I, I am able to resign from my supervisory capacity		
4	My student always accepted my feedback		
5	My student would always contact me to enquire reasons for delay in returning feedback		
6	My student needed help in compiling the PG4a form		
7	My student did not want me to contact him/her after hours		
8	My student required reading material related to research to be recommended		
9	My student responded to the agreed timeframes as per the research contract		
10	My student accepted the stringent timelines that I set		
11	My student required different methods of explanation if at first they did not understand		
12	My student was able to keep to time lines in returning work		
13	My student is based at the university		
14	After the chiropractic programme has accepted the proposed topic, it is registered by the Faculty of Health Science and Research and Ethics Committee		
15	An ethics clearance certificate is issued by Faculty on a PG4a approval		
16	Faculty approves the PG4a form		
17	The chiropractic programme meets regularly to prevent delay in proposal acceptance		
18	The completed PG4a form needs to be discussed during a chiropractic departmental meeting involving the student and supervisor		
19	A master's student must complete their research within 2 years of registration		
20	My research must contain scientific information i.e. jargon related to the information being reviewed		
21	Research for a master's degree, submitted post examination produces new knowledge		
22	There is no limit to the length of my student's research		
23	The university's computers provide software to assist with referencing (e.g. Endnote)		
24	The university's computers provide software to assist with restricting plagiarism (e.g. Turnitin)		
25	Participants who formed part of my student's study were expected to sign a form giving permission to be involved in the study		
26	Tables, inclusive of contents, must be justified to the left		
27	The abstract, literature review, methodology, results, discussion, conclusion, and recommendations all include in-text referencing		
28	The correct font for text information is Roman Times Roman		
29	The Durban University of Technology uses APA referencing		
30	The Focus Group discussion is usually tape-recorded		
31	The headings for tables must be in the same font as writing text		
32	The null hypothesis, if required is written as: %the identified psychosocial factors affect throughput rates+		
33	Unless permission was received, all information relating to participants remains confidential		

		True	False
34	When my student includes a figure in their work, the heading (for e.g. Figure 1.1 age group) - is stated above the figure		
35	When including a graph in your work, the heading (for e.g. Graph 1.1 gender) . is stated above the graph		
36	When including a table in your work, the heading (for e.g. Table 1.1 ethnic group) - is stated below the table		
37	A statistician consultation form is not required at completion stage		
38	It is my student's responsibility to ensure the title of their completed research matches that of their proposal		
39	My student is not expected to publish an article based on their findings		
40	My student is expected to submit three hard-bound copy to the examiners		
41	My student is responsible for storing their completed hardbound research dissertation		

## Section C

Please place an x in the box against the statement that you believe to be correct

		Strongly Agree	Agree	Disagree	Strongly Disagree
1	My student is able to paraphrase research material easily				
2	I believe research is not necessary for obtaining a chiropractic degree				
3	I did not find the research handbook very useful				
4	My student did not like it when I intervened with their research				
5	I have difficulty reading my student's handwriting				
6	My student preferred to accumulating all the information concerning their research topic before handing it in to me for feedback				
7	I prefer to work in partnership with my student				
8	I thoroughly enjoyed working with my student during their research				
9	My student was in a hurry to complete their research				
10	My student gave the impression they would like to study further				
11	If given the choice, I would have reassigned my student to another supervisor				
12	It is not necessary to include a pilot group if questions have been accepted by a focus group				
13	My student caused me to feel apprehensive in discussing research				
14	My student conscientiously listened to my feedback				
15	My student did not understand my concerns relating to their research				
16	My student dominated our research conversations				
17	My student often changed his/her mind concerning previous corrections				
18	My student preferred to discuss their work with their friends than with me				
19	My student preferred student group sessions				
20	My student's confidence in the research process increased by final hand in date				
21	My student seemed disinterested in their research				
22	My student was able to answer my questions knowledgeably				
23	My student's knowledge of the research process was poor				
24	My positive relationship with my student was instrumental in helping them with their research				
25	My student and the and co-supervisor did not always agree with each others comments				
26	My student is knowledgeable with regards to the research process				
27	My student knew how to access internet research articles				
28	Research had a negative impact on my student's personal life				
29	The chiropractic staff are all approachable with regards to research information				
30	The focus group helped formulate my student's questions in line with their research topic				
31	The hours the libraries are open to access research material is convenient				
32	The university's computer search engines allow access to research material				
33	The university's internet access is fast				
34	The university's librarians were very helpful to my student				
35	The university's libraries provided adequate support in facilitating me with research material				

# Section D:

Please place a cross in the relevant block indicating who you believe is responsible for (only one answer is permissible):

			Research administrator	Supervisor	Co-Supervisor	Statistician	Proof-reader	Student
Calculating:	1	That the arithmetic is correct						
	2	The sample numbers required for statistical purposes						
Checking:	3	Spelling and grammar (including full stops, commas, inverted commas, dashes, use of capital letters and brackets)						
	4	That all in-text references are included in the reference list						
	5	That names and spelling of references are correct						
Confirming that:	6	Aims and objectives have been answered						
	7	References against statements have been included in text						
	8	All relevant information is included in the literature review						
	9	Appendices, are all attached						
	10	Plagiarism has not occurred						
	11	The method of writing out references for (e.g. books, journals, interviews, and web-site addresses) are correct						
	12	The null hypotheses have been included						
	13	The abstract has been included						
Correcting:	14	The Table of Contents page numbers match with the information pages in the mini dissertation						
	15	Analysis of information in the literature review						
Ensuring:	16	Spacing, justification and margins are in place						
	17	Alignment with numbers is correct, (i.e. units below units . tens below tens)						
	18	That the correct font type and size have been used						
Monitoring:	19	That ethical clearance has been received						
	20	The research progress						
	21	That each section of work is completed on time						
Other	22	Booking appointments with the student						
	23	Contacting the Allied Health Professions Council upon receipts of my student's master's Degree						
	24	Proof-reading my student's work						
	25	Researching the material required for the literature review						
	26	Storing the completed research questionnaires, mini-dissertation, and DVD						

## Appendix 22

### POST PILOT (FINAL) CHECKLIST OF RESEARCH REQUIREMENTS

To achieve a mini dissertation of high quality, has the student incorporated the following sections?			PGDS Requirements	
			YES	NO
<b>Sections</b>		<b>Checklist</b>		
<b>Cover page</b>	A1	Does your cover page give the title of your mini-dissertation?		
	A2	Have you stated that this dissertation is in partial compliance with the requirements for your master's degree?		
	A3	Have you declared that this dissertation is representative of your own work?		
	A4	Have you stated your name on the cover page?		
	A5	Have you included that your dissertation has been approved for final submission by your supervisor/co-supervisor?		
	A6	Does your cover page state the name(s) of your supervisor / co-supervisor?		
	A7	Have you included your supervisor's / your co-supervisor's qualifications?		
	A8	Have you provided sufficient space, to the right of all names for dates and signatures?		
	A9	Have you avoided numerically numbering your cover page (i.e. 1)?		
	A10	Have you avoided roman numerically numbering your cover page (i.e. i)?		
		<b>Total</b>		
<b>Dedication</b>	B1	Have you numbered this page with roman numerical (e.g. ii) . even though this is your second page after your cover page?		
		<b>Total</b>		
<b>Acknowledgements</b>	C1	Have you thanked the relevant parties who may have assisted you?		
	C2	Have you numbered this page with roman numerical (e.g. iii)?		
		<b>Total</b>		
<b>Abstract</b>	D1	Is your abstract written in line with the publication requirements?		
	D2	Have you included the required headings as per journal requirement (e.g. Background, Method, Results, and Conclusion)?		
	D3	Have you avoided using references?		
	D4	Have you preceded non-standard abbreviations/acronyms with the term in full?		
	D5	If you have used standard abbreviations such as kg and m, the full term need not precede them?		
	D6	Have you avoided the use of numbers (e.g. The sample size was 100)?		
	D7	Have you separately paragraphed information under each heading?		
	D8	Have you avoided pictures, tables, diagrams in your abstract?		
	D9	Have you included key words as a follow on from the abstract?		
	D10	Have you numbered this page with roman numerical (e.g. iii)?		
	D11	Is your word count between 400-500 words?		
	<b>Total</b>			
<b>Table of Contents</b>	E1	Have you Included the following in the Table of Contents page: Dedication, Acknowledgements, Abstract, Table of Contents, List of Appendices, List of Figures, List of Tables, List of Acronyms; List of Abbreviations and List of Definitions/Terms?		
	E4	Is there suitable spacing between page numbers and text information?		
	E5	Have you included page numbers against headings and sub-headings?		
		<b>Total</b>		
<b>List of Tables</b>	F1	Have you included all cited tables?		
	F2	Do the typed words match those typed in the dissertation?		
		<b>Total</b>		
<b>List of Figures</b>	G1	Have you included all cited figures?		
	G2	Do the typed words match those typed in the dissertation?		
		<b>Total</b>		
<b>Abbreviation List</b>	H1	Have you included all abbreviations used?		
	H2	Are these abbreviations typed in alphabetical order?		
	H3	Do the abbreviations match in-text abbreviations (e.g. have you used a single abbreviation for a plural word)?		
		<b>Total</b>		
<b>List of Acronyms</b>	I1	Are these acronyms is alphabetical order		
		<b>Total</b>		
<b>List of Terms</b>	J1	Are these terms in alphabetical order?		
		<b>Total</b>		
<b>List of Appendices</b>	K1	Have they all been included?		
	K2	Do the typed titles/headings match the headings of the relevant pages?		
		<b>Total</b>		



Chapter One				
Introduction	L1	Have you briefly introduced your research?		
	L2	Have you precisely stated your aim/s of the study?		
Aim/s and Research Objectives	L3	Have you stated your research objective/s?		
	L4	Have you numbered your research objectives under sub-headings?		
Hypothesis / (plural) hypotheses	L5	Have you included the Null hypothesis/es?		
	L6	Are the null hypothesis/es written under the specific objective/s to which they relate?		
	L7	Are the hypotheses written negatively?		
Rationale	L8	Have you stated your reasons for conducting this study in numerical order?		
	L9	Have you motivated your reason/s for the study with in-text references?		
Benefits	L10	Have you stated how this research could benefit a larger population (e.g., other students, university, general population, reduction in costs)?		
Limitations	L11	Have you stated that a degree of bias may unwittingly be portrayed (if the researcher is a student / staff member / employee and the research is part of their vested interest) in terms of their qualification?		
	L12	Have you included the expectation of participants / respondents in completing the questionnaire / subjective measures honestly?		
Outline of Chapters	L13	Have you stated what the reader could expect for each of the following chapters?		
	Total			
Literature Review	M1	Have you always used your own words, i.e. paraphrased and used in-text referencing?		
	M2	Have you used inverted commas for direct quotations?		
	M3	Have you broken up your information under relevant headings . (beginning with an introduction and ending with a conclusion)?		
	M4	Have you regularly referred your review of the information to your particular study?		
	M5	Have you used where possible, mostly current theory, (i.e. within the last 5 years)?		
	M6	Have you indicated below a plate (image/picture) its source?		
	M7	Is your information scientifically rigorous?		
	M8	Have you discussed your information, linking it with your title?		
	M9	Is it easy to identify the golden thread of your information?		
	M10	Is your tense consistent?		
	M11	Have you included in. text references for all factual information?		
	Total			
Chapter Three				
Methodology	N1	Have you included all abbreviations pertinent to this chapter?		
Introduction	N2	Have you stated what this chapter will be discussing (e.g., this chapter will describe the research methodology, the development of the questionnaire as well as the collection and analysis of data)?		
	N3	Is the study design clearly stated?		
Does the compliance of the study design comply with the Helsinki Declaration of 1975?				
Have you stated that you have received ethical clearance?				
Recruitment/Advertising	N4	Have you stated if advertising was required?		
	N5	Have you stated if advertising was not required?		
Sample	N6	Have you described who your sample group is?		
Sampling method	N7	Have you stated the method of allocation of participants within the sample groups to sub-groups (e.g. convenience/purposeful)?		
	N8	Have you referenced this method?		
Sampling size:	N9	Have you stated the total number of participants you are involving and their demographics (e.g. age, gender, ethnic group, geographical location)?		
Sample characters	N10	Have you included your inclusion and exclusion criteria?		
Research procedure	N11	Have you stated exactly how you proceeded with your research?		
	N12	Have you stated that the Letter of Information Form and Letter of Information was given to the participants		
Research tool	N13	Have you stated exactly how you chose your appropriate measurement tool and supported this with references?		
		Have you identified the appropriate procedure for the type of study you have completed (e.g. questionnaire, clinical trial, observation, experimental trial)?		
	N14	If the study is questionnaire based, please answer N14 and not N15:		
		Have you included characteristics of your focus group?		
		Have you stated the necessity of using a focus group?		

