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**Millennial's consumer behaviour during the COVID-19  
pandemic: perspectives from an emerging and a  
developed economy**

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**Abstract**

One of the impacts of the COVID-19 pandemic was on shopping behaviour patterns due to lockdown restrictions and social distancing requirements. In this study, South African and German millennials (those born between 1980 and 2002) are analyzed to determine their buying behaviour during the COVID-19 pandemic in the year 2020. We demonstrate the choices of purchases amongst

millennials between the two countries, that is, South Africa as an emerging and Germany as an advanced economy. This study shows how consumers' choice was influenced by the pandemic before, during, and after the first lockdown. Making use of an online survey (meaning accessing millennials with internet access in both countries), it was found from a data set of 949 millennials in Germany and 676 millennials in South Africa that millennial's shopping behaviour varied for specific product categories before, during and after the lockdown. As a result, this study concluded by providing recommendations for retailers, policymakers and researchers taking into account a pandemic scenario.

**Keywords:** *COVID-19, Consumer behaviour, Millennials, Shopping, Purchase.*

## **1. Introduction**

The shopping behaviour of consumers changed drastically over the pandemic period. This was due to the lockdown measures and social distancing requirements that were introduced in many countries to curb the spread of the deadly COVID-19 pandemic (see (Moyo et al., 2020) and references therein that give the contextual setting of the pandemic in the South African context, for instance Corbishley, Mason, and Dobbstein (2022)). In South Africa, the lockdown was introduced on the 26 of March 2020 and in Germany on the 23 of March 2020. Shops in both countries were open again before the data collection started, so that the consumers experienced a time before, during and after a lockdown in each country. The pandemic caused a disruption to the way humanity functions (Eger, Komárková, Egerová, & Mičík, 2021). The shopping patterns were also affected, from physically going to stores to buying online. During the lockdown, when most shops were closed in both countries, only the so-called essential stores were operating (Dobbstein & Naidoo, 2020). The choices of product purchases before and post the lockdown were different. In some cases, the lockdown period was brief as countries went to lockdowns later in the year during the second wave of the pandemic.

Consumer's concerns regarding government mandated lockdowns, social distancing, displacement restrictions, and their uncertainty about this pandemic's extent are changing along with their lifestyles (Laguna, Fiszman, Puerta, Chaya, & Tárrega, 2020). Consumers are learning to improvise and learn new habits. For example, consumers cannot go to the store, so the store comes home (Sheth, 2020). However, the choice

of specific products was different during the post lockdown phase, which was not long-lived. South Africa and Germany both bring an intriguing aspect of millennials shopping behaviour. South Africa was chosen as the emerging economy, with a huge population of millennials who have access to the internet for our study. In contrast, Germany is a developed economy with a stable number of millennials who also have access to the internet for the purposes of this study.

The study focuses on the millennials segment as the largest group of the population in South Africa and slightly higher in Germany. Millennial's purchasing behaviour is of interest to marketers for various reasons. The first reason is that they represent a large group of purchasers in the market, more especially in South Africa, where 60 percent of the population is made up of youth (Dobbstein & Naidoo, 2020). Secondly, the millennials are likely to purchase various products online during the pandemic compared to the elderly group due to fear of contracting the disease. Thirdly, the millennials are those born between 1980 and 2000 (Dobbstein & Naidoo, 2020). Several scholars describe this group of people as those with global networks, educated, and technologically savvy (DeVaney, 2015). Traits attributed to the millennials include: entitlement, optimistic, civic-minded, close parental involvement, valuing work-life balance, impatient, multitasking, and team-oriented (DeVaney, 2015; Dobbstein & Naidoo, 2020).

Consumer behaviour is not a new topic in marketing literature. However, consumer behaviour of millennials in South Africa and Germany during the COVID-19 pandemic has been gaining some interest in marketing literature. Thus, the objective of this study is to bring about an understanding of the shopping behaviour of millennials before, during, and post the first lockdown in 2020. The changes in consumption expenditure can best be understood by taking a generation approach. Generational determined lifestyles and social values have as much influence on buying and purchasing behaviour as more commonly understood demographic factors like income, education, and gender do, perhaps even more (Ordun, 2015). Thus, the contribution of the study is to provide marketers and policymakers alike with some insights on what millennials buy during a pandemic lockdown period. There is a need to understand this phenomenon in both countries, as they are the economic hubs of their respective continents and the insights gained from this study can be used to strategically respond to any future pandemics.

## **2. Theory and Hypotheses**

### ***2.1 Consumer Behaviour of Millennials During Lockdowns***

Consumer behaviour refers to the study of individuals and the activities that take place to satisfy their realised needs (East, 1997). The consumer behaviour of the South African and German millennials is studied with respect to the processes used in selecting, securing, and using products or services when the benefits received from those processes meet or exceed consumers' expectations. In other words, when millennials in both countries realise that they have a need, the psychological process starts the consumer decision process. Through this process, the individual sets out to find ways to fulfil the need they have identified (Lake, 2009). Understanding the millennials consumer behaviour in South Africa and Germany provides a wealth of information about the individuals that purchase respective products and services. Understanding a consumer means being directly able to speak to their needs and preferences.

