Factors influencing consumers' intended and actual sustainable purchases of clothing in Germany and South Africa

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Abstract: This paper aims to determine factors that influence consumers' intentions to purchase clothing sustainably, then determine factors that influence consumers' actual sustainable clothing purchases, and lastly, analyse the intention-behaviour gap of consumers when purchasing clothing sustainably. With a quantitative approach, an online survey was distributed in Germany (550) and South Africa (555) based on quota sampling. The independent variables analysed were the sustainability core-values of consumers, namely prioritisation, planning/habits, commitment/sacrifice and knowledge/information. Additionally, consumers' clothing preferences, such as exclusivity, functionality, price-insensitivity and aesthetics, were further independent variables. Dependent variables were the intentions and the actual sustainable purchases of clothing. Results indicated that sustainability core-values were the most significant factors impacting consumers' intentions and actual sustainable clothing purchases. Furthermore, the intention to purchase clothing sustainably was a vital factor influencing actual sustainable purchases. This was confirmed as the final outcome demonstrated a minimal intention-behaviour gap in both countries.

Keywords: clothing; fashion; sustainability; consumers; purchasing; intention-behaviour gap; Germany; South Africa.

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Biographical notes: Boitumelo Pooe is a PhD candidate and passionate about creating supportive business structures to foster efficiency and sustainable development in the clothing, fashion and creative industries.

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1 Introduction

The basis of this paper is that sustainability is as much of a concern for consumers as it is for environmentalists, ecologists (Avadanei et al., 2020), businesses and governments alike. Evidently, there is a growing concern about sustainability, and the clothing, textile and fashion industries are receiving more attention due to various issues within the value chain negatively impacting the planet (Avadanei et al., 2020). Ultimately, sustainability within clothing and fashion should balance economic development, environmental friendliness, social equity, garment functionality and style to provide products under the banner of sustainable development (Li et al., 2022). However, the problem is that it is currently unclear what influences consumers' actual sustainable product purchasing behaviour and the intention to purchase clothing sustainably.

As a result, the central research aim of this paper is to evaluate factors that influence consumers' sustainable intentions and actual clothing purchases. The 3Es (social equity, environmental and economic) of sustainability will be used to holistically determine consumers' sustainability concerns. This will be done to assess the levels of influence sustainability has on consumers' purchasing behaviour. The consumers' purchasing behaviour will then be analysed through the intention-behaviour gap, which was developed to analyse the sustainable behaviour of consumers and draw a distinction between the intention to purchase and the actual sustainable purchases (Carrington et al., 2010).

It is important to note that this paper focuses on consumers' sustainable purchasing behaviour towards clothing, while consumers' purchasing behaviour towards sustainable clothing is viewed as a consequence. For example, Harris et al. (2016) researched sustainable consumer clothing behaviour, and acknowledged sustainable clothing as one of the constructs. Simply defined, this paper focuses on sustainable behaviour (intentions and actions), while sustainable clothing is viewed as being subsequent to that behaviour.

Considering the above information, the objectives considered in this paper are to:

- 1 Determine factors that influence consumers' intentions to purchase clothing sustainably.
- 2 Determine factors that influence consumers' actual purchases of sustainable clothing.
- 3 Analyse the intention-behaviour gap of consumers to purchase clothing sustainably.

Figure 1 Conceptual framework



2 Literature review

This literature review will provide context related to sustainability within the clothing/apparel industry. The intention-behaviour gap will be explained by discussing literature underpinning the factors comprising the dependent and independent variables that make up consumer purchasing behaviour and product-related constructs in the context of sustainable purchasing of clothing.

2.1 Sustainability within the clothing industry

Sustainability is a concept initially aimed at explaining the preservation of physical human societies, cultures, institutions, social orders and regimes (Avadanei et al., 2020). At the same time, the original definition of sustainable development was more focused on the ability of humanity to ensure that the present needs do not compromise the capabilities of future generations to meet their own needs in various aspects of life (WCED, 1987). The concept of sustainability generally comprises three pillars; economic, environmental and social equity; also referred to in basic terms as profit, planet and people (Avadanei et al., 2020).

Sustainability efforts have been proven essential during the product development process of clothing. For instance, methods such as additive manufacturing (AM) or three-dimensional (3D) printing have had to be considered due to considerable wastage of water and energy during the sampling phase of the design process. As a result, AM was recommended to produce digital models directly from 3D computer-aided design files, reducing human errors that lead to manufacturing waste and restricted design processes (Khajavi, 2021). Furthermore, with product design, there are other complexities such as smart clothing that impacts sustainability by emitting more carbon and other pollutants than ordinary clothing. It is thus required that designing genuinely sustainable smart clothing (Li et al., 2022). For the redesigning process, the major challenge is with the disassembly of products with more than one fabric type, as that causes recycling and upcycling issues with textiles. This requires design processes to design with disassembly in mind, considering materials and different parts of the garment such as seams, stitching, lining and trims (Paras and Curteza, 2018).