		Have you stated that participants included in the focus group are excluded from the main study?				
		Have you included the information they need to receive to take part?				
		Have you included their corrections and suggestions?				
		Have you included characteristics of your pilot group?				
		Have you included the necessity of using a pilot group?				
		Have you included their corrections and suggestions?				
		Have you included information regarding the final questionnaire?				
		Have you stated the frequency required for completion of the final questionnaire?				
			total			
	N15	<b>If the research relates to other studies, please answer N15 and not N14:</b> Was there a procedure for choosing the measurement tools?				
			Was cognisance given to reliability?			
			Was cognisance given to specificity?			
			Was cognisance given to sensitivity?			
			Appropriateness of measurement tool to outcomes?			
				total		
	N16	Have you stated your statistical methodology?				
	N17	Have you incorporated in-text referencing?				
	N18	Have you written in the past tense?				
		<b>Total</b>				

<b>Results</b>	O1	Have you included an introduction?		
	O2	Have you included all your abbreviations pertinent to this chapter?		
	O3	Have you included what your primary data involves?		
	O4	Have you included what your secondary data involves?		
	O5	Have you stated your response rate?		
	O6	Is the wording in your Bar Graphs / Figures / Tables clearly printed?		
	O7	Have you avoided duplicating results from table form to figure form?		
	O8	Have you stated what you found before showing the table / figure?		
	O9	Have you remembered to use italics when stating $p < 0.05$ ?		
	O10	Have you remembered to place the Table heading above the table?		
	O11	Have you remembered to place the Figure heading below the figure?		
	O12	When referring to a % have you inserted it immediately after the number (e.g. 50%)?		
	O13	When referring to % in text, have you written it out in full?		
			<b>Total</b>	

<b>Discussion</b>	P1	Have you included an introduction?		
	P2	Have you avoided restating the results?		
	P3	Have you explained any anomalies that may have occurred in your results?		
	P4	Have you critiqued your results		
	P5	Have you compared / contrasted your results with the information you reported in the literature review?		
	P6	Have you remembered to write in the past tense?		
			<b>Total</b>	

<b>Chapter Six</b>				
<b>Conclusions and recommendations</b>	Q1	Have you included an introduction?		
	Q2	Have you summarised your findings/discussion?		
	Q3	Have you offered recommendations with regards to how future studies can improve on your methodology, and can explore areas of interest raised by your study?		
	Q4	Are your recommendations appropriate to the results?		
			<b>Total</b>	

<b>Reference List</b>				
	R1	Are the references in line with DUT Harvard referencing Guide?		
	R2	Is the punctuation (i.e. use of capitals, commas, semi colons, full stops, brackets, spacing) correct?		
	R3	If not in line with DUT Reference Guide, have they been consistently typed?		
	R4	Are the references typed in alphabetical order?		
	R5	Is the spelling of names consistent with in text references?		
	R6	Have all names been included? (compare against in text)		
	R7	Have all your in text references been included in your reference list?		
	R8	Are there names in the Reference List that have not been cited in text?		
	R9	Have you included the referenced year?		

	R10	Have you avoided using Wikipedia?		
	R11	Have you avoided numbering or bulleting your references?		
	Total			
General Errors				
Abbreviations	S1	When you have used abbreviations, have you always typed the term out in full prior to the abbreviation?		
	S2	Have you confirmed abbreviations such as: &, kg, and m, are acceptable to use?		
	Total			
Figures	T1	Have you titled your Figures below the diagram?		
	T2	Have you ensured your typed words can be clearly read?		
	T3	Have you included a key to explain abbreviations?		
	T4	When referring to Figures . have you used a capital letter F?		
Total				
Font	U1	Have you used Arial or Times New Roman, size 12 font for normal text?		
Total				
Footnotes	V1	Have you avoided using footnotes?		
	Total			
Headings	W1	Have you typed headings in capital letters and used bold font?		
	W2	Have you avoided indenting headings?		
	Total			
Inconsistencies	X1	If you have used a hyphen between words, have you consistently done so?		
	X2	If there are two ways to spell a word, have you consistently used the same spelling?		
	X3	Have you consistently used semi colons / full stops at the end of each bulleted statement?		
	X4	Have you been consistent in spelling e.g. UK or SA spelling as opposed to using USA spelling?		
	Total			
In-text referencing	Y1	Have you avoided using older references as supporting theory for more current information (e.g. Newton (2005) explains that the first skill that people need to learn when coming into project management is planning)? Datta & Mukherjee (2001) confirms that the initial phase of any project is the planning phase <b>or</b> However, Bryman (1993) supports Eldabi et al (2002) by stating that .....		
	Y2	Has your use of et al., been consistent (i.e. immediately used or after stating names in full)		
	Y3	Have you always paraphrased your information with the accompanying in-text references?		
	Y4	Have you consistently typed multiple in-text references either from most current to oldest or oldest to most current?		
	Y5	Have all your factual information been referenced?		
	Y6	Is et al., consistently typed in italics, followed by a full stop and comma?		
	Y7	Have you stated the references at the end of the sentence as (reference year:page number)?		
	Y8	Have you stated references that begin the sentence as Reference (year ;page number)?		
	Total			
Italics	Z1	Have you only used italics for foreign words or Latin terminology?		
	Total			
Language	AA1	Have you sent your dissertation to a reputable proof-reader prior to final submission?		
	AA2	Have you avoided terms such as: ±.....and so onq/ and so forth / etc?		
	AA3	Have you avoided the use of the word of <del>proved</del> ?		
	AA4	Have you avoided emotive terms such as: <del>obviously</del> .....qor <del>eloutq</del> ?		
	AA5	Have you included commas after the following terms: However,.....Similarly,.....In addition,....., Furthermore, .....Thus,.....As a result of this,.....		
	AA6	Have you remembered to insert a full stop at the end of each sentence?		
	AA7	When you have stated ±.....discussed belowq is the information actually described below?		
	Total			
Layout of text	BB1	Have you always used full page justification?		
	Total			
Length	CC1	Do the length of your mini dissertation fall within the guidelines of 60-80 pages excluding preliminary pages, reference pages and appendices?		
	Total			
Margins	DD1	Have you incorporated the following margins? Top margin: 25mm		
	DD2	Right margin: 25mm		

	DD3	Left margin: 40mm		
	DD4	Bottom margin: 40mm		
	<b>Total</b>			
<b>Numbers</b>	EE1	Have you written out numbers below 10 in full?		
	EE2	Have you avoided starting a sentence with a number?		
	<b>Total</b>			
<b>Numbering of sub-headings</b>	FF1	Have you sequentially numbered headings to clarify importance and interrelation of events?		
	FF2	Have you placed a full-stop between numbers designating subdivisions (e.g., 2.1)?		
	FF3	Have you avoided placing a full-stop after the last number-unless the number is only one digit (e.g. 2. Introduction or 2.1 Background)?		
	FF4	Have you left one space between the number and heading?		
	<b>Total</b>			
<b>Page numbers</b>	GG1	Have you avoided numbering your cover (title) page?		
	GG2	Have you started numbering your second page, which is your Dedication page with roman numerals ii?		
	GG3	Have you numbered all other preliminary pages with roman numerals?		
	GG4	Have you numbered pages from Chapter One to the end of the references pages with numbers 1, 2, 3....?		
	<b>Total</b>			
<b>Paper usage</b>	HH1	Have you used A4 size (210mm x 297mm) white paper?		
	<b>Total</b>			
<b>Paragraph structure</b>	II1	Have you left a blank space between paragraphs?		
	II2	Have you started each chapter on a new page?		
	<b>Total</b>			
<b>Questionnaire</b>	JJ1	Have you given credit to the original researcher (e.g. adapted from.....)?		
	JJ2	Have you received permission from the original researcher to use their questionnaire or adapt their questionnaire for your research?		
	JJ3	Have you referenced any measurement tools that have been utilised?		
	<b>Total</b>			
<b>Spacing</b>	KK1	Have you incorporated 1.5 width lines spacing in text?		
	<b>Total</b>			
<b>Sub-headings</b>	LL1	Have you typed sub-headings in non-capitals and used bold font?		
	LL2	Have you avoided indenting headings?		
	LL3	Have you sequentially numbered sub-headings to clarify importance and interrelation of events?		
	LL4	Are sub-headings typed exactly as per the Table of Contents?		
	LL5	Is spacing between headings and text consistently the same?		
	<b>Total</b>			
<b>Table</b>	MM1	Have you titled your Table above it?		
	MM2	When referring to Tables . have you used a capital letter T?		
	MM3	Have you indicated below Tables that you have adapted your work from a particular source?		
	MM4	Have you avoided duplicating all your results from your table in text form?		
	MM5	Have you avoided numbering Tables according to the chapter in which they are cited?		
	MM6	Have you avoided repeating the heading of the table in the Table itself?		
	MM7	Have you used vertical and horizontal lines only to separate headings and total portion of the Table?		
	MM8	Have you avoided using footnotes?		
	MM9	Are your headings in lower case-non capitals?		
	MM10	Have you been consistent in using the appropriate format?		
	MM11	Have you used a comma to indicate decimal points?		
	MM12	Have you inserted a 0 in front of decimals less than 1 (e.g. 0. 9)?		
	MM13	Have you included a space between figures which are in their hundreds and thousands (e.g. 1 000)?		
	<b>Total</b>			

## Appendix 23

### FOCUS GROUP CHECKLIST ADJUSTMENTS (PHASE ONE AND TWO)

The title of the Checklist was changed to Checklist of Research Requirements. The heading of the table was aligned to the left. The heading ~~Research Requirements~~ in the third column was removed. The table was formatted to read Section titles down the left hand and first column, a second column was inserted to form a number column which was linked to the checklist requirements column and between each section, a total row was inserted. Each section was alphabetically numbered and each checklist requirement was numbered according to that particular section with the inclusion of a numerical next to that particular alphabet.

Cover page section:

- Question marks were inserted at the end of all questions which were missing this punctuation.
- The word research for the first question was changed to mini dissertation.
- To the question: "Have you included space, to the right of their names and your name, for dates" was changed to "Have you provided sufficient space, to the right of all names for dates and signatures?"
- The example of i.e. 1 and i.e. i were bracketed.

Dedication:

- The example of i.e. i were bracketed.

Acknowledgements:

- The example of i.e. ii was bracketed.

Abstract:

- Small m for Methods was corrected to a capital M.
- The example of i.e. iii was bracketed.

Table of Contents:

- The words 'in the text' were added to the end of the question "Have you checked the pages numbers stated against your headings and sub-headings match the actual page numbering?"
- The question "Have you checked that your text information is not too close to your page numbering?" was changed to "Is there suitable spacing between page numbers and text information?"

List of Tables:

- The question "Have you checked you included all your cited tables?" was changed to "Have you included all cited tables?"

List of Figures:

- The word "your" was removed.

List of Abbreviations:

- No change

## Chapter One

### Aim/s and Research Objectives:

- Each question was allocated to a specific row.
- “Aim” was adjusted to read “aim/s”.
- “objectives” was adjusted to read “objective/s”.

### Rationale:

- The word “doing” was removed and replaced with “conducted”.
- The question “Have motivated your reason for your study with in-text references?” was adjusted to read “Have you motivated your reason/s for the study with in-text references?”

### Benefits:

- The word community was changed to population and the example was bracketed.

### Limitations:

- “the” was inserted in front of the words researcher and research and “in terms of their qualification” was inserted at the end of the sentence.
- The syntax of the sentence “Have you included an expectation that participants/respondents are honest in completing the questionnaire? Was changed to “Have you included the expectation of participants / respondents in completing the questionnaire / subject measures honestly?”