The decision-making process is influenced by pandemic lockdowns for both cohorts in South Africa and Germany. In the South African and German consumer goods market, many product categories are represented by numerous brands. Several models and theories have been proposed to explain this consumer behaviour (Narayana & Markin, 1975). What these models and theories fail to do is to understand consumer behaviour in a pandemic situation. With lockdown and social distancing, consumers' choice of the place to shop is restricted. This has resulted in location constraints and location shortage. In both cohorts, the mobility shift and mobility shortage were apparent during the lockdowns. Working, schooling, and shopping all have shifted and have been localised at home. At the same time, there is more time flexibility as consumers do not have to follow schedules planned for going to work or school or to shop or consume (Sheth, 2020).

While overall consumer traffic the world over fell by 60 percentage points, legal restrictions explain only 7 percent of that. Individual choices were far more important and seemed tied to fears of infection (Goolsbee & Syverson, 2021). Traffic started dropping before the legal orders were in place; it was highly tied to the number of COVID deaths in the county and showed a clear shift by consumers away from larger/busier stores towards smaller/less busy ones in the same industry. According to Goolsbee and Syverson (2021), the drop in consumer visits is strongly correlated with the number of local COVID-19 deaths. Furthermore,

within an industry, drops in visits are disproportionately larger in establishments that were busier/larger before COVID-19. This is consistent with greater avoidance of and substitution away from establishments with higher potential transmission contacts. Although the shutdown orders had a small aggregate impact, they had a significant reallocation effect by driving consumer activity from “nonessential” to “essential” businesses and from restaurants and bars towards groceries and other food sellers. Therefore, it became a curiosity whether consumer behaviour can be influenced by the period of the pandemic.

Hypothesis 1: The consumer behaviour is influenced by the period of the lockdown, be it before, during and post lockdown.

## ***2.2 Groceries Shopping in South Africa and Germany***

One of the more dramatic images in the early stages of the COVID-19 pandemic in both South Africa and Germany has been supermarket shelves emptied of key food and non-food items, including pasta, rice, canned goods, flour, frozen foods, bottled water, hand sanitisers, hand soap, and toilet paper (Dobbstein & Naidoo, 2020). As governments around the world ramped up social distancing policies, many consumers engaged in stockpiling behaviours in anticipation of movement restrictions and fear of disruptions to food distribution systems (Hobbs, 2020). The vast majority of those food purchases have now shifted to the food retailing sector, creating additional demand pressure on the system in both cohorts. For the most part, the demand spike from panic buying behaviours is likely to be a short-run problem. Longer-run demand-driven effects on food supply chains rose from a fall in consumer incomes, with overall demand impacts as well as shifts across product categories.

Panic buying is a common response at times of fear and uncertainty and can be seen as rational (e.g., stockpiling essential goods that are in limited supply) or irrational (e.g., stockpiling nonessential products that are not in limited supply) (Martin-Neuninger & Ruby, 2020). Even though supply chains were operating as normal in South Africa and Germany, the panic buying itself caused shortages of many products on the supermarket shelves. Under time constraints, most people will not have time to process product information and rely more heavily on heuristics such as brand name, price, product images, and colour-coded labels to make their food choices (Martin-Neuninger & Ruby, 2020).

In addition to the effects of demand-side shocks and potential supply-side disruptions, it is worth considering whether the COVID-19 pandemic will have longer-lasting effects on the nature of food supply chains. Two aspects come to mind: the growth of the online grocery delivery sector and the extent to which consumers prioritise "local" food supply chains. An element of food distribution that is undergoing significant change during the COVID-19 pandemic is the expansion of online grocery deliveries (Laguna et al., 2020). The lockdowns necessitated the rise of grocery shopping in South Africa and Germany. The sudden shutdown of many "nonessential" businesses has created a pool of unemployed, or underemployed, labour that could be temporarily redeployed to tasks within the food supply chain, including staffing of grocery stores, warehouses, and food delivery segments of the businesses (Hobbs, 2020). Disruptions in the supply chain may cause supply limitations and a further increase in prices. However, supermarket spending will likely vary depending on the income (support) that consumers have available during and after the pandemic (Martin-Neuninger & Ruby, 2020). Due to the pandemic, we posit that in South Africa groceries shopping rose sharply compared to Germany. Nevertheless, there was no stockpiling of groceries compared to Germany, where people bought more than what they needed.

Hypothesis 2: The purchase of groceries will rise stronger in South Africa than in Germany.