This then means that the product design process and the product developmental phase are important transitional points for the circular economy, together with waste collection, sorting and effective recycling (Koszewska, 2018). Sustainable clothing and fashion can additionally be categorised as recycled, upcycled, vintage, artisan, custom-made, fair trade/certified, locally made, organic, and vegan (Shen et al., 2013; Park and Lin, 2020). Predominantly, shifts towards a circular economy are concentrated on recycling strategies, with the intention of minimising the negative impact on the environment caused by over-consumerism (Liu et al., 2021). Overall, the circular economy is a strategy that intends to move away from the linear value chain to a closed-loop value chain, and has started to gain momentum. It presents opportunities for new profit streams, resilience against volatile input costs, information sharing and the ability to support efforts towards sustainability and social responsibility within the clothing, textile and fashion value chain (Avadanei et al., 2020; Pooe, 2020). Digitisation, transparency, waste prevention, minimised landfilled waste and economy sharing of new business models are some of the essential factors for a successful transition towards a sustainable circular economy (Koszewska, 2018). At the consumer level, there has been growing interest in sustainable design strategies that extend the lifespan of the product through recycling, slow fashion, customisation, halfway products (exchange and return services with manufacturers), modular structures, garment rentals, co-creation, local production and design with optimal use period (Niinimäki and Hassi, 2011).

2.2 Dependent variables: intention-behaviour gap

Previous research has found that a few consumers have translated their growing concern about sustainability into actual purchasing behaviour (Riesgo et al., 2022; Cavender and Lee, 2018; ElHaffar et al., 2020; Kaur and Bhardwaj, 2021; Nguyen et al., 2019). Thus, the intention-behaviour gap was developed to study the inconsistencies between how consumers intend to purchase sustainability and how they actually make sustainable purchases. Ultimately, the intention-behaviour gap divides consumers into two groups; those who buy sustainably and those who do not, but intend to do so (ElHaffar et al., 2020). This phenomenon has also been called the 'Fashion Paradox' (Riesgo, 2019).

The difference between intention and behaviour is mostly in how an individual processes available information and motivational factors. With intentions, individuals capture information and are willing and even plan to apply that information, but ultimately the individuals decide not to act. With behaviour, the individual chooses to perform the action related to the motivation and information (Ajzen, 1991). Relatively large intention-behaviour gaps have been previously calculated, with 90% of consumers purchasing not more than one piece of sustainable clothing out of the five to fifty new purchases they made (Perry and Chung, 2016). In contrast, a more extensive quantitative study with German women consumers found that a positive attitude towards sustainable clothing only explained an 11.5% variance in purchase behaviour (Jacobs et al., 2018). Considering the most recent study conducted in Germany by Jacobs et al. (2018), the following hypotheses were proposed:

- H1a Sustainable purchase intentions positively influence actual purchase behaviour towards clothing.
- H1b There is no/limited intention-behaviour gap in the sustainable behaviour of consumers purchasing clothing.

2.3 Independent variables

2.3.1 Product-related

Product type is one factor that influences the dissonance of the intention-behaviour gap (Park and Lin, 2020). For instance, consumers in Turkey preferred exclusive, local and authentic sustainable clothing more than they did functional attributes, indicating that consumers had different product needs or preferences (Sener et al., 2019).

Across the board, barriers to sustainably purchasing clothing result from product deficiencies such as inferior design or no particular function (Perry and Chung, 2016). In other cases, the criteria for purchasing sustainable clothing were the same as those for purchasing regular clothing based on fit, design, fashionableness, style, and price (Perry and Chung, 2016). This is particularly the case for fashionable consumers who hold a stereotype about sustainable clothing as being more unfashionable than conventional clothing, leading to perceived aesthetic risk (Rausch and Kopplin, 2021). On the contrary, fashionableness was found to neither hinder nor enhance clothing purchases with German women consumers (Jacobs et al., 2018). Aesthetic benefits should therefore be considered when barriers to purchasing sustainable clothing are evaluated (Jung et al., 2020) due to the different preferences. With that in mind, the following hypotheses were considered:

- H2 Aesthetics have a significant impact on consumers' intentions to purchase clothing sustainably.
- H3 Aesthetics have a significant impact on consumers' actual sustainable purchases towards clothing.

Furthermore, the circular economy strategies associated with redesigning, remaking, repairing and upcycling have been found to enhance durability, longevity, functionality, aesthetics and market value (Paras and Curteza, 2018). Most significantly, Li et al. (2022) highlighted that it was essential for the functionality and sustainability of clothing to be perfectly combined to maximise the value creation of products which embodied core competitive advantage, changed business modes and integrated business operations. This could potentially result in long-term stakeholder interests to develop the apparel industry, causing steady growth of profitability. Correspondingly, Jung and Jin (2014) associated functionality with a product's longevity, quality and versatility, which then maximises its utility or durability. Considering the above literature, the following was hypothesised:

- H4 Functionality has a significant impact on consumers' intentions to purchase clothing sustainably.
- H5 Functionality has a significant impact on consumers' actual sustainable clothing purchases.