### Outline of Chapters:

- The question “Have you stated what the reader could expect in the following chapters as well as briefly outlined what you stated in this chapter?” was adjusted to two sentences “Have you stated what the reader could expect in each of the chapters? and “Have you outlined inclusions in this chapter?”

## Chapter Two

### Literature Review:

- The question “when you have used quotes, have you always remembered to use inverted commas? was changed to “Have you used inverted commas for quotes mentioned?”

## Chapter Three

### Methodology:

- the word “your” was removed from “Have you included all your abbreviations pertinent to this chapter?”

### Advertising:

- These two questions became one question to read “Have you stated if advertising was required or not required?”

### Sample:

- The question “have you stated who your sample group was” was changed to “have you described your sample group?”

#### Sampling method:

- The question “Have you stated the number of participants you are involving and if for example they are from different sections of the country / university or another environment? was changed to “Have you stated the total number of participants you are involving and if they are from different sectors of the country / university or another environment?”
- The question “Have you stated that the participants who were included in the focus group are not included in the main study?” became “Have you stated that participants included in the focus group are excluded from the main study?”

#### Research tool:

- The question “Have you stated the frequency required for completing the questionnaire?” was changed to “Have you stated the frequency required for completion of the final questionnaire?”

#### Font:

- The word font was inserted after the number 12.

#### Spacing:

- The word “width” was inserted after the number 1.5 and the words in text were inserted after the word spacing.

#### Abbreviations:

- The word “are” was inserted between the abbreviation “m” and “acceptable”.

#### Table:

- The duplication “Have you placed a heading above the Table?” was removed.

## Appendix 24

### STUDENT QUESTIONNAIRE CHANGES PER FOCUS GROUP (PHASE TWO)

#### Section A: Demographics

##### Syntax, word additions and word deletion changes:

- Question 1. ~~%Age as of today's date+~~ was changed to ~~%Age+~~
- Question 3. Answer options were typed alphabetically.
- Question 4, ~~%Marital Status+~~, was adjusted to read ~~%Current marital status+~~ and the answer options were typed alphabetically. The option of ~~living together~~ was removed.
- Question 5, ~~%Do you have any dependents i.e., children, elderly people or any other people who are dependant on you for their well-being?+~~ Was amended to ~~%Do you have any dependents who are reliant on you for their well-being?+~~
- Question 6, the additional words of ~~%In the same block as your response(s)+~~ was tagged on to the end of this question: ~~%If yes, what age group? And please indicate number of people who fall into that category+~~ Instead of the five column options for age groups, the answer options were changed to show two separate columns indicating age options of between ~~%0-10 years and 10-20 years+~~. The two separate options of ~~%Young adults with mental or physical challenges living at home+~~ and ~~%Older adults with mental or physical challenges living at home+~~ were grouped into one option to read ~~%Adults with mental or physical challenges living at home+~~. The ~~%Elderly parents living at home+~~ option was edited to ~~%Elderly parents+~~.
- Question 7. ~~%Physical difficulties+~~ was added as an answer option and the option ~~Other, please specify~~ was recommended to be typed in a new row below the other six stated options.
- Question 8. ~~%Bathroom/toilet rooms+~~ was added to option one ~~%Restrict access to library/.... and Other, please specify~~ was recommended to be typed in a new row below the six other options.
- Question 9. The answer options were recommended to be typed in alphabetical order. The option ~~Other, please specify~~ was recommended to be typed in a new row below the other five stated options.
- Question 10. ~~%Please indicate the language with which you prefer to write and converse+~~ was changed to ~~%Please indicate the language in which you prefer to write+~~. The answer options were changed to read in alphabetical order.
- Question 11. ~~%Please indicate how you are financially supported+~~ was changed to ~~%Please indicate how you are financially supported (more than one option may be crossed)+~~. The answer options were recommended to be typed in alphabetical order. The option of "other, please specify" was typed in a new row below the six other options.
- Question 12. ~~%Do you work part time or full time?+~~ was edited to read ~~%Are you employed? If yes+~~

For the new Question 14, the answer option of Yes / No was included.

- Question 15, ~~%Did you study towards Chiropractic directly after school?+~~ was changed to ~~%Did you enrol in M.Tech Chiropractic programme directly after completing school?+~~ This question also became question 16.



For the new Question 17, the answer option was left blank as this was an open ended question.

For the new Question 18, the answer option of Yes / No was included.

For the new Question 19, the answer option of Yes / No was included.

Question 20, ~~Please~~ indicate your parents highest level of education+ was edited to read ~~Please~~ indicate your significant other, e.g. parent, partner, role model highest level of education+. Where previously the answer options were in rows below the question, the answers were now grouped into 4 columns to the right of the question. The wording ~~achieved a / the~~ was removed. The option ~~Achieved a tertiary undergraduate qualification i.e. BSc or Honours~~ was changed to ~~Undergraduate qualification (i.e. B.Tech, BSc or Honours)~~ This question was previously Question 19.

For the new Question 21, the answer option of Yes / No was included.

For the new Question 22, the answer option of Yes / No was included.

### **The Focus group recommended the following additional questions:**

Question 14. ~~Do~~ you have a printer at home?+

Question 17. ~~When~~ did you first register for a M.Tech Chiropractic programme?+

Question 18. ~~Have~~ you completed a masters research before?+

Question 21. ~~Please~~ indicate if you received support from your significant other?+

Question 22. ~~Did~~ you feel that their knowledge of postgraduate studies aided you in your research?+

### **The Focus Group recommended the following questions be deleted**

Question 17. ~~Where~~ are you in the research process?+

Question 18. ~~In~~ connection with Q 17 please indicate how long you have been in this stage of the research process?+

### **Question numbers that have been changed**

Because of Question 14 being inserted, the original question. ~~Do~~ you have internet access at home?+ Became Question 15. Therefore, ~~Did~~ you enrol in M.Tech Chiropractic programme directly after completing school?+ became Question 16, which replaced ~~have~~ you failed a research subject before?+ and that question was changed to number 19 and to read ~~Have~~ you failed a research subject before?, such as Research Methods and Techniques 1 and the research module of Chiropractic Principles and Practice III+. This question replaced the original question 19 which was moved to question 20.

### **No changes were made to the following questions:**

Question 2. ~~Gender~~; Question 3. ~~Ethnicity~~; Question 7. ~~Please~~ indicate if you have difficulties in the following areas+; Question 8. ~~Please~~ indicate if you feel that these challenges.....+; Question 9. ~~Please~~ indicate your home language?+; Question 13. ~~Do~~ you have a computer at home?+

### **Supervisor Questionnaire changes per Focus group**

The questions were almost a carbon copy of the Student's Questionnaire. The differences were:

- The word supervisor was modified by replacing the word student and
- Questions 15 through to question 19 was aimed solely for the supervisor

## Section A: Demographics

### Syntax, word additions and word deletion changes:

- Question 1. ~~%Age as of today's date+~~ was changed to ~~%Age+~~.
- Question 3. Answer options were typed alphabetically.
- Question 4. ~~%Marital Status+~~ was adjusted to read ~~%Current marital status+~~ and the answer options were typed alphabetically. The option of ~~living together~~ was removed.
- Question 5. ~~%Do you have any dependents i.e., children, elderly people or any other people who are dependent on you for their well-being?+~~ Was amended to ~~%Do you have any dependents who are reliant on you for their well-being?+~~
- Question 6. the additional words of ~~%In the same block as your response(s)+~~ were tagged on to the end of this question: ~~%If yes, what age group? And please indicate number of people who fall into that category+~~ Instead of the five column options for age groups, the answer options were changed to show two separate columns indicating age options of between ~~%0-10 years and 10-20 years+~~. The two separate options of ~~%Young adults with mental or physical challenges living at home+~~ and ~~%Older adults with mental or physical challenges living at home+~~ were grouped into one option to read ~~%Adults with mental or physical challenges living at home+~~. The words ~~%Elderly parents living at home+~~ were edited to ~~%Elderly parents+~~.
- Question 7. The answer options were recommended to be typed in alphabetical order. The option ~~other, please specify~~ was recommended to be typed in a new row below the other five stated options.
- Question 8. ~~%Please indicate the language with which you prefer to write and converse+~~ was changed to ~~%Please indicate the language in which you prefer to write+~~. The answer options were changed to read in alphabetical order.
- Question 9. ~~%Physical difficulties+~~ was added as an answer option and the option ~~other, please specify~~ was recommended to be typed in a new row below the other six stated options.
- Question 10. ~~%Lecture/toilet rooms~~ was added to option one "Restrict access to library/.... and 'other, please specify' was recommended to be typed in a new row below the six other options
- Question 15. The term MTech was inserted in brackets after the word Masters.
- Question 16. The words ~~%more than+~~ and ~~%but less than+~~ was removed and replaced with ~~%greater than~~ or ~~%less than~~ signs.

## Appendix 25

### PILOT STUDY CHECKLIST ADJUSTMENTS (PHASE ONE AND TWO)

#### Pilot Group changes

Cover Page:

- The word “research” in A1 was replaced with mini-dissertation.

Abstract:

- The sentence “Is your word count between 400-500 words?” was inserted as a final question (D11).

Table of Contents:

- The word “stated” in the first question E1 was removed and replaced by the word included and the wording “under this heading” was removed.
- The sentence “Have you checked the wording of your headings and sub-headings match those in the main body of text?” was inserted as E2.
- The original E2 became E3 and “in the text” was inserted at the end of the question.
- The original E3 became E4.
- The following sentence was inserted as E5 “Have you included page numbers against headings and sub-headings?”.

List of Tables:

- The sentence “Do the typed words match those typed in the dissertation?” was inserted as a second question.

List of Figures:

- The sentence “Do the typed words match those typed in the dissertation?” was inserted as a second question.

List of Abbreviations:

- The heading was changed to Abbreviation List.
- The following two questions became H2 and H3 respectively “are these abbreviations typed in alphabetical order? And Do the abbreviations match in-text abbreviations (e.g. have your (sic) used a single abbreviation for a plural word?

The following sections were inserted with the attached questions and respective totals

List of Acronyms:

- “Are these acronyms is alphabetical order?” became L1.

List of Terms:

- “Are these terms in alphabetical order?” became J1.

List of Appendices:

- “Have they all been included?” became K1.

Do the typed titles/headings match the headings of the relevant pages?+became K2

## Chapter One

The alphabetical category representing questions for the particular headings now started with L1 with Chapter One (change due to the three lists inserted).

Aim/s and Research Objectives:

- The word “sub” was inserted in front of the word “headings”, to read sub-headings.

Hypothesis/hypotheses:

- The word hypotheses in the question “Have you included the Null hypotheses” were changed to “hypothesis/es”.
- The question “Are the null hypotheses written under the specific objective to which it relates?” was changed to “Are the null hypothesis/es written under the specific objective/s to which they relate?”
- A final question was inserted “Are the hypotheses written negatively?”.

Rationale:

- Question I8 “Have you numerically stated reasons for conducting this study?” became L8 “Have you stated your reasons for conducting this study in numerical order?”.
- I14 “Have you outlined inclusions in this chapter?” was deleted.

Literature Review:

- This section became alphabetical number M.
- The words “direct quotations” were removed and replaced with “direct quotations”.
- The abbreviation i.e. in question L3 was removed
- J6 now M6 “Have you indicated below an image/picture its source?” was changed to “Have you indicated below a plate (image/picture) its source?”
- The following questions were inserted M10 and M11 “Is your tense consistent?” and “Have your included in-text references for all factual information?”

Study Design:

- The question “Has the design been stated” was updated to read “Is the study design clearly stated”.

Sample:

- ‘is’ was inserted at the end of the question “Have you described who your sample group”.

Sampling Method:

- The word “state” was corrected to read “stated”.
- The question “Have you indicated the appropriate method from the literature?” was changed to read “Have you stated the method of allocation of participants within the sample groups to sub-groups (e.g. convenience/purposeful)?”.

#### Sampling Size:

- The question “Have you stated the total number of participants you are involving and if they are from different sectors of the country / university or another environment?” was changed to read “Have you stated the total number of participants you are involving and their demographics (e.g. age, gender, ethnic group, geographical location)?”.
- The original K10 was deleted from this section.