### ***2.3 Purchasing Pattern for leisure goods/clothing vs. groceries***

Despite the fact that there were difficulties experienced by food shoppers during the COVID-19 pandemic, such as limited public transportation, food stockouts (i.e., exhausted inventories), and reduced hours at supermarkets and grocery stores, most shoppers in developed countries such as the United States of America maintained adequate access to food (Yang, Chang, & Wang, 2022). Due to the extraordinary containment measures during the pandemic, some consumers, for instance, have had to move to online shopping, home deliveries or cashless payment, which they never considered before (Eger et al., 2021). Understanding consumers' buying behaviour in the face of the pandemic and beyond is vitally important for retailers and marketers as well as business and public policymakers to implement strategies and tactics to maintain existing consumers and attract new ones (Eger et al., 2021).

Unexpected regulations imposing social distancing are further having a vast impact on consumers' favoured channels for shopping (Li, Hallsworth, & Coca-Stefaniak, 2020).

Anti-epidemic measures and the call to leave the house only in the most urgent cases have brought a large number of orders for delivery to end-users and growth of this business in the order of ten percent (Martin-Neuning & Ruby, 2020). For instance, some consumers are switching to online purchases, discovering the safety and benefits of home deliveries, store pick-up, and cashless payment (Martin-Neuning & Ruby, 2020). In this context, it is also possible to consider that customers will change their shopping habits in the long run. For example, several studies on shopping and COVID-19 found that purchases were centred on the most basic needs; people shopped more consciously, bought locally, and embraced digital commerce (Eger et al., 2021; Grashuis, Skevas, & Segovia, 2020; Yang et al., 2022). It is, therefore, important to understand to what extent consumers have shifted to online food shopping during the pandemic and the implications of the shift for retail food markets (Yang et al., 2022).

Consumer consumption patterns have changed numerous times in history. For example, approximately 100 years ago, consumption occurred in the form of bartering or purchases made from travelling merchants (Stigler, 1954). Since then, purchases have been made via catalogues, retail or boutique stores, convenience stores, supermarkets, and department stores. The consumption paradigm now seems to be shifting towards online retail through the internet (Moon, Choe, & Song, 2021). This paradigm shifted again when the COVID-19 pandemic began, causing a sharp increase in demand for online and personal protection equipment (PPE) consumption. Consumers are also decreasing the frequency of their visits to large supermarkets or other offline stores due to the fear that there may be COVID-19-positive individuals there; thus, a large proportion of consumers have shifted to online consumption, causing new sales records for online retail. Thus, we posit that whether online or in stores, the purchasing pattern for items has changed.

Hypothesis 3: The purchase of leisure goods/clothing will decrease more than for groceries.

## ***2.4 Purchase Decrease More in South Africa Than in Germany***

People shift from offline to online purchasing, especially in those product categories where the special shop is closed, but people could still buy in shops such as Pick and Pay in South Africa. In Germany, online buying is more common than in South Africa because of the better online shopping infrastructure. The pandemic acted as an accelerator of digitalisation (Guthrie, Fosso-Wamba, & Arnaud, 2021). The differences in the severity of COVID-19 effects are partially explained by the ability of businesses to go digital. Furthermore, the crisis led consumers to reassess their needs and allow for an online purchasing potential, for example, in the clothing, leisure goods and partly DIY sector. Short and long-distance mobility restrictions worldwide had strong repercussions on this labour-intensive and highly globalised industry (Rudolph & Zacher, 2020). At the start of 2020, the global health crisis and subsequent government measures caused both a drop in production and considerable disruption in textile supply chains, creating spill-overs at the cross-regional level (Goolsbee & Syverson, 2021).

Moreover, over the course of the pandemic year, some clothing enterprises in South African and German industries shifted part of their established production to new categories of products, namely sanitary/masks, pointing to first tendencies towards transformation in supply chain manufacturing-specific industry subsector. However, due to lockdowns that forced the shutdown of shops and mobility restrictions in many countries, demand for especially the clothing subsector of the overall industry dropped significantly (Eger et al., 2021; Yang et al., 2022). While retail sales dropped, sales through online channels hit historical records in some EU countries such as Germany, pointing to a change in consumer behaviour towards e-commerce which continued over the rest of 2020 and early 2021. In South Africa, there was a slow shift to online purchases due to infrastructure and consumer behaviour. However, such a transition to online shopping failed to offset the overall drops in sales of the whole industry (Moon et al., 2021).

Consumer behaviour has undoubtedly shifted over the past year, as people sheltered from the virus in their homes, travel was restricted, and stores were closed around the world (Guthrie et al., 2021; Hao, Wang, & Zhou, 2020; Moon et al., 2021; Nguyen et al., 2020). The pandemic will continue to put supply chains under pressure, and executives should be prepared for further shocks in the coming years (Yuliantoro et al., 2020). Brands should secure high-quality and reliable production capacity and

make the long-overdue shift to a demand-focused model to operate in this fluid environment (Moon et al., 2021). Like many other sectors, the clothing, leisure goods and do It yourself (DIY) industry find themselves in the midst of unprecedented adversity, with revenues and margins under pressure. Thus, we posit that turnover in clothing, leisure goods and DIY” (DIY – things such as painting tools, building furniture and or repairing tools) will decrease more in South Africa than in Germany during the pandemic.