Equally crucial for consideration is exclusivity, which is a product attribute that is valued by consumers who seek diversity with sustainable fashion or clothing (Jung and Jin, 2014). In terms of sustainability, exclusivity has become less about limited access and more about consumers' shared values and ideals (Ozdamar-Ertekin, 2019). Together with functionality, exclusivity is one of the product attributes that research has previously exemplified as one of the benefits for enhancing consumers self-esteem, making consumers feel self-assured, well-dressed and attractive (Legere and Kang, 2020). Exclusivity was established as one of the factors that were the primary motivators for consumers to purchase sustainable related clothing in the UAE (Munir, 2020). Generally, exclusivity has been identified as one of the dimensions that contribute to the customer valuing sustainable related fashion in a number of countries (Jung and Jin, 2014; Legere and Kang, 2020; Munir, 2020; Ozdamar-Ertekin, 2019; Riesgo, 2019; Şener et al., 2019). Accordingly, the following hypotheses were proposed:

- H6 Exclusivity has a significant impact on consumers' intentions to purchase clothing sustainably.
- H7 Exclusivity has a significant impact on consumers' actual sustainable clothing purchases.

Economic risks have been considered a barrier in the past, although they were mostly found to have no impact on the relationship between intention and purchase behaviour of sustainable clothes in some societies [Rausch and Kopplin, (2021), p.10]. Moreover, issues such as the deflation of prices due to the low manufacturing prices in developing countries have brought attention to unfair labour practises impacting the retail price (Saicheua et al., 2011). Interestingly, Dutch consumers perceived the price of sustainable clothing as not expensive or too high (Cherradi and Tetik, 2020). In agreement, Jacobs et al. (2018) also discovered that price sensitivity did not influence purchasing behaviour significantly. Conversely, the price was previously identified as one of the barriers or causes of the intention-behaviour gap (Bocti et al., 2021). Even luxury consumers demonstrated a price sensitivity towards sustainable alternatives to luxury clothing, though they are generally willing to pay premium prices (Jein and Sørensen, 2019). Factors such as high levels of involvement, innovativeness and brand loyalty have been previously associated with lower price sensitivity (Goldsmith et al., 2010). It can therefore be assumed that economic risks may or may not be a barrier to sustainable purchasing behaviour depending on the country, society or demographic, which then leads to the following hypotheses:

- H8 Price-insensitivity has a significant influence on consumers' intention to purchase clothing sustainably.
- H9 Price-insensitivity has a significant influence on consumers' actual sustainable purchasing behaviour towards clothing.

2.3.2 Sustainable core values

Failure to get started, failure to pursue goals, failure to attain goals, and missed opportunities are the key issues identified when turning intentions into purchases (Sheeran and Webb, 2016). Planning, habits, commitment, sacrifice, and specific shopping behavioural modes were considered essential to counteract these barriers (Casais and Faria, 2021). Carrington et al. (2014) initially researched the correlation between prioritisation, plans, habits, commitment, sacrifice and behavioural modes and provided a summary that stated that prioritising sustainable issues as either primary (high priority) or secondary (low priority and easily forgotten) influenced the level of planning sustainable purchase routines that ultimately formed habits. They stated that planning requires commitment and sacrifice and this became evident in the three behavioural shopping modes:

- 1 premeditated shopping behaviour
- 2 effortful decision making at the point of sale
- 3 spontaneous shopping behaviour.

The study revealed that for consumers to translate intention into behaviour, it was contingent on prioritising sustainable concerns and realising that not all concerns are of equal salience.

Inconsistencies were found regarding the lack of information or knowledge about sustainable clothing or fashion. On the one hand, the lack of knowledge as to where to purchase sustainable clothing was identified as a significant barrier for German women consumers (Jacobs et al., 2018). The lack of knowledge on where to buy sustainable clothing leads to incorrectly perceived costs and a lack of sustainability awareness (Nguyen et al., 2019). Accordingly, retailers need to foster easy access to sustainable clothing so that consumers do not need to spend too much time, energy and effort looking for sustainable clothing (Perry and Chung, 2016). On the other hand, knowledge about sustainability coupled with low trust has the potential to act as a barrier, as it leads to information overload compounded with scepticism. This results in consumers mistrusting sustainable claims as they start to feel that sustainable apparel only impacts a few practices, which then causes consumer inaction (Cherradi and Tetik, 2020). Prioritisation, plans/habits, commitment/sacrifice and knowledge/information regarding sustainable clothing were grouped as one construct due to the factor analysis results from the collected data, resulting in the following hypotheses:

- H10 The consumers' sustainable core values significantly influence their intention to purchase clothing sustainably.
- H11 The consumers' sustainable core values have a significant influence on their actual sustainable clothing purchases.

2.4 Summary of hypotheses

Figure 2 illustrates the research model based on the discussed literature and all the indicators that will be measured and discussed in detail in the following sections.



Figure 2 Research model: summary of hypothesis

3 Methodology

With a quantitative, cross-sectional research approach, an online survey was distributed in Germany and South Africa based on quota sampling. The quota in Germany focused on income, gender and age, while the quota in South Africa concentrated on living standard measures (LSM).