#### Research procedure:

- The question “Have you stated that the Letter of Information Form and Letter of Information was given to the participants” was inserted.

#### Research tool:

- The alphabetical category of this section was changed to N.
- The words “and supported this with references?” was added to the end of question N13.
- The plural terms for “questionnaires”, “clinical trials”, “observations”, “experimental trials” was changed to read in the singular.
- The word “only” was removed from the instructions but the question “If the study is questionnaire based, please answer N14 only and not N15” was inserted as well as “If the research relates to other studies, please answer N15 only and not N14”.
- The word “the” was inserted in the question “Have you written in [the] past tense”.

#### Results:

- The alphabetical category for this section became O.
- The p in respect of  $p < 0.05$  was amended to italics.
- The word “state” for L10 and L11 – now O10 and 11 respectively was replaced with the word “place”.

#### Discussion:

- The alphabetical category for this section was amended to P.
- The following two sentences were inserted as P3 “Have you explained any anomalies that may have occurred in your results?” and P4 “Have you critiqued your results”.
- The original P3 and P4 became P5 and P6.

#### Conclusions and recommendations:

- The words “concerning perhaps” and “improvements to your methodology” was removed and the question was rewritten to read “Have you offered recommendations with regards to how future studies can improve on your methodology, and can explore areas of interest raised by your study?”.
- The word ‘your’ was replaced with the word “the” in the question “are your recommendations appropriate to your results”.

#### Inconsistencies:

- The word “dash” was removed and replaced with the word “hyphen” for the first question.
- For the third question, the word “behind” was removed and replaced with the words “at the end of”.
- The last question “Have you included UK, SA spelling as opposed to using USA spelling?” was adjusted to read “Have you been consistent in spelling e.g. UK, SA or USA spelling?”.

#### Length:

- The question “Do your page numbers of your mini research fall between the guidelines of 60-80 pages excluding preliminary pages, reference pages and appendices?” was changed to “Do [sic] the length of your mini dissertation fall within the guidelines of 60-80 pages excluding preliminary pages, reference pages and appendices?”.

#### Language:

- The word %behind+ in the statement %behind the following terms:+ was changed to %after+.

## Appendix 26: Correlation Statistics

			I have completed a research contract with my student		Total
			True	false	
Group	Student	Count	27	3	30
		% within group	90.0%	10.0%	100.0%
	Supervisor	Count	24	6	30
		% within group	80.0%	20.0%	100.0%
Total		Count	51	9	60
		% within group	85.0%	15.0%	100.0%

### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.176 <sup>a</sup>	1	0.278		
Continuity Correction <sup>b</sup>	.523	1	0.470		
Likelihood Ratio	1.196	1	0.274		
Fisher's Exact Test				0.472	0.236
Linear-by-Linear Association	1.157	1	0.282		
N of Valid Cases	60				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 4.50.

b. Computed only for a 2x2 table

### If there was conflict between my student and I, I am able to resign from my supervisory capacity

			If there was conflict between my student and I, I am able to resign from my supervisory capacity			Total
			true	false	don't know	
Group	Student	Count	28	2	0	30
		% within group	93.3%	6.7%	0.0%	100.0%
	Supervisor	Count	24	4	2	30
		% within group	80.0%	13.3%	6.7%	100.0%
Total		Count	52	6	2	60
		% within group	86.7%	10.0%	3.3%	100.0%

### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.974 <sup>a</sup>	2	0.226
Likelihood Ratio	3.760	2	0.153
Linear-by-Linear Association	2.870	1	0.090
N of Valid Cases	60		

a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is 1.00.

**My student always accepted my feedback**

			My student always accepted my feedback		Total
			true	false	
Group	Student	Count	28	2	30
		% within group	93.3%	6.7%	100.0%
	Supervisor	Count	26	4	30
		% within group	86.7%	13.3%	100.0%
Total	Count		54	6	60
	% within group		90.0%	10.0%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.741 <sup>a</sup>	1	0.389		
Continuity Correction <sup>b</sup>	.185	1	0.667		
Likelihood Ratio	.754	1	0.385		
Fisher's Exact Test				0.671	0.335
Linear-by-Linear Association	.728	1	0.393		
N of Valid Cases	60				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 3.00.

b. Computed only for a 2x2 table

**My student would always contact me to enquire reasons for delay in returning feedback**

		My student would always contact me to enquire reasons for delay in returning feedback			Total	
		true	false	sometimes		
group	student	Count	16	13	1	30
		% within group	53.3%	43.3%	3.3%	100.0%
	supervisor	Count	19	11	0	30
		% within group	63.3%	36.7%	0.0%	100.0%
Total	Count	35	24	1	60	
	% within group	58.3%	40.0%	1.7%	100.0%	

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.424 <sup>a</sup>	2	0.491
Likelihood Ratio	1.811	2	0.404
Linear-by-Linear Association	1.179	1	0.278
N of Valid Cases	60		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is .50.



**My student did not want me to contact him/her after hours**

			My student did not want me to contact him/her after hours		Total
			true	false	
Group	Student	Count	4	26	30
		% within group	13.3%	86.7%	100.0%
	Supervisor	Count	3	27	30
		% within group	10.0%	90.0%	100.0%
Total	Count		7	53	60
	% within group		11.7%	88.3%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2- sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)
Pearson Chi-Square	.162 <sup>a</sup>	1	.688		
Continuity Correction <sup>b</sup>	.000	1	1.000		
Likelihood Ratio	.162	1	.687		
Fisher's Exact Test				1.000	.500
Linear-by-Linear Association	.159	1	.690		
N of Valid Cases	60				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 3.50.

b. Computed only for a 2x2 table

**My student required reading material related to research to be recommended**

		My student required reading material related to research to be recommended		Total	
		true	false		
Group	Student	Count	24	6	30
		% within group	80.0%	20.0%	100.0%
	Supervisor	Count	21	9	30
		% within group	70.0%	30.0%	100.0%
Total	Count		45	15	60
	% within group		75.0%	25.0%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2- sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)
Pearson Chi-Square	0.800 <sup>a</sup>	1	0.371		
Continuity Correction <sup>b</sup>	0.356	1	0.551		
Likelihood Ratio	0.804	1	0.370		
Fisher's Exact Test				0.552	0.276
Linear-by-Linear Association	0.787	1	0.375		
N of Valid Cases	60				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.50.

b. Computed only for a 2x2 table

### My student responded to the agreed timeframes as per the research contract

			My student responded to the agreed timeframes as per the research contract		Total
			true	false	
Group	Student	Count	23	7	30
		% within group	76.7%	23.3%	100.0%
	Supervisor	Count	21	9	30
		% within group	70.0%	30.0%	100.0%
Total	Count		44	16	60
	% within group		73.3%	26.7%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.341 <sup>a</sup>	1	0.559		
Continuity Correction <sup>b</sup>	.085	1	0.770		
Likelihood Ratio	.342	1	0.559		
Fisher's Exact Test				0.771	0.386
Linear-by-Linear Association	.335	1	0.563		
N of Valid Cases	60				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.00.

b. Computed only for a 2x2 table

### My student required different methods of explanation if at first they did not understand

			My student required different methods of explanation if at first they did not understand		Total
			true	false	
Group	Student	Count	26	4	30
		% within group	86.7%	13.3%	100.0%
	Supervisor	Count	21	9	30
		% within group	70.0%	30.0%	100.0%
Total	Count		47	13	60
	% within group		78.3%	21.7%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.455 <sup>a</sup>	1	0.117		
Continuity Correction <sup>b</sup>	1.571	1	0.210		
Likelihood Ratio	2.506	1	0.113		
Fisher's Exact Test				0.209	0.105
Linear-by-Linear Association	2.414	1	0.120		
N of Valid Cases	60				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.50.

b. Computed only for a 2x2 table

**My student was able to keep to time lines in returning work**

			My student was able to keep to time lines in returning work		Total
			true	false	
Group	Student	Count	22	8	30
		% within group	73.3%	26.7%	100.0%
	Supervisor	Count	18	12	30
		% within group	60.0%	40.0%	100.0%
Total		Count	40	20	60
		% within group	66.7%	33.3%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2- sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)
Pearson Chi-Square	1.200 <sup>a</sup>	1	0.273		
Continuity Correction <sup>b</sup>	0.675	1	0.411		
Likelihood Ratio	1.206	1	0.272		
Fisher's Exact Test				0.412	0.206
Linear-by-Linear Association	1.180	1	0.277		
N of Valid Cases	60				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 10.00.

b. Computed only for a 2x2 table

**My student is based at the university**

			My student is based at the university		Total
			true	false	
Group	Student	Count	19	11	30
		% within group	63.3%	36.7%	100.0%
	Supervisor	Count	24	6	30
		% within group	80.0%	20.0%	100.0%
Total		Count	43	17	60
		% within group	71.7%	28.3%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2- sided)	Exact Sig. (2- sided)	Exact Sig. (1- sided)
Pearson Chi-Square	2.052 <sup>a</sup>	1	0.152		
Continuity Correction <sup>b</sup>	1.313	1	0.252		
Likelihood Ratio	2.075	1	0.150		
Fisher's Exact Test				0.252	0.126
Linear-by-Linear Association	2.018	1	0.155		
N of Valid Cases	60				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.50.

b. Computed only for a 2x2 table

**After the chiropractic programme has accepted the proposed topic, it is registered by the Faculty of Health Science and Research and Ethics Committee**

			After the chiropractic programme has accepted the proposed topic, it is registered by the Faculty of Health Science and Research and Ethics Committee		Total
			true	false	
group	student	Count	25	5	30
		% within group	83.3%	16.7%	100.0%
	supervisor	Count	23	7	30
		% within group	76.7%	23.3%	100.0%
Total		Count	48	12	60
		% within group	80.0%	20.0%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.417 <sup>a</sup>	1	.519		
Continuity Correction <sup>b</sup>	.104	1	.747		
Likelihood Ratio	.418	1	.518		
Fisher's Exact Test				.748	.374
Linear-by-Linear Association	.410	1	.522		
N of Valid Cases	60				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.00.

b. Computed only for a 2x2 table

**An ethics clearance certificate is issued by Faculty on a PG4a approval**

			An ethics clearance certificate is issued by Faculty on a PG4a approval			Total
			true	false	don't know	
Group	Student	Count	20	10	0	30
		% within group	66.7%	33.3%	0.0%	100.0%
	Supervisor	Count	18	11	1	30
		% within group	60.0%	36.7%	3.3%	100.0%
Total		Count	38	21	1	60
		% within group	63.3%	35.0%	1.7%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.153 <sup>a</sup>	2	0.562
Likelihood Ratio	1.539	2	0.463
Linear-by-Linear Association	0.547	1	0.460
N of Valid Cases	60		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is .50.

**Faculty approves the PG4a form**

			Faculty approves the PG4a form		Total
			true	false	
Group	Student	Count	26	4	30
		% within group	86.7%	13.3%	100.0%
	Supervisor	Count	27	3	30
		% within group	90.0%	10.0%	100.0%
Total	Count		53	7	60
	% within group		88.3%	11.7%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	0.162 <sup>a</sup>	1	0.688		
Continuity Correction <sup>b</sup>	0.000	1	1.000		
Likelihood Ratio	0.162	1	0.687		
Fisher's Exact Test				1.000	0.500
Linear-by-Linear Association	0.159	1	0.690		
N of Valid Cases	60				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 3.50.

b. Computed only for a 2x2 table

**The chiropractic programme meets regularly to prevent delay in proposal acceptance**

			The chiropractic programme meets regularly to prevent delay in proposal acceptance		Total
			true	false	
Group	Student	Count	27	3	30
		% within group	90.0%	10.0%	100.0%
	Supervisor	Count	24	6	30
		% within group	80.0%	20.0%	100.0%
Total	Count		51	9	60
	% within group		85.0%	15.0%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.176 <sup>a</sup>	1	0.278		
Continuity Correction <sup>b</sup>	0.523	1	0.470		
Likelihood Ratio	1.196	1	0.274		
Fisher's Exact Test				0.472	0.236
Linear-by-Linear Association	1.157	1	0.282		
N of Valid Cases	60				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 4.50.

b. Computed only for a 2x2 table

**The completed PG4a form needs to be discussed during a chiropractic departmental meeting involving the student and supervisor**

		The completed PG4a form needs to be discussed during a chiropractic departmental meeting involving the student and supervisor		Total
		true	false	
group	student	Count	27	3
		% within group	90.0%	10.0%
	supervisor	Count	30	0
		% within group	100.0%	0.0%
Total		Count	57	3
		% within group	95.0%	5.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	3.158 <sup>a</sup>	1	0.076		
Continuity Correction <sup>b</sup>	1.404	1	0.236		
Likelihood Ratio	4.317	1	0.038		
Fisher's Exact Test				0.237	0.119
Linear-by-Linear Association	3.105	1	0.078		
N of Valid Cases	60				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 1.50.

b. Computed only for a 2x2 table

**My research must contain scientific information i.e. jargon related to the information being reviewed**

		My research must contain scientific information i.e. jargon related to the information being reviewed				Total
		true	false	don't know	N/A	
Group	Student	Count	27	2	1	0
		% within group	90.0%	6.7%	3.3%	0.0%
	Supervisor	Count	26	2	1	1
		% within group	86.7%	6.7%	3.3%	3.3%
Total		Count	53	4	2	1
		% within group	88.3%	6.7%	3.3%	1.7%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.019 <sup>a</sup>	3	0.797
Likelihood Ratio	1.405	3	0.704
Linear-by-Linear Association	0.615	1	0.433
N of Valid Cases	60		

a. 6 cells (75.0%) have expected count less than 5. The minimum expected count is .50.