Hypothesis 4: The turnover in clothing, leisure goods, and DIY decrease more in South Africa than in Germany during the pandemic.

### **3. Methods**

The study followed a quantitative approach, whereby a cross-sectional survey strategy was employed in South Africa and Germany. The targeted population was millennials residing in South Africa and/or Germany at the time of the study. A survey of the population of this group was done as they are the ones likely to purchase under the lockdown restrictions. In South Africa, the Living Standard Measure (LSM) of 7 to 10 approach was used to gather data from the upper-income group who are wealthier to be able to determine their behaviour in line with the German unit of analysis. In this way, the sample could be compared.

The data was collected, making use of a 7-point Likert-like scale questionnaire that focused on millennial’s purchasing behaviour pre, during and post the lockdown. In South Africa, data was collected between the 5<sup>th</sup> and 25<sup>th</sup> of August 2020, whereas in Germany, data was collected between the 30<sup>th</sup> of July to the 21<sup>st</sup> of August 2020. In addition, in South Africa, panel access was used to gather data online, whereas social media was used to recruit participants in Germany.

In terms of the sampling technique, the non-probability sampling technique, namely judgement quota sampling was applied In South Africa, the LSM approach was useful in gathering data from an eligible unit of analysis (Dobbstein & Naidoo, 2020). To make sure that the population is even between the two countries, the LSM was appropriate in the South African context to study in parallel with the German cohort. In addition, quotas for gender and age groups were applied. Whereas in Germany, a quota for gender, age and income group was applied in order to get the sample that is corresponding with the South African cohort.

As a result, a total of 2118 respondents were found in South Africa and Germany.

In total, 493 questionnaires were not eligible for the study. As a result, 949 quality-checked and valid questionnaires were found in Germany, whereas in South Africa, only 676 were valid. Because of the panel access control in South Africa, it was easier to analyse the data as compared to the German cohort, whereby recruiting was done on social media. The questionnaire measured facts – not opinions. Therefore, a construct specification was not necessary and no multi-item scale, which need to be evaluated according to their reliability and objectivity, are used (Nunan, Birks, & Malhotra, 2020). Because of measuring facts, the test-retest reliability was used, based on 70 participants in Germany and 85 in South Africa. The time between the measurements was at least 10 days to avoid memory effects. Overall, the Pearson correlation  $r$  showed satisfying to good values between  $r = 0,89$  and  $r = 0,98$ .

Noted limitation of the study was that the study only looked at the South African and German millennials overlooking the world's context. As such, the results of this study cannot be generalised to the world's millennials. The data was analyzed using SPSS.

#### **4. Results**

We start by reporting the influence of consumer behaviour by the period of the lockdown, be it before, during and post lockdown. The results show the category of products purchased by the two cohorts during the lockdown period. The categories of the products purchased by our cohort differed by country. The purchase categories were scaled from 1 = much less to 7 = much more. Overall, the questions referred to the following categories:

- Food and groceries
- Alcoholic beverages
- Clothing
- Leisure goods, e.g., sports articles, hobbies, board games
- Toiletry, e.g., toilet paper, soap
- DIY and home improvement goods
- PPE's and medical supplies.

We asked the participants, what did they buy once they heard the lockdowns are going to be imposed? “When Corona reached South

Africa and Germany, and the news reported about the upcoming closing of physical stores – compared to the usual shopping behaviour I bought...”? This was done to ascertain what products the cohort bought after hearing about the lockdowns to determine the purchase period. The questions referring to the period during the lockdown were formulated as follows: “Please think about the time when most physical stores were closed (lockdown), but when you still could shop online. To answer the question, we framed it as follows: During the time when most physical stores were closed - compared to the usual shopping behaviour I bought...”? and the question referring to the period after lockdown: “Please think about the current situation, i.e., all physical stores are open, but customers have to follow specific safety regulations like wearing a face mask and keeping a specific distance. Thus, we asked; compared to my usual shopping behaviour before COVID-19, I buy ...”? As such, we found that the buying behaviour differed in both units of the sample.

**a. Lockdown Period Influence Consumer Behaviour**

To test hypothesis 1, the average change in buying behaviour is calculated for the three periods of the pandemic. Table 1 shows the means values and their confidence intervals for the average change in buying behaviour in the three periods of the pandemic.

**Table 1: mean values for the average change in buying behaviour in the three periods of the pandemic**

	N	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval Lower Upper	
PRE-lockdown buying	1625	3,9876	,82750	,02053	3,9473	4,0278
DURING lockdown buying	1624	3,7423	,94311	,02340	3,6964	3,7882
POST lockdown buying	1622	3,7852	,83398	,02071	3,7446	3,8259

It is evident that the buying behaviour pre-lockdown shows a mean value of 3,99, which is very close to “4”. This is exactly the middle of the scale between much less and much more, indicating that overall, there was no overall subjectively perceived change in buying behaviour when the

information about the pandemic hit the news. The results show that there were no big changes before, during and post the lockdowns.