3.1 Respondents

3.1.1 South African sampling

This research acknowledges that the segmentation measurements in South Africa are transitioning away from LSMs. On the one hand, some researchers argue that the move should be towards socio-economic measures (SEM) (Langschmidt, 2017). On the other hand, other researchers say that alternative segmentation measures other than LSM and SEM should be considered, as SEMs appear to be the continuation of LSMs (Muller, 2017). Considering the two segmentation options in South Africa, it was important for the researchers to obtain a specific database of respondents (to meet the quota), which was only available for LSMs and not available for SEM, which is yet to be commercialised by most research firms.

In South Africa, the lower LSMs (1-4) have been considered as segment groups representing consumers in rural areas with lower incomes and relying on basic commodities for survival, while the higher LSMs (5-10) are regarded as urbanised and more financially stable consumers (Mason et al., 2022). This paper, therefore, deems this urbanised population (LSM 5–10) in South Africa as individuals who would possibly consider purchasing clothing sustainably, deliberating the before mentioned independent variables.

3.1.2 German sampling

The sampling approach for Germany was different, with the majority of the population considered as able to afford higher priced products (such as sustainable related clothing). As a result, the quota was based on the populations' income, gender and age as illustrated in Table 1 (Dobbelstein and Lochner, 2023).

3.1.3 Sampling selection

A total sample size of 550 participants was set for each country. Formula (1) explains how the targeted quota sample was established.

- $\sigma = 1$; z = 1.96 (because $\alpha = 0.05$, $1 \alpha = 0.9545$); $E = 0.1 \rightarrow n = 400$.
- Failure rate consideration: $n * 0.375 = 150 \rightarrow n + 150 = 550$.

Ultimately, 550 respondents were reached in Germany and 555 in South Africa; n was reduced by 67 in Germany and 151 in South Africa due to the quality control process, namely checking conflicting answers and the working median of answering time. This resulted in n = 483 for Germany and n = 404 for South Africa. Consequently, the

difference between the given and the achieved quota in South Africa was $\pm/-3\%$ and $\pm/-2.6\%$ points in Germany. The quota profile and final sample sizes for Germany and South Africa are shown in Table 1. Generally, the sample well-represents the target populations in both Germany and South Africa.

Criteria	Target (%)	Achieved (%)	n	Difference (% points)
South Africa $(n = 404)$				
LSM 5	20.8	20.3	82	0.5
LSM 6	18.8	15.8	64	3.0
LSM 7	18.8	20.8	84	-2.0
LSM 8	14.6	16.1	65	-1.5
LSM 9	12.4	12.4	50	0.0
LSM 10	14.6	14.6	59	0.0
Germany ($n = 483$)				
Male	48.9	47.6	230	1.3
Female	51.1	52.2	252	-1.1
Diverse/not specified	0	0.2	1	-0.2
18–24	8.9	8.3	40	0.6
25–34	15.1	14.5	70	0.6
35–49	22.1	20.7	100	1.4
50-64	27.5	28.6	138	-1.1
65+	26.3	28.0	135	-1.7
Less than €1,250	15.4	12.8	62	2.6
€1,250 to €2,000	19.7	20.7	100	-1.0
€2,001 to €3,000	23.6	22.6	109	1.0
€3,001 to €5,000	26.7	28.2	136	-1.5
€5,001 and more	14.6	15.7	76	-1.1

 Table 1
 Targeted and achieved quotas

3.2 Data collection

A pilot test was initially administered to a convenience sample of eight research professionals, four in Germany and four in South Africa. The questionnaire was then proofread, and the language was cross-checked for completeness, clarity, structure and appropriateness. The questionnaire was then translated into German by a German researcher/copywriter to ensure translation accuracy.

The actual data collection then took place, with an initial pre-test sample of 50 respondents in each country to double check the face validity with a smaller group of respondents before proceeding with a larger sample size. Once the questionnaire proved understandable and acceptable to the initial 100 respondents, it was distributed to the rest of the sample. The entire questionnaire (pre-test and final stage) was distributed online from the 8th to the 20th of December 2022 with the assistance of a commercial research company.

3.3 Operationalisation of constructs

The literature identified guided the construction of the questionnaire. Consequently, the constructs identified from the literature were:

- 1 'sustainable purchasing intentions'
- 2 'actual past sustainable purchases'
- 3 'sustainable core-values' towards clothing, which were measured through prioritisation, planning/habits, commitment/sacrifice and knowledge/information about the accessibility of sustainable clothing.

Additionally, product-related constructs measuring 'aesthetics', 'functionality', 'product exclusiveness' and 'price-insensitivity' were also included. All constructs except for demographic factors were measured with a seven-point scale. The descriptions and measures for each construct are outlined in Table 2.

3.4 Data analysis

The data was analysed using SPSS version 28. The starting point was with univariate descriptive statistics outlined in Table 1. The mean, standard deviation and Cohen's d were calculated for each item and country, and discussed in detail under results.

3.4.1 The psychological independent constructs

The psychological independent constructs had to be adequately defined and allocated, based on the mean values of variables measuring closely related items according to the exploratory factor analysis (EFA) results. Thus, consumers' intention to purchase clothing according to social, environmental and economic sustainable factors was grouped as one variable termed 'sustainable purchase intention', as they loaded on the same factor. Prioritisation, planning/habits, commitment/sacrifice and knowledge/information of sustainable clothing were grouped as one factor and termed 'sustainable core-values', as they all loaded on the same factor. Additionally, product-related constructs were considered independent variables based on the mean values of the EFA results. The product-related variables included 'aesthetics', 'functionality', 'exclusivity' and 'price-insensitivity'.