**Research for a master's degree, submitted post examination produces new knowledge**

		Research for a master's degree, submitted post examination produces new knowledge			Total	
		true	false	sometimes		
Group	Student	Count	21	8	0	29
		% within group	72.4%	27.6%	0.0%	100.0%
	Supervisor	Count	23	6	1	30
		% within group	76.7%	20.0%	3.3%	100.0%
Total		Count	44	14	1	59
		% within group	74.6%	23.7%	1.7%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.360 <sup>a</sup>	2	0.507
Likelihood Ratio	1.747	2	0.417
Linear-by-Linear Association	.028	1	0.868
N of Valid Cases	59		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is .49.

**Participants who formed part of my student's study were expected to sign a form giving permission to be involved in the study**

			Participants who formed part of my student's study were expected to sign a form giving permission to be involved in the study			Total
			true	false	N/A	
group	student	Count	27	3	0	30
		% within group	90.0%	10.0%	0.0%	100.0%
	supervisor	Count	29	0	1	30
		% within group	96.7%	0.0%	3.3%	100.0%
Total		Count	56	3	1	60
		% within group	93.3%	5.0%	1.7%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.071 <sup>a</sup>	2	0.131
Likelihood Ratio	5.617	2	0.060
Linear-by-Linear Association	0.054	1	0.816
N of Valid Cases	60		

a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is .50.

**Tables, inclusive of contents, must be justified to the left**

			Tables, inclusive of contents, must be justified to the left			Total
			true	false	don't know	
Group	Student	Count	11	18	1	30
		% within group	36.7%	60.0%	3.3%	100.0%
	Supervisor	Count	14	14	2	30
		% within group	46.7%	46.7%	6.7%	100.0%
Total		Count	25	32	3	60
		% within group	41.7%	53.3%	5.0%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.193 <sup>a</sup>	2	.551
Likelihood Ratio	1.202	2	.548
Linear-by-Linear Association	.197	1	.657
N of Valid Cases	60		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is 1.50.

**The abstract, literature review, methodology, results, discussion, conclusion, and recommendations all include in-text referencing**

Text Referencing			The abstract, literature review, methodology, results, discussion, conclusion, and recommendations all include in-text referencing		Total
			true	false	
Group	Student	Count	11	19	30
		% within group	36.7%	63.3%	100.0%
	Supervisor	Count	8	22	30
		% within group	26.7%	73.3%	100.0%
Total		Count	19	41	60
		% within group	31.7%	68.3%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.693 <sup>a</sup>	1	0.405		
Continuity Correction <sup>b</sup>	.308	1	0.579		
Likelihood Ratio	.695	1	0.404		
Fisher's Exact Test				0.580	0.290
Linear-by-Linear Association	.682	1	0.409		
N of Valid Cases	60				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 9.50.

b. Computed only for a 2x2 table



### The Focus Group discussion is usually tape-recorded

			The Focus Group discussion is usually tape-recorded			Total
			true	false	don't know	
Group	Student	Count	20	7	3	30
		% within group	66.7%	23.3%	10.0%	100.0%
	Supervisor	Count	21	7	2	30
		% within group	70.0%	23.3%	6.7%	100.0%
Total	Count		41	14	5	60
	% within group		68.3%	23.3%	8.3%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	0.224 <sup>a</sup>	2	0.894
Likelihood Ratio	0.226	2	0.893
Linear-by-Linear Association	0.161	1	0.688
N of Valid Cases	60		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is 2.50.

### The headings for tables must be in the same font as writing text

			The headings for tables must be in the same font as writing text			Total
			true	false	don't know	
Group	Student	Count	24	6	0	30
		% within group	80.0%	20.0%	0.0%	100.0%
	Supervisor	Count	22	7	1	30
		% within group	73.3%	23.3%	3.3%	100.0%
Total	Count		46	13	1	60
	% within group		76.7%	21.7%	1.7%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.164 <sup>a</sup>	2	0.559
Likelihood Ratio	1.550	2	0.461
Linear-by-Linear Association	0.668	1	0.414
N of Valid Cases	60		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is .50.

**The null hypothesis, if required is written as: “The identified psychosocial factors affect throughput rates”**

			The null hypothesis, if required is written as: “The identified psychosocial factors affect throughput rates”			Total
			true	false	don't know	
Group	Student	Count	6	23	1	30
		% within group	20.0%	76.7%	3.3%	100.0%
	Supervisor	Count	3	27	0	30
		% within group	10.0%	90.0%	0.0%	100.0%
Total	Count		9	50	1	60
	% within group		15.0%	83.3%	1.7%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.320 <sup>a</sup>	2	.313
Likelihood Ratio	2.726	2	.256
Linear-by-Linear Association	.440	1	.507
N of Valid Cases	60		

a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is .50.

**Unless permission was received, all information relating to participants remains confidential**

			Unless permission was received, all information relating to participants remains confidential		Total
			true	false	
Group	Student	Count	29	1	30
		% within group	96.7%	3.3%	100.0%
	Supervisor	Count	26	4	30
		% within group	86.7%	13.3%	100.0%
Total	Count		55	5	60
	% within group		91.7%	8.3%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.964 <sup>a</sup>	1	.161		
Continuity Correction <sup>b</sup>	.873	1	.350		
Likelihood Ratio	2.091	1	.148		
Fisher's Exact Test				.353	.177
Linear-by-Linear Association	1.931	1	.165		
N of Valid Cases	60				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 2.50.

b. Computed only for a 2x2 table

**When my student includes a figure in their work, the heading (for e.g. Figure 1.1 age group) - is stated above the figure**

		When my student includes a figure in their work, the heading (for e.g. Figure 1.1 age group) - is stated above the figure		Total
		true	false	
group	student	Count	9	21
		% within group	30.0%	70.0%
	supervisor	Count	5	25
		% within group	16.7%	83.3%
Total	Count		14	46
	% within group		23.3%	76.7%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.491 <sup>a</sup>	1	.222		
Continuity Correction <sup>b</sup>	.839	1	.360		
Likelihood Ratio	1.507	1	.220		
Fisher's Exact Test				.360	.180
Linear-by-Linear Association	1.466	1	.226		
N of Valid Cases	60				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.00.

b. Computed only for a 2x2 table

**When including a table in your work, the heading (for e.g. Table 1.1 ethnic group) - is stated below the table**

		When including a table in your work, the heading (for e.g. Table 1.1 ethnic group) - is stated below the table		Total
		true	false	
Group	Student	Count	5	25
		% within group	16.7%	83.3%
	Supervisor	Count	7	23
		% within group	23.3%	76.7%
Total	Count		12	48
	% within group		20.0%	80.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.417 <sup>a</sup>	1	.519		
Continuity Correction <sup>b</sup>	.104	1	.747		
Likelihood Ratio	.418	1	.518		
Fisher's Exact Test				.748	.374
Linear-by-Linear Association	.410	1	.522		
N of Valid Cases	60				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.00.

b. Computed only for a 2x2 table

**My student is not expected to publish an article based on their findings**

			My student is not expected to publish an article based on their findings			Total
			true	false	don't know	
Group	Student	Count	11	18	1	30
		% within group	36.7%	60.0%	3.3%	100.0%
	Supervisor	Count	7	23	0	30
		% within group	23.3%	76.7%	0.0%	100.0%
Total		Count	18	41	1	60
		% within group	30.0%	68.3%	1.7%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.499 <sup>a</sup>	2	.287
Likelihood Ratio	2.894	2	.235
Linear-by-Linear Association	.624	1	.430
N of Valid Cases	60		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is .50.

**My student is expected to submit three hard-bound copy to the examiners**

			My student is expected to submit three hard-bound copy to the examiners		Total
			true	false	
Group	Student	Count	3	27	30
		% within group	10.0%	90.0%	100.0%
	Supervisor	Count	4	26	30
		% within group	13.3%	86.7%	100.0%
Total		Count	7	53	60
		% within group	11.7%	88.3%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.162 <sup>a</sup>	1	.688		
Continuity Correction <sup>b</sup>	.000	1	1.000		
Likelihood Ratio	.162	1	.687		
Fisher's Exact Test				1.000	.500
Linear-by-Linear Association	.159	1	.690		
N of Valid Cases	60				

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 3.50.  
b. Computed only for a 2x2 table

### My student is responsible for storing their completed hardbound research dissertation

			My student is responsible for storing their completed hardbound research dissertation			Total
			true	false	don't know	
Group	Student	Count	1	29	0	30
		% within group	3.3%	96.7%	0.0%	100.0%
	Supervisor	Count	5	24	1	30
		% within group	16.7%	80.0%	3.3%	100.0%
Total	Count		6	53	1	60
	% within group		10.0%	88.3%	1.7%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.138 <sup>a</sup>	2	.126
Likelihood Ratio	4.770	2	.092
Linear-by-Linear Association	1.344	1	.246
N of Valid Cases	60		

a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is .50.

### I did not find the research handbook very useful

			I did not find the research handbook very useful				Total
			strongly agree	agree	disagree	strongly disagree	
Group	Student	Count	1	9	15	5	30
		% within group	3.3%	30.0%	50.0%	16.7%	100.0%
	Supervisor	Count	3	4	20	3	30
		% within group	10.0%	13.3%	66.7%	10.0%	100.0%
Total	Count		4	13	35	8	60
	% within group		6.7%	21.7%	58.3%	13.3%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.137 <sup>a</sup>	3	.247
Likelihood Ratio	4.242	3	.236
Linear-by-Linear Association	.029	1	.865
N of Valid Cases	60		

a. 4 cells (50.0%) have expected count less than 5. The minimum expected count is 2.00.

### My student did not like it when I intervened with their research

			My student did not like it when I intervened with their research					Total
			strongly agree	agree	disagree	strongly disagree	N/A	
Group	Student	Count	2	3	19	6	0	30
		% within group	6.7%	10.0%	63.3%	20.0%	0.0%	100.0%
	Supervisor	Count	0	2	19	8	1	30
		% within group	0.0%	6.7%	63.3%	26.7%	3.3%	100.0%
Total	Count		2	5	38	14	1	60
	% within group		3.3%	8.3%	63.3%	23.3%	1.7%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.486 <sup>a</sup>	4	.480
Likelihood Ratio	4.647	4	.325
Linear-by-Linear Association	2.639	1	.104
N of Valid Cases	60		

a. 6 cells (60.0%) have expected count less than 5. The minimum expected count is .50.