During the pandemic, the overall perceived buying behaviour clearly decreased (3,74) and increased again after the lockdown, but, very interestingly, the increase was minimal (3,79). This is an interesting result because changes differ slightly, not significantly.

A paired sample test shows that the differences between pre and during lockdown as well as pre and post lockdown are highly significant ( $p < 0.01$ ), but the one between during and post lockdown just reaches the significant level ( $p = 0.045$ ). The effect measured by Cohen's  $d$  is the strongest for pre and during lockdown but only shows a value of 0.295, which is between a small and a medium effect. The effect between during and after lockdown shows a Cohen's  $d$  of 0,05, which can be regarded as very low. The result shows that people might have started to realise how serious the pandemic and the rules are and started buying less because going to the shops was becoming difficult and did not regain trust even after the shops were opened again after the first wave.

Hypothesis 1: The consumer behaviour is influenced by the period of the lockdown, be it before, during and post lockdown.

The hypothesis is accepted ( $p < 0,01$ ). Please see table 2 below for the SPSS output for the  $p$ -values.

**Table 2: p-values for pre, during and after a lockdown in South Africa and Germany.**

Paired Samples Test	Paired Differences		Std. Error Mean	95% Confidence Interval of the Difference			df	Significance	
	Mean	Std. Deviation		Lower	Upper	t		One-Sided p	Two-Sided p
Pair 1 PRE vs. DURING lockdown buying DURING lockdown buying	0,24598	0,83302	0,02067	0,20544	0,28652	11,900	1623	0,000	0,000

Pair 2 PRE vs. POST lockdown buying	0,20229	0,86122	0,02138	0,16035	0,24423	9,460	1621	0,000	0,000
Pair 3 DURING vs. POST lockdown buying	-0,04382	0,87966	0,02184	-0,08666	-0,00098	-2,006	1621	0,023	0,045

***b. Rise of Grocery Purchases in South Africa than Germany***

Table 3 shows the mean values for grocery shopping pre, during and after a lockdown in South Africa and Germany. South Africa has a much stronger increase in grocery shopping pre (5,33), during (5,18) and post lockdown (4,71) than Germany (pre-4,38 / during 4,31 / post 3,91 (slight decrease)). This could be attributed to the fact that South Africa had one of the hardest lockdowns in the world; thus, people went to buy groceries more and more often. All differences between the countries are highly significant ( $p. < 0.01$ ) for all three periods of the pandemic. In South Africa, the increase in grocery shopping is quite high before the lockdown, and the increase becomes slightly lower during the following periods but is still higher than 4 post lockdowns. That means the South Africans still buy more groceries after the lockdown than before the pandemic started. In Germany, the development is the same – decreasing figures for grocery shopping during the pandemic. Nevertheless, it is not only that the values are significantly lower than in South Africa; it is also that after the lockdown, the Germans perceive that by slightly less (3,91) compared to the time before the virus started. This could be attributed to the fact that Germans quickly gained back the trust in the retail system. During the first lockdown, the German government did a lot to support the economy and – besides retailing, tourism and hospitality, the economy was doing well and was quite strong. So, there were no serious reasons to be concerned not to get enough groceries in the near future. The Germans are also mainly very thrifty – so that after the lockdown, they used the products they bought during the lockdown as well as possible.

*Hypothesis 2: The purchase of groceries will rise stronger in South Africa than in Germany*

The hypothesis is accepted ( $p < 0,01$ ).

**Table 3: Mean values for grocery shopping pre, during and after a lockdown in South Africa and Germany.**

	Country	N	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval	
						Lower	Upper
Food & Groceries (pre-lockdown)	South Africa	675	5,33	1,741	,067	,812	1,079
	Germany	946	4,38	,981	,032	,800	1,091
Food & Groceries (during lockdown)	South Africa	673	5,18	1,801	,069	,727	1,014
	Germany	948	4,31	1,141	,037	,716	1,025
Food & Groceries (post lockdown)	South Africa	672	4,71	1,603	,062	,683	,916
	Germany	948	3,91	,729	,024	,670	,929

### c. *Decrease for Leisure Good in Favour of Groceries*

The following results show the purchase difference between leisure goods, clothes, and groceries. As the overall mean values for both countries for buying food and grocery, clothing, and leisure goods in the three periods of the pandemic, as shown in table 4, there is an increase in food and grocery buying for all pandemic periods. It is highest at the beginning (4,78) and decreases throughout the pandemic (during 4,67 / post 4,24). All values for clothing and leisure goods in all periods are lower than for food and groceries. Clothing and leisure goods show the same pattern: a high decrease of purchase before the lockdown (clothes: 3,14 / leisure 3,40), becoming even stronger during the lockdown (clothes: 2,77 / leisure 3,08). Post lock down the rise again a little bit but do not reach the level before the pandemic (clothes: 3,64 / leisure 3,29). As table 4 shows, all differences are highly significant ( $p < 0.01$ ). As table 5 shows, all effect sizes are medium to high – the only exception is food

and groceries versus clothing, which shows a lower effect (0.335). This means that most participants bought groceries and food more than leisure goods during different stages of the pandemic. Based on Maslow, an explanation might be that the need for groceries as a basic need became very dominant during the pandemic, whereas the clothes and leisure goods usually fulfilled the need of a higher level and were not served to a specific extend until the basic need was fulfilled. This potential reason is connected with the next hypotheses regarding a higher decrease for clothing and leisure goods in South Africa than in Germany.