3.4.2 Dependent constructs

The dependent constructs were calculated as the mean value according to the theoretical component. In that case, 'sustainable purchase intention' was measured as both an independent and dependent variable. As a result, the 'sustainable purchase intention' was measured against 'sustainable core-values' and product-related constructs. On the other hand, the dependent construct 'actual sustainable purchases' was measured against 'sustainable purchase intention' as an independent variable together with 'sustainable core-values' and product-related constructs.

Construct		Description	Operationalisation	Measurement	Literature
Sustainable p	urchasing intention	Purchasing intention with regard to sustainable development goal (SDG) concerns	I am considering buying clothing for ethical/environmental/economic reasons (x3 questions). I will encourage my family and friends to buy clothing for ethical/environmental/economic reasons (x3 questions). When choosing between ethical/environmental/economic clothing and corventional clothing. I will select ethical/environmental/economic clothing (x3 questions).	Seven-point scale from 'does not apply to me' to 'totally applies to me'	Dobbelstein and Lochner (2023), Rausch and Kopplin (2021) and Park and Lin (2020)
Actual sustaii behaviour	nable purchasing	Past purchasing action towards SDG concerns	How often have you bought clothing that you believed fulfilled <i>social-ethical</i> concerns? How often have you bought clothing that you believed fulfilled <i>environmental</i> concerns? How often have you bought clothing that you believed fulfilled <i>economically</i> sustainable concerns?	Seven-point scale, from 'never' to 'all the time'	Casais and Faria (2021)
Sustainable core-values	Sustainable prioritisation	Embedding sustainable concerns into everyday life	 When buying clothing. I prioritise one or two sustainability concerns over others that also concern me. I have essential sustainability concerns at the moment l'm buying clothing. I have sustainability concerns that are minor to me at the moment l'm buying my clothing. 	Seven-point scale, from 'completely disagree' to 'completely agree'	Casais and Faria (2021), Rausch and Kopplin (2021) and Carrington et al. (2014)
	Sustainable planning and habits	Continuously making plans before shopping	I usually search for information about sustainable clothing brands or shops. I like to repeat the purchase of clothing that I know is sustainable. I return to clothing shops that I know sell sustainable products.	Seven-point scale, from 'completely disagree' to 'completely agree'	Casais and Faria (2021) and Carrington et al.(2014)
	Sustainable commitment and sacrifice	Flexibility to develop sustainable shopping behaviour	I purchase sustainable clothing even when it costs me more than the unsustainable alternatives. I purchase sustainable clothing even when I have less variety to choose from. I purchase sustainable clothing even when I have to wait longer for it to become available.	Seven-point scale, from 'completely disagree' to 'completely agree'	Casais and Faria (2021) and Carrington et al. (2014)
	Sustainable product knowledge/information	Knowledge of where to purchase available sustainable clothing	I know where sustainable clothing is sold. Sustainable clothing is sold at stores close to where I live.	Seven-point scale, from 'completely disagree' to 'completely agree'	Nguyen et al. (2018)

Table 2 Operationalisation construct with measurements

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Construct	Description	Operationalisation	Measurement	Literature
Aesthetics	Style and design of clothing	Usually, most clothing does not meet my aesthetic needs. Usually, most clothing does not match my clothing style.	Seven-point scale, from 'completely disagree' to 'completely agree'	Rausch and Kopplin (2021)
Functionality	Maximum product lifespan and efficiency	I tend to keep clothes for as long as possible instead of discarding them. I prefer simple and classic designs. I enjoy wearing the same clothes in multiple ways.	Seven-point scale, from '1 strongly disagree' to '1 strongly agree'	Riesgo et al. (2022) and Jung and Jin (2014)
		I prefer my clothes to be practical.		
Exclusivity (designer)	Limited product ranges and product scarcity	I am attracted to unique clothing items. Limited edition clothing holds a special appeal to me. I enjoy having clothing others do not have.	Seven-point scale, from 'I strongly disagree' to 'I strongly agree'	Riesgo et al. (2022) and Jung and Jin (2014)
Price-insensitivity	Economic risk associated with purchasing the product	I am less willing to buy an article of clothing if I think it will be high in price. I don't mind paying more to try out a new clothing brand. Really good clothing is worth paying a lot of money for.	Seven-point scale, from 'I strongly disagree' to 'I strongly agree'	Goldsmith et al. (2010)

 Table 2
 Operationalisation construct with measurements (continued)

Recoding occurred to ensure that all values within the questionnaire had the same directionality, with the higher values within the scale representing a higher level of agreement with the construct. The only recoded variable was assigned the 'RECOD' description in Table 3, Item PR38_PS1 (product-related item number 38 in the questionnaire, measuring 'price-insensitivity').