### My student preferred to accumulating all the information concerning their research topic before handing it in to me for feedback

			My student preferred to accumulating all the information concerning their research topic before handing it in to me for feedback				Total
			strongly agree	agree	disagree	strongly disagree	
Group	Student	Count	4	12	13	1	30
		% within group	13.3%	40.0%	43.3%	3.3%	100.0%
	Supervisor	Count	1	16	13	0	30
		% within group	3.3%	53.3%	43.3%	0.0%	100.0%
Total	Count		5	28	26	1	60
	% within group		8.3%	46.7%	43.3%	1.7%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.371 <sup>a</sup>	3	.338
Likelihood Ratio	3.887	3	.274
Linear-by-Linear Association	.038	1	.846
N of Valid Cases	60		

a. 4 cells (50.0%) have expected count less than 5. The minimum expected count is .50.

### I prefer to work in partnership with my student

			I prefer to work in partnership with my student				Total
			strongly agree	agree	disagree	strongly disagree	
Group	Student	Count	7	20	1	2	30
		% within group	23.3%	66.7%	3.3%	6.7%	100.0%
	Supervisor	Count	8	20	2	0	30
		% within group	26.7%	66.7%	6.7%	0.0%	100.0%
Total	Count		15	40	3	2	60
	% within group		25.0%	66.7%	5.0%	3.3%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.400 <sup>a</sup>	3	.494
Likelihood Ratio	3.179	3	.365
Linear-by-Linear Association	.631	1	.427
N of Valid Cases	60		

a. 4 cells (50.0%) have expected count less than 5. The minimum expected count is 1.00.

### My student was in a hurry to complete their research

			My student was in a hurry to complete their research				Total
			strongly agree	agree	disagree	strongly disagree	
Group	Student	Count	10	15	4	1	30
		% within group	33.3%	50.0%	13.3%	3.3%	100.0%
	Supervisor	Count	4	16	10	0	30
		% within group	13.3%	53.3%	33.3%	0.0%	100.0%
Total	Count		14	31	14	1	60
	% within group		23.3%	51.7%	23.3%	1.7%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.175 <sup>a</sup>	3	.103
Likelihood Ratio	6.732	3	.081
Linear-by-Linear Association	3.079	1	.079
N of Valid Cases	60		

a. 2 cells (25.0%) have expected count less than 5. The minimum expected count is .50.

### It is not necessary to include a pilot group if questions have been accepted by a focus group

			It is not necessary to include a pilot group if questions have been accepted by a focus group					Total
			strongly agree	agree	disagree	strongly disagree	N/A	
Group	Student	Count	1	8	16	4	1	30
		% within group	3.3%	26.7%	53.3%	13.3%	3.3%	100.0%
	Supervisor	Count	0	7	13	10	0	30
		% within group	0.0%	23.3%	43.3%	33.3%	0.0%	100.0%
Total	Count		1	15	29	14	1	60
	% within group		1.7%	25.0%	48.3%	23.3%	1.7%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.948 <sup>a</sup>	4	.293
Likelihood Ratio	5.807	4	.214
Linear-by-Linear Association	1.303	1	.254
N of Valid Cases	60		

a. 4 cells (40.0%) have expected count less than 5. The minimum expected count is .50.

### My student caused me to feel apprehensive in discussing research

			My student caused me to feel apprehensive in discussing research				Total
			strongly agree	agree	disagree	strongly disagree	
Group	Student	Count	2	2	13	13	30
		% within group	6.7%	6.7%	43.3%	43.3%	100.0%
	Supervisor	Count	0	1	19	10	30
		% within group	0.0%	3.3%	63.3%	33.3%	100.0%
Total	Count		2	3	32	23	60
	% within group		3.3%	5.0%	53.3%	38.3%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.850 <sup>a</sup>	3	.278
Likelihood Ratio	4.636	3	.200
Linear-by-Linear Association	.132	1	.716
N of Valid Cases	60		

a. 4 cells (50.0%) have expected count less than 5. The minimum expected count is 1.00.



### My student dominated our research conversations

			My student dominated our research conversations			Total
			agree	disagree	strongly disagree	
Group	Student	Count	3	20	7	30
		% within group	10.0%	66.7%	23.3%	100.0%
	Supervisor	Count	0	21	9	30
		% within group	0.0%	70.0%	30.0%	100.0%
Total	Count	3	41	16	60	
	% within group	5.0%	68.3%	26.7%	100.0%	

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.274 <sup>a</sup>	2	.195
Likelihood Ratio	4.434	2	.109
Linear-by-Linear Association	1.519	1	.218
N of Valid Cases	60		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is 1.50.

### My student often changed his/her mind concerning previous corrections

			My student often changed his/her mind concerning previous corrections				Total
			strongly agree	agree	disagree	strongly disagree	
Group	Student	Count	2	3	14	11	30
		% within group	6.7%	10.0%	46.7%	36.7%	100.0%
	Supervisor	Count	1	3	20	6	30
		% within group	3.3%	10.0%	66.7%	20.0%	100.0%
Total		Count	3	6	34	17	60
		% within group	5.0%	10.0%	56.7%	28.3%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.863 <sup>a</sup>	3	.413
Likelihood Ratio	2.897	3	.408
Linear-by-Linear Association	.256	1	.613
N of Valid Cases	60		

a. 4 cells (50.0%) have expected count less than 5. The minimum expected count is 1.50.

### My student preferred student group sessions

			My student preferred student group sessions					Total
			strongly agree	agree	disagree	strongly disagree	N/A	
Group	Student	Count	1	2	17	10	0	30
		% within group	3.3%	6.7%	56.7%	33.3%	0.0%	100.0%
	Supervisor	Count	0	3	16	10	1	30
		% within group	0.0%	10.0%	53.3%	33.3%	3.3%	100.0%
Total	Count		1	5	33	20	1	60
	% within group		1.7%	8.3%	55.0%	33.3%	1.7%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.230 <sup>a</sup>	4	.693
Likelihood Ratio	3.004	4	.557
Linear-by-Linear Association	.303	1	.582
N of Valid Cases	60		

a. 6 cells (60.0%) have expected count less than 5. The minimum expected count is .50.

### My student's confidence in the research process increased by final hand in date

			My student's confidence in the research process increased by final hand in date				Total
			strongly agree	agree	disagree	strongly disagree	
Group	Student	Count	9	14	4	3	30
		% within group	30.0%	46.7%	13.3%	10.0%	100.0%
	Supervisor	Count	6	20	4	0	30
		% within group	20.0%	66.7%	13.3%	0.0%	100.0%
Total	Count		15	34	8	3	60
	% within group		25.0%	56.7%	13.3%	5.0%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.659 <sup>a</sup>	3	.199
Likelihood Ratio	5.827	3	.120
Linear-by-Linear Association	.253	1	.615
N of Valid Cases	60		

a. 4 cells (50.0%) have expected count less than 5. The minimum expected count is 1.50.

### My student and the and co-supervisor did not always agree with each others' comments

			My student and the and co-supervisor did not always agree with each others' comments					Total
			strongly agree	agree	disagree	strongly disagree	N/A	
Group	Student	Count	1	3	11	8	7	30
		% within group	3.3%	10.0%	36.7%	26.7%	23.3%	100.0%
	Supervisor	Count	0	3	11	3	13	30
		% within group	0.0%	10.0%	36.7%	10.0%	43.3%	100.0%
Total	Count		1	6	22	11	20	60
	% within group		1.7%	10.0%	36.7%	18.3%	33.3%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.073 <sup>a</sup>	4	.280
Likelihood Ratio	5.573	4	.233
Linear-by-Linear Association	1.135	1	.287
N of Valid Cases	60		

a. 4 cells (40.0%) have expected count less than 5. The minimum expected count is .50.

### My student knew how to access internet research articles

			My student knew how to access internet research articles				Total
			strongly agree	agree	disagree	strongly disagree	
Group	Student	Count	9	10	9	2	30
		% within group	30.0%	33.3%	30.0%	6.7%	100.0%
	Supervisor	Count	7	16	7	0	30
		% within group	23.3%	53.3%	23.3%	0.0%	100.0%
Total	Count		16	26	16	2	60
	% within group		26.7%	43.3%	26.7%	3.3%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.885 <sup>a</sup>	3	.274
Likelihood Ratio	4.671	3	.198
Linear-by-Linear Association	.396	1	.529
N of Valid Cases	60		

a. 2 cells (25.0%) have expected count less than 5. The minimum expected count is 1.00.

### Research had a negative impact on my student's personal life

			Research had a negative impact on my student's personal life				Total
			strongly agree	agree	disagree	strongly disagree	
Group	Student	Count	8	9	11	2	30
		% within group	26.7%	30.0%	36.7%	6.7%	100.0%
	Supervisor	Count	4	15	11	0	30
		% within group	13.3%	50.0%	36.7%	0.0%	100.0%
Total	Count		12	24	22	2	60
	% within group		20.0%	40.0%	36.7%	3.3%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.833 <sup>a</sup>	3	.184
Likelihood Ratio	5.648	3	.130
Linear-by-Linear Association	.000	1	1.000
N of Valid Cases	60		

a. 2 cells (25.0%) have expected count less than 5. The minimum expected count is 1.00.

### The chiropractic staff are all approachable with regards to research information

			The chiropractic staff are all approachable with regards to research information					Total
			strongly agree	agree	disagree	strongly disagree	N/A	
Group	Student	Count	1	17	9	3	0	30
		% within group	3.3%	56.7%	30.0%	10.0%	0.0%	100.0%
	Supervisor	Count	5	13	8	3	1	30
		% within group	16.7%	43.3%	26.7%	10.0%	3.3%	100.0%
Total	Count		6	30	17	6	1	60
	% within group		10.0%	50.0%	28.3%	10.0%	1.7%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.259 <sup>a</sup>	4	.372
Likelihood Ratio	4.891	4	.299
Linear-by-Linear Association	.088	1	.767
N of Valid Cases	60		

a. 6 cells (60.0%) have expected count less than 5. The minimum expected count is .50.

### The university's computer search engines allow access to research material

			The university's computer search engines allow access to research material						Total
			strongly agree	agree	disagree	strongly disagree	N/A	not answered	
Group	Student	Count	7	18	3	2	0	0	30
		% within group	23.3%	60.0%	10.0%	6.7%	0.0%	0.0%	100.0%
	Supervisor	Count	3	18	6	0	1	2	30
		% within group	10.0%	60.0%	20.0%	0.0%	3.3%	6.7%	100.0%
Total		Count	10	36	9	2	1	2	60
		% within group	16.7%	60.0%	15.0%	3.3%	1.7%	3.3%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.600 <sup>a</sup>	5	.180
Likelihood Ratio	9.597	5	.088
Linear-by-Linear Association	2.977	1	.084
N of Valid Cases	60		

a. 8 cells (66.7%) have expected count less than 5. The minimum expected count is .50.

### The university's librarians were very helpful to my student

			The university's librarians were very helpful to my student					Total
			strongly agree	agree	disagree	strongly disagree	not answered	
Group	Student	Count	7	19	2	2	0	30
		% within group	23.3%	63.3%	6.7%	6.7%	0.0%	100.0%
	Supervisor	Count	3	21	4	0	2	30
		% within group	10.0%	70.0%	13.3%	0.0%	6.7%	100.0%
Total		Count	10	40	6	2	2	60
		% within group	16.7%	66.7%	10.0%	3.3%	3.3%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.367 <sup>a</sup>	4	.173
Likelihood Ratio	7.970	4	.093
Linear-by-Linear Association	1.790	1	.181
N of Valid Cases	60		

a. 6 cells (60.0%) have expected count less than 5. The minimum expected count is 1.00.

### The university's libraries provided adequate support in facilitating me with research material

			The university's libraries provided adequate support in facilitating me with research material						Total
			strongly agree	agree	disagree	strongly disagree	N/A	not answered	
Group	Student	Count	6	18	3	2	0	1	30
		% within group	20.0%	60.0%	10.0%	6.7%	0.0%	3.3%	100.0%
	Supervisor	Count	2	22	2	2	2	0	30
		% within group	6.7%	73.3%	6.7%	6.7%	6.7%	0.0%	100.0%
Total	Count		8	40	5	4	2	1	60
	% within group		13.3%	66.7%	8.3%	6.7%	3.3%	1.7%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.600 <sup>a</sup>	5	.347
Likelihood Ratio	6.854	5	.232
Linear-by-Linear Association	.415	1	.519
N of Valid Cases	60		

a. 10 cells (83.3%) have expected count less than 5. The minimum expected count is .50.