Hypothesis 3: The purchase of leisure goods/clothing will decrease more than for groceries.

The hypothesis is accepted ( $p < 0,01$ ).

**Table 4: Mean values for food & grocery, clothing, and leisure goods during the three periods of the pandemic**

	N	Minimum	Maximum	Mean	Std. Deviation	95% Confidence Interval	
						Lower	Upper
Food & Groceries (pre-lockdown)	1621	1	7	4,78	1,428	4,71	4,85
Clothing (pre lockdown)	1621	1	7	3,14	1,484	3,07	3,22
Leisure Goods, e.g., sports articles, hobbies, board games (pre-lockdown)	1623	1	7	3,40	1,669	3,32	3,48
Food & Groceries (during lockdown)	1621	1	7	4,67	1,513	4,60	4,74
Clothing (during lockdown)	1620	1	7	2,77	1,591	2,69	2,85

Leisure Goods, e.g., sports articles, hobbies, board games (during lockdown)	1622	1	7	3,08	1,740	3,00	3,17
Food & Groceries (post lockdown)	1620	1	7	4,24	1,237	4,18	4,30
Clothing (post lockdown)	1617	1	7	3,64	1,502	3,57	3,71
Leisure Goods, e.g., sports articles, hobbies, board games (post lockdown)	1619	1	7	3,29	1,468	3,22	3,36
Valid N (listwise)	1599						

**Table 5: Paired sample tests for food & groceries with clothing and with leisure goods for all three periods of the pandemic**

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval				
					Lower	Upper			
Pair 1	Food & Groceries - vs. Clothing - pre-lockdown	1,628	2,067	,051	1,528	1,729	31,684	1616	,000
Pair 2	Food & Groceries vs. Leisure Goods, e.g., sports articles, hobbies, board games -	1,379	2,228	,055	1,271	1,488	24,913	1618	,000

	pre-lockdown								
Pair 3	Food & Groceries vs. Clothing - during lockdown	1,900	2,155	,054	1,795	2,005	35,466	1617	,000
Pair 4	Food & Groceries vs. Leisure Goods, e.g., sports articles, hobbies, board games - dur lockdown	1,586	2,296	,057	1,475	1,698	27,810	1619	,000
Pair 5	Food & Groceries vs. Clothing- (post lockdown)	,601	1,796	,045	,514	,689	13,460	1615	,000
Pair 6	Food & Groceries vs. Leisure Goods, e.g., sports articles, hobbies, board games - post lockdown)	,957	1,867	,046	,866	1,048	20,612	1617	,000

**Table 6: Effect sizes for food and groceries with clothing and with leisure goods for all three periods of the pandemic**

			Standardise	Point Estimate	95% Confidence Interval	
					Lower	Upper
Pair 1	Food & Groceries vs. Clothing pre-lockdown	Cohen's d	2,067	,788	,732	,844
Pair 2	Food & Groceries vs. Leisure Goods, e.g., sports articles, hobbies, board games - pre-lockdown	Cohen's d	2,228	,619	,566	,672
Pair 3	Food & Groceries vs. Clothing - during lockdown	Cohen's d	2,155	,882	,824	,939
Pair 4	Food & Groceries vs. Leisure Goods, e.g., sports articles, hobbies, board games during lockdown	Cohen's d	2,296	,691	,637	,745
Pair 5	Food & Groceries vs. Clothing - post lockdown	Cohen's d	1,796	,335	,285	,385
Pair 6	Food & Groceries vs. Leisure Goods, e.g., sports articles, hobbies, board games (post lockdown)	Cohen's d	1,867	,512	,461	,564
<p>a. The denominator used in estimating the effect sizes. Cohen's d uses the sample standard deviation of the mean difference.</p>						