3.5 Validity and reliability

By implementing the EFA with principal component analysis, varimax rotation and Kaizer normalisation, the validity of the dimensions identified in the literature was checked (Dobbelstein et al., 2020). Within the EFA, all the variables measuring the psychological constructs were checked together with the buying intention of consumers. All the constructs were then defined by the mean values, as per the results of the final EFA. Eventually, the psychological constructs were identified as 'sustainable buying intentions', 'sustainable core-values', 'aesthetics', 'functionality', 'exclusivity' and 'price-insensitivity'.

Reliability was confirmed through Cronbach's coefficient alpha. 'Functionality' (0.667) has the lowest, but still acceptable, value, 'price-insensitivity' (0.706) and 'aesthetics' (0.791) show adequate values, and all other constructs are highly reliable with values of 0.9 and higher (Ruel et al., 2016).

4 Results

4.1 Factors influencing intentions to purchase clothing sustainably

Using a regression analysis (see Table 4), consumers' 'sustainable buying intentions' was analysed as a dependent variable against the independent variables 'sustainable core-values' and product-related constructs, 'aesthetics', 'functionality', 'exclusivity' and 'price-insensitivity'. The beta values from the regression analyses are provided in brackets after the relevant variables in the following discussion.

Overall, 'sustainability core-values' (0.725) influenced consumers' sustainable clothing purchasing intentions, illustrating that consumers, intending to shop for sustainable clothing. recognised the importance of prioritisation, sustainable planning/habits. and sustainable commitments/sacrifices and had sufficient knowledge/information about sustainable products' availability. The second factor that had a highly significant, but much lower, influence on the intention of consumers to shop sustainably was 'exclusivity' (0.143), followed very closely by 'functionality' (0.112). 'Price-insensitivity' (-0.046) did not have a significant influence on consumers' intention to purchase clothing sustainably, while the 'aesthetics' (-0.007) of clothing is also insignificant in influencing the consumers' intentions to shop sustainably.

In Germany, only 'sustainable core-values' (0.866) significantly influenced consumers' intentions to purchase clothing sustainably. The second most influential factor, at a much lower level, was 'functionality' (0.057), with a not-so-significant influence on the intention of consumers to buy sustainable clothing. With a difference of 0.040, the factor 'functionality' was followed by 'exclusivity' (0.017), while the factors 'aesthetics' (-0.006) and 'price-insensitivity' (-0.029) had the weakest influence on the intention to purchase clothing sustainably. This indicates that clothing attributes such as

'aesthetics', 'exclusivity', and 'price-insensitivity' had no significant influence on consumer purchasing intentions of sustainable clothing in Germany.

				Comp	onents		
Variables	Items	3E's buying intention	Sustainable assertiveness	Aesthetics	Functionality	Exclusivity	Price-insensitivity
Sustainable	PC7 SE1	0.756	0.285	0.049	0.026	0.190	0.092
purchase intention	PC8 SE2	0.802	0.241	0.017	0.056	0.177	0.053
$(C\alpha = 0.995)$	PC9 SE3	0.799	0.257	0.021	0.048	0.029	0.139
	PC10 EN1	0.778	0.309	0.020	0.053	0.205	-0.016
	PI11 EN2	0.777	0.319	-0.001	0.092	0.232	0.018
	PC12 EN3	0.784	0.306	0.009	0.114	0.023	0.083
	PC13 EC1	0.818	0.265	0.004	0.118	0.152	0.047
	PC14_EC2	0.810	0.247	-0.012	0.144	0.171	0.037
	PI15 EC3	0.796	0.283	0.005	0.127	0.076	0.048
Sustainable	PIC19 PR1	0.502	0.602	0.040	0.049	0.123	0.036
core-values	PIC20 PR2	0.572	0.599	0.018	0.107	0.071	0.081
$(C\alpha = 0.935)$	PIC22 PH1	0.440	0.663	0.049	0.009	0.160	0.101
	PIC23 PH2	0.465	0.644	0.031	0.096	0.048	0.116
	PIC24 PH3	0.482	0.673	-0.001	0.174	0.070	0.107
	PIC25 CS1	0.438	0.621	0.086	0.059	0.025	0.384
	PIC26 CS2	0.421	0.679	0.162	0.070	-0.077	0.215
	PIC27 CS3	0.432	0.648	0.129	0.036	0.006	0.265
	PIC16 AA1	0.229	0.737	-0.077	0.019	0.243	0.024
	PIC17 AA2	0.207	0.680	-0.097	-0.021	0.242	-0.049
Aesthetics	PR30 A1	0.074	0.010	0.890	-0.010	0.113	-0.046
$(C\alpha = 0.791)$	PR31_A2	-0.021	0.041	0.895	-0.036	0.038	-0.069
Functionality	PR29_F4	0.073	0.086	-0.048	0.731	-0.020	0.157
$(C\alpha = 0.667)$	PR32_F1	0.099	-0.014	0.070	0.717	-0.033	-0.197
	PR33_F2	0.180	0.238	-0.005	0.497	0.274	-0.167
	PR34_F3	0.109	-0.014	-0.063	0.809	-0.130	-0.006
Exclusivity	PR35_EX1	0.183	0.103	0.063	-0.029	0.863	0.037
$(C\alpha = 0.901)$	PR36_EX2	0.195	0.168	0.066	-0.052	0.842	0.177
	PR37_EX3	0.178	0.079	0.055	-0.013	0.858	0.097
Price in-sensitivity $(C\alpha = 0.706)$	PR38_PS1 (RECOD)	0.027	0.060	-0.127	-0.181	-0.017	0.722
	PR39_PS2	0.169	0.266	0.057	-0.024	0.488	0.622
	PR40_PS3	0.166	0.216	-0.039	0.117	0.396	0.682