### Aims and objectives have been answered

Aims and objectives have been answered															Total
		supervisor	co supervisor	proof reader	student	supervisor + co-supervisor	supervisor *student	supervisor * co-supervisor * statistician	student	supervisor * co-supervisor * student	proof-reader * student	supervisor * co-supervisor * proof-reader	supervisor * statistician * student		
Group	Student	Count	14	1	1	13	0	0	0	0	1	0	0	30	
		% within group	46.7 %	3.3%	3.3%	43.3%	0.0%	0.0%	0.0%	0.0%	3.3 %	0.0%	0.0%	100.0%	
	Supervisor	Count	13	0	1	7	1	2	1	3	0	1	1	30	
		% within group	43.3 %	0.0%	3.3%	23.3%	3.3%	6.7%	3.3%	10.0%	0.0 %	3.3%	3.3%	100.0%	
Total	Count	27	1	2	20	1	2	1	3	1	1	1	1	60	
	% within group	45.0 %	1.7%	3.3%	33.3%	1.7%	3.3%	1.7%	5.0%	1.7 %	1.7%	1.7%	100.0%		

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.837 <sup>a</sup>	10	.233
Likelihood Ratio	17.114	10	.072
Linear-by-Linear Association	3.259	1	.071
N of Valid Cases	60		

a. 18 cells (81.8%) have expected count less than 5. The minimum expected count is .50.

## All relevant information is included in the literature review

All relevant information is included in the literature review												Total				
			research administrator	supervisor	co supervisor	proof reader	student	supervisor + co-	supervisor * supervisor	co- supervisor *	supervisor * student	supervisor *student	supervisor * supervisor	co- supervisor *	supervisor student	
group	student	Count	0	16	1	2	10	0		0	1			0		30
		% within group	0.0%	53.3%	3.3%	6.7%	33.3%	0.0%		0.0%	3.3 %			0.0%		100.0%
	supervisor	Count	1	13	0	0	8	2		2	2			2		30
		% within group	3.3%	43.3%	0.0%	0.0%	26.7%	6.7%		6.7%	6.7 %			6.7%		100.0%
	Total	Count	1	29	1	2	18	2		2	3			2		60
		% within group	1.7%	48.3%	1.7%	3.3%	30.0%	3.3%		3.3%	5.0 %			3.3%		100.0%

Chi-Square Tests		Value	df	Asymp. Sig. (2- sided)
Pearson Chi-Square		10.866 <sup>a</sup>	8	.209
Likelihood Ratio		14.736	8	.064
Linear-by-Linear Association		2.606	1	.106
N of Valid Cases		60		

a. 14 cells (77.8%) have expected count less than 5. The minimum expected count is .50.

## That the correct font type and size have been used

That the correct font type and size have been used										Total			
		supervisor	statistician	proof-reader	student	supervisor * co-	supervisor - proof-	reader * student	proof- reader *	student	supervisor * proof-	reader * student	
group	student	Count	2	1	13	13		0		0		1	30
		% within group	6.7%	3.3%	43.3%	43.3%		0.0%		0.0%		3.3%	100.0%
	supervisor	Count	0	0	6	20		2		1		1	30
		% within group	0.0%	0.0%	20.0%	66.7%		6.7%		3.3%		3.3%	100.0%
	Total	Count	2	1	19	33		2		1		2	60
		% within group	3.3%	1.7%	31.7%	55.0%		3.3%		1.7%		3.3%	100.0%

Chi-Square Tests		Value	df	Asymp. Sig. (2- sided)
Pearson Chi-Square		10.064 <sup>a</sup>	6	.122
Likelihood Ratio		12.455	6	.053
Linear-by-Linear Association		2.072	1	.150
N of Valid Cases		60		

a. 10 cells (71.4%) have expected count less than 5. The minimum expected count is .50.

### That each section of work is completed on time

		That each section of work is completed on time						Total
		supervisor	student	supervisor + co-supervisor	* supervisor co-supervisor	* student	supervisor *student	* supervisor co-supervisor student
		Count	Count	Count	Count	Count	Count	Count
group	student	15	13	0	1	1	0	30
	% within group	50.0%	43.3%	0.0%	3.3%	3.3%	0.0%	100.0%
supervisor	Count	17	7	1	0	3	2	30
	% within group	56.7%	23.3%	3.3%	0.0%	10.0%	6.7%	100.0%
Total	Count	32	20	1	1	4	2	60
	% within group	53.3%	33.3%	1.7%	1.7%	6.7%	3.3%	100.0%

### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.925 <sup>a</sup>	5	.226
Likelihood Ratio	8.545	5	.129
Linear-by-Linear Association	.392	1	.531
N of Valid Cases	60		

a. 8 cells (66.7%) have expected count less than 5. The minimum expected count is .50.

### Researching the material required for the literature review

		Researching the material required for the literature review						Total
		student	* supervisor co-	* supervisor student	supervisor *student	* supervisor co-	* supervisor student	
		Count	Count	Count	Count	Count	Count	Count
Group	Student	30	0	0	0	0	0	30
	% within group	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Supervisor	Count	26	1	1	2	2	2	30
	% within group	86.7%	3.3%	3.3%	6.7%	6.7%	6.7%	100.0%
Total	Count	56	1	1	2	2	2	60
	% within group	93.3%	1.7%	1.7%	3.3%	3.3%	3.3%	100.0%

### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.286 <sup>a</sup>	3	.232
Likelihood Ratio	5.831	3	.120
Linear-by-Linear Association	3.401	1	.065
N of Valid Cases	60		

a. 6 cells (75.0%) have expected count less than 5. The minimum expected count is .50.



### Proof-reading my student's work

		Proof-reader	supervisor * proof-reader	* supervisor co-supervisor - proof-reader * student	proof-reader * student	* supervisor proof-reader * student	Total
Student	Count	30	0	0	0	0	30
	% within group	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%
supervisor	Count	23	1	2	2	2	30
	% within group	76.7%	3.3%	6.7%	6.7%	6.7%	100.0%
Total	Count	53	1	2	2	2	60
	% within group	88.3%	1.7%	3.3%	3.3%	3.3%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.925 <sup>a</sup>	4	.094
Likelihood Ratio	10.631	4	.031
Linear-by-Linear Association	6.466	1	.011
N of Valid Cases	60		

a. 8 cells (80.0%) have expected count less than 5. The minimum expected count is .50.

### The university's computers provide software to assist with referencing (e.g. Endnote)

		True	False	Do not know	N/A	Total
Student	Count	18	9	3	0	30
	% within group	60.0%	30.0%	10.0%	0.0%	100.0%
Supervisor	Count	24	3	1	2	30
	% within group	80.0%	10.0%	3.3%	6.7%	100.0%
Total	Count	42	12	4	2	60
	% within group	70.0%	20.0%	6.7%	3.3%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.857 <sup>a</sup>	3	.077
Likelihood Ratio	7.819	3	.050
Linear-by-Linear Association	.084	1	.772
N of Valid Cases	60		

a. 4 cells (50.0%) have expected count less than 5. The minimum expected count is 1.00.

### My student conscientiously listened to my feedback

		strongly agree	agree	disagree	strongly disagree	Total
student	Count	7	17	4	2	30
	% within group	23.3%	56.7%	13.3%	6.7%	100.0%
supervisor	Count	12	17	1	0	30
	% within group	40.0%	56.7%	3.3%	0.0%	100.0%
Total	Count	19	34	5	2	60
	% within group	31.7%	56.7%	8.3%	3.3%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.116 <sup>a</sup>	3	.164
Likelihood Ratio	6.031	3	.110
Linear-by-Linear Association	4.668	1	.031
N of Valid Cases	60		

a. 4 cells (50.0%) have expected count less than 5. The minimum expected count is 1.00.

### If given the choice, I would have reassigned my student to another supervisor

		Strongly agree	Agree	Disagree	Strongly disagree	Total
Student	Count	4	2	11	13	30
	% within group	13.3%	6.7%	36.7%	43.3%	100.0%
Supervisor	Count	0	4	18	8	30
	% within group	0.0%	13.3%	60.0%	26.7%	100.0%
Total	Count	4	6	29	21	60
	% within group	6.7%	10.0%	48.3%	35.0%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.547 <sup>a</sup>	3	0.056
Likelihood Ratio	9.133	3	0.028
Linear-by-Linear Association	0.023	1	0.879
N of Valid Cases	60		

a. 4 cells (50.0%) have expected count less than 5. The minimum expected count is 2.00.

The focus group helped formulate my student's questions in line with their research topic

		Strongly agree	Agree	Disagree	Strongly disagree	N/A	Not answered	Total
Student	Count	2	9	10	1	7	1	30
	% within group	6.7%	30.0%	33.3%	3.3%	23.3%	3.3%	100.0%
Supervisor	Count	8	8	3	0	11	0	30
	% within group	26.7%	26.7%	10.0%	0.0%	36.7%	0.0%	100.0%
Total	Count	10	17	13	1	18	1	60
	% within group	16.7%	28.3%	21.7%	1.7%	30.0%	1.7%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.317 <sup>a</sup>	5	0.067
Likelihood Ratio	11.559	5	0.041
Linear-by-Linear Association	0.347	1	0.556
N of Valid Cases	60		

a. 4 cells (33.3%) have expected count less than 5. The minimum expected count is .50.

		strongly agree	agree	disagree	strongly disagree	N/A	Total
group	student	Count	1	2	19	8	30
		% within group	3.3%	6.7%	63.3%	26.7%	100.0%
	supervisor	Count	0	0	18	7	30
		% within group	0.0%	0.0%	60.0%	23.3%	100.0%
Total	Count	1	2	37	15	5	60
	% within group	1.7%	3.3%	61.7%	25.0%	8.3%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.094 <sup>a</sup>	4	0.088
Likelihood Ratio	11.184	4	0.025
Linear-by-Linear Association	4.939	1	0.026
N of Valid Cases	60		

a. 6 cells (60.0%) have expected count less than 5. The minimum expected count is .50.

### My student preferred to discuss their work with their friends than with me

		strongly agree	agree	disagree	strongly disagree	Total
student	Count	1	2	11	16	30
	% within group	3.3%	6.7%	36.7%	53.3%	100.0%
supervisor	Count	0	0	20	10	30
	% within group	0.0%	0.0%	66.7%	33.3%	100.0%
Total	Count	1	2	31	26	60
	% within group	1.7%	3.3%	51.7%	43.3%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.998 <sup>a</sup>	3	0.072
Likelihood Ratio	8.207	3	0.042
Linear-by-Linear Association	.164	1	0.685
N of Valid Cases	60		

a. 4 cells (50.0%) have expected count less than 5. The minimum expected count is .50.

### That the arithmetic is correct

		research administrator	supervisor	statistician	student	supervisor * co-supervisor * student	supervisor * co-supervisor * statistician * proof-reader * student	supervisor * statistician * proofreader * student	Total
Student	Count	1	1	19	9	0	0	0	30
	% within group	3.3%	3.3%	63.3%	30.0%	0.0%	0.0%	0.0%	100.0%
Supervisor	Count	0	0	13	8	1	4	4	30
	% within group	0.0%	0.0%	43.3%	26.7%	3.3%	13.3%	13.3%	100.0%
Total	Count	1	1	32	17	1	4	4	60
	% within group	1.7%	1.7%	53.3%	28.3%	1.7%	6.7%	6.7%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.184 <sup>a</sup>	6	0.058
Likelihood Ratio	16.440	6	0.012
Linear-by-Linear Association	8.699	1	0.003
N of Valid Cases	60		

a. 10 cells (71.4%) have expected count less than 5. The minimum expected count is .50.

## The sample numbers required for statistical purposes

		research administrator	statistician	student	supervisor * co- supervisor *	statistician * student	supervisor * statistician	supervisor * statistician * student	Total
student	Count	2	24	4	0	0	0	30	
	% within group	6.7%	80.0%	13.3%	0.0%	0.0%	0.0%	100.0%	
supervisor	Count	0	25	0	3	1	1	30	
	% within group	0.0%	83.3%	0.0%	10.0%	3.3%	3.3%	100.0%	
Total	Count	2	49	4	3	1	1	60	
	% within group	3.3%	81.7%	6.7%	5.0%	1.7%	1.7%	100.0%	

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.020 <sup>a</sup>	5	.051
Likelihood Ratio	15.270	5	.009
Linear-by-Linear Association	4.044	1	.044
N of Valid Cases	60		

a. 10 cells (83.3%) have expected count less than 5. The minimum expected count is .50.