***a. Clothing, Leisure Goods, and DIY Decrease more in South Africa than in Germany***

The following results indicate the development of the buying behaviour in clothing, leisure goods and DIY in both South Africa and Germany. Table 7 shows the perceived purchase for clothing, leisure goods, and DIY in the three periods of the pandemic are always lower in South Africa than in Germany, and all 3 product categories show lower purchases during all three periods of the pandemic than in normal times. The highest decreases can be found for clothing and leisure goods during the lockdown, with a much higher decrease in South Africa than in Germany. All differences for Germany and South Africa for the purchase

of the 3 product categories for all periods of the pandemic between Germany and South Africa are highly significant ( $p > 0.01$ ). Furthermore, table 8 shows the effect sizes of the differences between Germany and South Africa for clothing, leisure goods and DIY in the three periods of the pandemic. There is a big range of the effect size, as table 8 shows. The smallest are 0.24 for clothing post lockdown 0.28 for clothing pre-lockdown – the biggest can be found for leisure goods (pre-lockdown 0.68, during 0.74 and post 0.62). One reason might be that the social security system in Germany – especially during the pandemic – was much stronger than in South Africa. If companies had less work during the pandemic, they could apply for short-time work and the state paid between 60 to 87% of an employee's net salary. So, of course, there is a need to be careful with the spending, but it is not as high compared to somebody who might have lost their job and just received a certain amount of salary as in South Africa. Generally, Germany is also well known for having a high savings ratio, so that most households have at least two months earning as savings on their bank account. Another reason might be that Germany has a stronger and more important online shopping system, especially for clothing and leisure goods and smaller DIY products. So, it was easier for the Germans to replace their brick-and-mortar shopping with online shopping. However, even during the pandemic online shopping did not fully replace the lost brick-and-mortar shopping. Additional to the mentioned "security" aspect that can also be explained, especially for clothing and leisure goods, the experience and joy of brick-and-mortar shopping are still of high importance to millennials.

Hypothesis 4: The turnover in clothing, leisure goods, and DIY decrease more in South Africa than in Germany during the pandemic.

The hypothesis is accepted ( $p < 0,01$ ).

Table 7: Perceived purchase for clothing, leisure goods and DIY in the three periods of the pandemic

Country	Clothing (per lockdown)	Leisure Goods, e.g., sports articles, hobbies, board games (pre lockdown)	DIY and home improvement goods (pre-lockdown)	Clothing (during lockdown)	Leisure Goods, e.g., sports articles, hobbies, board games (during lockdown)	DIY and home improvement goods (during lockdown)	Clothing (buying post lockdown)	Leisure Goods, e.g., sports articles, hobbies, board games (buying post lockdown)	DIY and home improvement goods (buying post lockdown)	
										Mean
Germany	Mean	3,31	3,54	3,95	3,04	3,55	3,64	3,79	3,65	3,69
	N	946	945	947	945	949	947	947	947	947
	Std. Deviation	1,275	1,294	1,273	1,492	1,525	1,495	1,185	1,117	1,096
South Africa	Mean	2,91	2,77	3,39	2,40	2,37	2,92	3,43	2,75	3,22
	N	675	675	675	672	673	674	670	672	666
	Std. Deviation	1,704	1,919	1,888	1,651	1,776	1,942	1,532	1,731	1,540
Total	Mean	3,14	3,40	3,72	2,77	3,05	3,34	3,64	3,29	3,50
	N	1621	1623	1622	1620	1622	1621	1617	1619	1613
	Std. Deviation	1,484	1,669	1,553	1,591	1,740	1,733	1,502	1,465	1,465

**Table 8: effect sizes of the differences between Germany and South Africa for clothing, leisure goods and DIY in the three periods of the pandemic**

		Standardiser	Point Estimate	95% Confidence Interval	
				Lower	Upper
Clothing (pre-lockdown)	Cohen's d	1,470	,276	,177	,375
Leisure Goods, e.g., sports articles, hobbies, board games (pre-lockdown)	Cohen's d	1,584	,675	,574	,777
DIY and home improvement goods (pre-lockdown)	Cohen's d	1,559	,360	,261	,460
Clothing (during lockdown)	Cohen's d	1,560	,408	,308	,508
Leisure Goods, e.g., sports articles, hobbies, board games (during lockdown)	Cohen's d	1,635	,740	,638	,842
DIY and home improvement goods (during lockdown)	Cohen's d	1,697	,424	,324	,523
Clothing (post lockdown)	Cohen's d	1,492	,239	,140	,338
Leisure Goods, e.g., sports articles, hobbies, board games (post lockdown)	Cohen's d	1,404	,618	,516	,719
DIY and home improvement goods (post lockdown)	Cohen's d	1,450	,324	,225	,424
a. The denominator used in estimating the effect sizes. Cohen's d uses the pooled standard deviation.					

## 5. Discussion and Recommendations

### ***Hypothesis 1: The Consumer Behaviour is Influenced by the Period of the Lockdown, be it Before, During and Post Lockdown.***

It was evident from the data collected and the analysis that the behaviour of both cohorts was influenced by the period of the lockdown. Thus, we accepted this hypothesis. However, there was a discrepancy between South Africa and Germany when it came to the product categories purchased during the lockdowns. This was despite the little change in purchasing behaviour as the news hit the world that we are experiencing a pandemic. This could be attributed to the fact that most people at the beginning of the pandemic did not take it seriously or thought it was not that serious. Another interesting finding of this hypothesis is that even after the shops were open during the pandemic, a small number of millennials actually went shopping, more so in Germany than South Africa. This could be attributed to the fact that people got used to the pandemic and did not fear getting sick at some point of the pandemic. Furthermore, the results show that as soon as people realised that the pandemic was serious, the buying pattern started to change again to decreased numbers of people going shopping in physical stores. This shows that the buying behaviour was indeed influenced by the period of the pandemic.