LADIC S LITT WITH VALIMAX TOTATED COMPONENT MATH	Table 3	EFA with	varimax	rotated of	component	matrix
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In South Africa, 'sustainable core-values' (0.579) had a lower, but significant, influence on consumers' intentions to purchase clothing sustainably. The second and third factors that followed were 'exclusivity' (0.124) and then 'functionality' (0.120). The notable differences in South Africa are with the factor 'exclusivity' (0.124), which significantly influences consumers' sustainable shopping intentions, more so than in Germany (0.017), and 'functionality' (0.120), which is slightly lower in Germany (0.057).

	(Overall		G	Fermany		So	outh Afric	ca
	Coeff. beta	95% lower	95% upper	Coeff. beta	95% lower	95% upper	Coeff. beta	95% lower	95% upper
		I	ntention to	purchase	sustaind	ably			
Sustainable core-values	**0.725	0.722	0.823	**0.866	0.871	0.979	**0.579	0.475	0.648
Aesthetics	-0.007	-0.043	0.031	-0.006	-0.050	0.039	-0.027	-0.077	0.036
Functionality	*0.112	0.104	0.225	0.057	0.015	0.162	*0.120	0.053	0.247
Exclusivity	*0.143	0.071	0.139	0.017	-0.029	0.059	*0.124	0.027	0.165
Price- insensitivity	-0.046	-0.096	0.003	-0.029	-0.084	0.022	-0.046	-0.129	0.047
			Actual su	stainable	purchase	es			
Sustainable buying intention	*0.262	0.194	0.332	*0.222	0.113	0.331	*0.202	0.110	0.308
Sustainable core-values	**0.514	0.475	0.625	**0.590	0.509	0.749	**0.505	0.404	0.610
Aesthetics	-0.046	-0.099	0.005	-0.031	-0.097	0.031	-0.062	-0.146	0.030
Functionality	-0.012	-0.050	0.027	0.035	-0.020	0.087	-0.079	-0.117	-0.004
Exclusivity	-0.035	-0.116	0.014	-0.016	-0.115	0.064	-0.088	-0.211	-0.015
Price- insensitivity	*0.151	0.075	0.147	*0.079	0.015	0.121	*0.139	0.041	0.181

Table 4Regression analysis

Notes: **highly significant; *significant.

4.2 Factors influencing actual sustainable clothing purchases

For the second regression analysis, also summarised in Table 4, the dependent variable, 'actual sustainable purchase' behaviour of consumers, was measured against the independent variables: 'sustainable buying intentions', 'sustainable core-values' and the product-related constructs; 'aesthetics', 'functionality', 'exclusivity' and 'price-insensitivity'.

Overall, 'sustainable core-values' (0.514) significantly influences actual sustainable clothing purchases. In other words, prioritisation, planning/habits, commitment/sacrifice and knowledge/information about sustainable products greatly influenced sustainable clothing shopping behaviour. The second factor that substantially affected sustainable clothing shopping behaviour was the 'intention' to purchase clothing sustainably (0.262). Meaning that the intention to buy sustainable clothing had some influence on actual sustainable clothing purchases. The next factor that influenced the actual purchases of

sustainable clothing was 'price-insensitivity' (0.151), which addresses the willingness of consumers to pay more for sustainable clothing. This means that the more consumers are willing to pay for sustainable clothing, the more they actually buy. In other words, the less customers are concerned about price when purchasing clothing sustainably, the more they will actually buy.

The same pattern applies to both Germany and South Africa, with the difference in the strength of influence between the two countries being insignificant. However, for South African consumers, the factors 'exclusivity' (-0.088) and 'functionality' (-0.079) indicate a weak influence on actual sustainable clothing purchases. Thus, the higher the need for exclusive and functional clothing, the lower the actual sustainable purchases. Generally, the explained variance in Germany (64.8%) is much higher than in South Africa (44.90%).

4.3 Intention-behaviour gap to purchase sustainable clothing

Firstly, consumers' actual and intended sustainable buying behaviour was measured on a scale of 1 = very low to 7 = very high. Thereafter, the scales were transferred into two groups, with the first group being 1 to 3 = low intention to purchase clothing sustainably/little actual sustainable clothing purchases and the second group being 5 to 7 = high-level intention to purchase clothing sustainably/regularly purchased clothing sustainably, as summarised in Table 5.