## Spelling and grammar (including full stops, comma's, inverted commas, dashes, use of capital letters and brackets)

		Proof-reader	student	supervisor + co-supervisor	supervisor * co-supervisor -	proof-reader * student	proof-reader * student	supervisor * proof-reader *	student	Total
student	Count	21	8	1	0	0	0	0	30	
	% within group	70.0%	26.7%	3.3%	0.0%	0.0%	0.0%	0.0%	100.0%	
supervisor	Count	13	8	0	2	3	3	29		
	% within group	44.8%	27.6%	0.0%	6.9%	10.3%	10.3%	100.0%		
Total	Count	34	16	1	2	3	3	59		
	% within group	57.6%	27.1%	1.7%	3.4%	5.1%	5.1%	100.0%		

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.869 <sup>a</sup>	5	0.054
Likelihood Ratio	14.360	5	0.013
Linear-by-Linear Association	8.572	1	0.003
N of Valid Cases	59		

a. 8 cells (66.7%) have expected count less than 5. The minimum expected count is .49.

References against statements have been included in text

		supervisor	Co-supervisor	Proof- reader	student	supervisor *student	supervisor * co- supervisor - proof-reader *	student supervisor * co- supervisor *	proof-reader * student	supervisor * proof-reader *	student	Total
Student	Count	5	1	6	17	0	0	0	1	0		30
	% within group	16.7%	3.3%	20.0%	56.7%	0.0%	0.0%	0.0%	3.3%	0.0%		100.0%
Supervisor	Count	5	0	1	16	2	3	1	0	2		30
	% within group	16.7%	0.0%	3.3%	53.3%	6.7%	10.0%	3.3%	0.0%	6.7%		100.0%
Total	Count	10	1	7	33	2	3	1	1	2		60
	% within group	16.7%	1.7%	11.7%	55.0%	3.3%	5.0%	1.7%	1.7%	3.3%		100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.602 <sup>a</sup>	8	.093
Likelihood Ratio	17.856	8	.022
Linear-by-Linear Association	4.130	1	.042
N of Valid Cases	60		

a. 14 cells (77.8%) have expected count less than 5. The minimum expected count is .50.

Appendices, are all attached

		supervisor	Co- supervisor	Proof- reader	student	supervisor *student	supervisor * co-supervisor - proof-reader *	student proof-reader *	student	Total
student	Count	4	1	4	20	0	0	1		30
	% within group	13.3%	3.3%	13.3%	66.7%	0.0%	0.0%	3.3%		100.0%
supervisor	Count	2	0	0	23	2	2	1		30
	% within group	6.7%	0.0%	0.0%	76.7%	6.7%	6.7%	3.3%		100.0%
Total	Count	6	1	4	43	2	2	2		60
	% within group	10.0%	1.7%	6.7%	71.7%	3.3%	3.3%	3.3%		100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.876 <sup>a</sup>	6	.130
Likelihood Ratio	13.366	6	.038
Linear-by-Linear Association	2.815	1	.093
N of Valid Cases	60		

a. 12 cells (85.7%) have expected count less than 5. The minimum expected count is .50.

Plagiarism has not occurred

		supervisor	Proof-reader	student	supervisor * proof-reader	supervisor * student	supervisor * co-supervisor - proof-reader * student	supervisor * co-supervisor * proof- reader	supervisor * proof-reader * student	Total
Student	Count	6	4	19	0	0	0	0	1	30
	% within group	20.0%	13.3%	63.3%	0.0%	0.0%	0.0%	0.0%	3.3%	100.0%
Supervisor	Count	8	2	10	1	1	5	1	2	30
	% within group	26.7%	6.7%	33.3%	3.3%	3.3%	16.7%	3.3%	6.7%	100.0%
Total	Count	14	6	29	1	1	5	1	3	60
	% within group	23.3%	10.0%	48.3%	1.7%	1.7%	8.3%	1.7%	5.0%	100.0%

#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.079 <sup>a</sup>	7	.098
Likelihood Ratio	15.236	7	.033
Linear-by-Linear Association	2.807	1	.094
N of Valid Cases	60		

a. 12 cells (75.0%) have expected count less than 5. The minimum expected count is .50.

The null hypotheses have been included

		supervisor	proof reader	student	supervisor + co-supervisor	supervisor * student	supervisor * co-supervisor - proof-reader *	supervisor * co-supervisor * student	Total
student	Count	13	4	13	0	0	0	0	30
	% within group	43.3%	13.3%	43.3%	0.0%	0.0%	0.0%	0.0%	100.0%
supervisor	Count	14	0	9	3	1	1	2	30
	% within group	46.7%	0.0%	30.0%	10.0%	3.3%	3.3%	6.7%	100.0%
Total	Count	27	4	22	3	1	1	2	60
	% within group	45.0%	6.7%	36.7%	5.0%	1.7%	1.7%	3.3%	100.0%

#### Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.764 <sup>a</sup>	6	.067
Likelihood Ratio	16.018	6	.014
Linear-by-Linear Association	1.702	1	.192
N of Valid Cases	60		

a. 10 cells (71.4%) have expected count less than 5. The minimum expected count is .50.

The Table of Contents page numbers match with the information pages in the mini dissertation

		supervisor	Proof-reader	student	supervisor * co-supervisor	- proof- reader *	student	proof-reader * student	supervisor * proof-reader * student	Total
student	Count	2	10	17			0	0	1	30
	% within group	6.7%	33.3%	56.7%			0.0%	0.0%	3.3%	100.0%
supervisor	Count	0	4	23			2	1	0	30
	% within group	0.0%	13.3%	76.7%			6.7%	3.3%	0.0%	100.0%
Total	Count	2	14	40			2	1	1	60
	% within group	3.3%	23.3%	66.7%			3.3%	1.7%	1.7%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.471 <sup>a</sup>	5	.092
Likelihood Ratio	11.878	5	.037
Linear-by-Linear Association	.870	1	.351
N of Valid Cases	60		

a. 8 cells (66.7%) have expected count less than 5. The minimum expected count is .50.

Analysis of information in the literature review

		supervisor	Co- supervisor	statistician	student	supervisor + co- supervisor *	co- supervisor *	supervisor * student	supervisor *proof- reader	supervisor *student	supervisor * co- supervisor *	supervisor * student	Total
Student	Count	16	1	0	12	0		0	1	0		0	30
	% within group	53.3%	3.3%	0.0%	40.0%	0.0%		0.0%	3.3%	0.0%		0.0%	100.0%
Supervisor	Count	18	0	1	4	2		1	0	2		2	30
	% within group	60.0%	0.0%	3.3%	13.3%	6.7%		3.3%	0.0%	6.7%		6.7%	100.0%
Total	Count	34	1	1	16	2		1	1	2		2	60
	% within group	56.7%	1.7%	1.7%	26.7%	3.3%		1.7%	1.7%	3.3%		3.3%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.118 <sup>a</sup>	8	.079
Likelihood Ratio	18.167	8	.020
Linear-by-Linear Association	.601	1	.438
N of Valid Cases	60		

a. 14 cells (77.8%) have expected count less than 5. The minimum expected count is .50.



Spacing, justification and margins are in place

		supervisor	Co-supervisor	Proof-reader	student	supervisor * co-supervisor	- proof-reader * student	proof-reader * student	supervisor * proof-reader * student	Total
student	Count	3	1	16	9		0	0	1	30
	% within group	10.0%	3.3%	53.3%	30.0%		0.0%	0.0%	3.3%	100.0%
supervisor	Count	2	0	9	13		2	4	0	30
	% within group	6.7%	0.0%	30.0%	43.3%		6.7%	13.3%	0.0%	100.0%
Total	Count	5	1	25	22		2	4	1	60
	% within group	8.3%	1.7%	41.7%	36.7%		3.3%	6.7%	1.7%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.887 <sup>a</sup>	6	0.092
Likelihood Ratio	14.009	6	0.030
Linear-by-Linear Association	3.058	1	0.080
N of Valid Cases	60		

a. 10 cells (71.4%) have expected count less than 5. The minimum expected count is .50.

That ethical clearance has been received

		research administrator	supervisor	student	supervisor + co-supervisor	supervisor * co-supervisor * student	supervisor * student	research administrator * supervisor * co-supervisor * student	research administrator * supervisor * student	Total
Student	Count	7	11	12	0	0	0	0	0	30
	% within group	23.3%	36.7%	40.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Supervisor	Count	8	11	3	2	1	1	3	1	30
	% within group	26.7%	36.7%	10.0%	6.7%	3.3%	3.3%	10.0%	3.3%	100.0%
Total	Count	15	22	15	2	1	1	3	1	60
	% within group	25.0%	36.7%	25.0%	3.3%	1.7%	1.7%	5.0%	1.7%	100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.467 <sup>a</sup>	7	0.062
Likelihood Ratio	16.939	7	0.018
Linear-by-Linear Association	2.044	1	0.153
N of Valid Cases	60		

a. 10 cells (62.5%) have expected count less than 5. The minimum expected count is .50.

The research progress

		research administrator	supervisor	student	supervisor + co- supervisor	supervisor * co- supervisor *	supervisor *student	co- supervisor *	supervisor *student	research administrator *	co- supervisor *	supervisor *student	research administrator *	supervisor research	administrator *	supervisor *	student	Total
Student	Count	5	21	3	0	0	1	0				0	0			0		30
	% within group	16.7%	70.0%	10.0%	0.0%	0.0%	3.3%	0.0%				0.0%	0.0%			0.0%		100.0%
Supervisor	Count	5	17	0	1	1	0	2				1	2			1		30
	% within group	16.7%	56.7%	0.0%	3.3%	3.3%	0.0%	6.7%				3.3%	6.7%			3.3%		100.0%
Total	Count	10	38	3	1	1	1	2				1	2			1		60
	% within group	16.7%	63.3%	5.0%	1.7%	1.7%	1.7%	3.3%				1.7%	3.3%			1.7%		100.0%

Chi-Square Tests	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.421 <sup>a</sup>	9	0.191
Likelihood Ratio	17.057	9	0.048
Linear-by-Linear Association	4.706	1	0.030
N of Valid Cases	60		

a. 16 cells (80.0%) have expected count less than 5. The minimum expected count is .50.

## Appendix 27: Dr. Johnson's permission letter to adapt her Checklist Questionnaire for my study

Durban University of Technology  
Email: bronwynj@dut.ac.za

21 August 2011

Attention: Dr. Claire Johnson  
cjohnson@nuhs.edu

Permission to use your questionnaire as reference material

Article: Submitting Manuscripts to Biomedical Journals: Common Errors and Helpful Solutions  
Editorial 2009

Authors: Claire Johnson, DC, MSED; Bart Green, DC, MSED


Dear Dr. Johnson

I am in the process of compiling my master's. I found the Appendix A: "Presubmission Checklist" of the above mentioned journal article most useful and relevant to my research 'Factors in Postgraduate supervision that impact on the quality of research at a specified department at a University of Technology'. For the specified department and university, I have focused on the chiropractic department at the Durban University of Technology, South Africa.


Please may have permission to use your checklist as reference material only for my research. The conditions are that the checklist that I have put together, that has been adapted from your checklist and the requirements of research writing as per our postgraduate department, will be used for my purposes only as a tick list to ensure that the students have achieved the criteria stated. The criteria that has not been achieved will be a tool for further investigation as to reasons or factors for students not 'getting it right'.

If you are willing to grant permission, please will you sign and date in the space provided below and return the email to me.

Thank you  
Yours sincerely

  
Bronwyn Jones bronwynj@dut.ac.za

I, Claire Johnson, hereby grant Bronwyn Jones permission to adapt questions, stated in Appendix A 'Presubmission checklist' from the article "Submitting manuscripts to biomedical journals: common errors and helpful solutions (Johnson C, Green B. *J Manipulative Physiol Ther.* 2009;32:1-12) for her research project "Factors in postgraduate supervision that impact on the quality of research at a specified department at a University of Technology".

  
Claire Johnson

Date August 23, 2011