Therefore, one of the recommendations here is that during a pandemic such as COVID-19, retailers and policymakers need to realise that the buying behaviour will differ. As such, retailers need to stock up the necessary groceries in South Africa in order to avoid shortages. In addition, policymakers need to provide adequate time before announcing the lockdown rules in order to allow people to plan and buy without panicking. Additionally, in Germany, retailers should move their products online immediately when such a crisis as the pandemic hits without hesitating as the infrastructure is there to support online purchasing.

### ***Hypothesis 2: The Purchase of Groceries will Rise Stronger in South Africa than in Germany.***

The second hypothesis was aimed at determining how strong the buying of groceries will rise in South Africa compared to Germany. The finding shows that indeed the buying of groceries increased in south Africa pre-

lockdown. This could be attributed to a number of factors, for instance, panic buying as one of the most reported factors during a pandemic. However, in Germany, people were not as worried about the pandemic rules as it was in South Africa. As a result, the number of people who went shopping for groceries was lower in Germany than in South Africa. This means that Germans had trust in their retail system that it would be able to sustain them during the pandemic. Thus, we found that groceries purchase increased in South Africa as compared to Germany.

Therefore, it is vital to recommend that retailers ensure that there are enough groceries in stock during the pandemic. In this way, there will be able to cater for the needs of the customers without delay. However, policymakers need to ensure that logistics companies are informed about the rules that will affect their distribution of goods in time. It is also recommended that different rules need to be implemented in phases depending on the lockdown period, whether pre-lockdown or during and post lockdown.

***Hypothesis 3: The Purchase of Leisure Goods/Clothing will Decrease More than for Groceries.***

In this hypothesis, we wanted to determine the choice of purchase by millennials, whether they continued to purchase leisure items compared to groceries. As a result, we found that there was indeed a decrease in the purchase of leisure goods in favour of groceries, as in the South African case. This means that as soon as the people took the pandemic seriously, they started purchasing important or basic things rather than leisure goods. It could be argued that people did not want to spend money on unnecessary items. That is why the purchase of leisure items decreased in both countries. As a result of the pandemic, some physical stores were closed, which forced people to buy online, but their choices of items did not increase the leisure goods such as clothes. The rise of food items was recorded in this study.

Thus, it is recommended that during the pandemic and lockdown phases, retailers have to prioritise their items. This means that stores that sell leisure goods will suffer more during the pandemic as compared to food stores. However, this excludes restaurants that were also forced to partially close and those who survived were forced to only serve take-home meals or deliver to customers. On the other hand, policymakers need to allow shops to operate with relaxed rules as they contribute to job creation and improving the economy of the country.

***Hypothesis 4: The Turnover in Clothing, Leisure Goods, and DIY Decrease More in South Africa Than in Germany During the Pandemic.***

In this hypothesis, we wanted to determine the turnover of clothing, leisure goods and DIY if it indeed decreased in South Africa compared to Germany. As a result, we did find that the turnover for leisure goods and DIY items decreased more in South Africa. These are the most unnecessary goods during the pandemic, as proved in this study. As such, it was evident that most people did not buy clothing or leisure goods or DIY items during the pandemic. However, there was less fear of purchasing leisure goods and DIY items in Germany as the numbers are not significantly different pre-lockdown, during and post the pandemic.

Therefore, it is recommended that retailers spend more on other items deemed necessary during the pandemic, such as groceries. In this way, we will not see shortages of items in stores during the pandemic. If retailers are spending more on necessary items, even if there is panic buying, items will remain on shelves. On the other hand, we recommend that policymakers make it easy for retailers to operate throughout the pandemic phases in more or less the same capacity with distancing rules. In this way, stores will remain operational, and jobs will be saved as well as the economy.

## **6. Conclusion**

Millennials proved to be an important segment of the market which has different purchasing needs during the pandemic. In this study, we found that COVID-19 came with changes to the way in which we function as humanity. Thus, disrupting the way millennials shop and depending on the lockdown period, they purchased different goods. It is evident that groceries shopping was important for our cohort and more so those in South Africa. Therefore, it is argued that retailers need to focus their marketing strategies on this market segment and observe its behavioural pattern during a pandemic such as COVID-19. In this way, retailers will not waste money on products that millennials are not interested in during the pandemic. Similarly, policymakers need to understand what works and what does not work when coming up with rules to be observed in public during a pandemic, as this will enable them to implement policies that will still ensure that the economy is still functional despite the negative effects of the pandemic.

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