		Low intention	High intention	Total
		Overall		
Low actual purchase	Count	72	16	88
	%	98.6%	5.4%	23.7%
High actual purchases	Count	1	283	284
	%	1.4%	94.6%	76.3%
Total	Count	73	299	372
	%	100.0%	100.0%	100.0%
		Germany		
Low actual purchase	Count	59	5	64
	%	100.0%	4.2%	36.0%
High actual purchases	Count	0	114	114
	%	0.0%	95.8%	64.0%
Total	Count	59	119	178
	%	100.0%	100.0%	100.0%
		South Africa		
Low actual purchase	Count	13	11	24
	%	92.9%	6.1%	12.4%
High actual purchases	Count	1	169	170
	%	7.1%	93.9%	87.6%
Total	Count	14	180	194
	%	100.0%	100.0%	100.0%

Table 5	Intention-behaviour	gap
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Overall, the intention-behaviour gap was not substantial, with 98.6% of respondents with a low intention to purchase clothing sustainably, indicating little to no action towards sustainable clothing purchases. Similarly, 94.6% of consumers with a high intent to purchase clothing sustainably also regularly purchased clothing sustainably, with only 5.4% of consumers unable to translate their high intention to purchase clothing sustainably into actual purchases.

The results were similar in Germany and South Africa. However, the intention behaviour-gap was slightly higher in South Africa (6.1%) than in Germany (4.2%). In South Africa, 92.9% of consumers with a low intention to purchase clothing sustainably indicated little to no action towards sustainable clothing purchases, while 93.9% of consumers with high intentions to purchase clothing sustainably also regularly purchased clothing sustainably. Whereas 100% of German consumers with a low intent to purchase clothing sustainably made little or no effort to purchase clothing sustainably, while 95.8% of consumers with high intentions to purchase clothing sustainably also typically purchased clothing sustainably.

In both countries the factor 'price-insensitivity' only influenced actual sustainable clothing purchases and not the intention to purchase clothing sustainably. That indicates that consumers do not consider price when they intend to purchase clothing sustainably. However, 'price-insensitivity' becomes an influencing factor when it comes to actual sustainable purchases. In contrast, 'exclusivity' and 'functionality' only impacted consumers' intention to purchase clothing sustainably and not consumers' actual sustainable purchases.

5 Discussion

Regarding the intention-behaviour gap, the most noteworthy finding is that consumers in Germany and South Africa have a minor intention-behaviour gap when purchasing clothing sustainably (Hypothesis 1). These findings are contrary to previous findings that specified that few consumers had translated their growing concern about sustainability into actual purchasing behaviour [Riesgo et al., (2022), p.5; Cavender and Lee, (2018), p.92; ElHaffar et al., (2020), p.13; Kaur and Bhardwaj, (2021), p.83; Nguyen et al., (2019), p.126]. When it comes to Germany, however, the results have shown that German consumers are consistent with translating their intentions to purchase clothing sustainably to actual sustainable purchases (Jacobs et al., 2018).

The 'sustainable core values' were the most significant factors impacting consumers' intention to purchase clothing sustainably (Hypothesis 10), demonstrating that to counteract barriers to sustainable purchasing behaviour, planning, habits, commitment, sacrifice, knowledge, and information with regard to sustainable purchasing behaviour are essential (Casais and Faria, 2021; Jacobs et al., 2018). Factors with mediocre significance on the impact of consumers' intentions to purchase clothing sustainably were 'functionality' and 'exclusivity' (Hypotheses 4 and 6), with slightly higher values in South Africa than in Germany. With South Africa's diverse population, 'exclusivity' was somewhat more important than 'functionality', while in Germany, 'functionality' was slightly more important than 'exclusivity'. These results signify that there is some appeal towards exclusive sustainable clothing in South Africa, as has been found in other countries such as the USA, Turkey, Spain, Kazakhstan and the UAE (Jung and Jin, 2014; Legere and Kang, 2020; Munir, 2020; Ozdamar-Ertekin, 2019; Riesgo, 2019; Şener et al.,

2019). However, in Germany, 'exclusivity' is a less significant factor, even less than 'functionality', which was attributed to maximising the value creation of clothing (Li et al., 2022). These results conflict with previous research stipulating that 'exclusivity' was one of the factors that were the primary motivators for consumers to purchase sustainable clothing (Munir, 2020). However, consumers in South Africa aligned marginally with consumer preferences in Turkey, where consumers preferred exclusive, local and authentic sustainable clothing more than they did those with functional attributes (Sener et al., 2019).

Factors that proved insignificant to consumers' intentions to purchase clothing sustainably were 'aesthetics' and 'price-insensitivity' (Hypotheses 2 and 8). With 'aesthetics', this is the affirmation that for German consumers (not just women), fashionableness neither hindered nor enhanced sustainable clothing purchases (Jacobs et al., 2018). This also applies to South Africa. German and South African results have additionally confirmed that they are among the societies where economic risk has no impact on the relationship between intention behaviour towards sustainable clothing (Rausch and Kopplin, 2021) as 'price-insensitivity' was found to have an insignificant effect on the intention to purchase sustainable clothing.

As for consumers' actual sustainable purchasing behaviour, 'sustainable core values' had a higher significance (Hypothesis 11) than they had on the intention to purchase clothing sustainably. This generally supports prior studies that stated that high prioritisation influenced the level of planning of sustainable purchase routines that ultimately formed habits. This was due to the level of sustainable knowledge and information consumers possessed (Carrington et al., 2014; Perry and Chung, 2016). 'Price-insensitivity' indicated a relatively significant influence on the actual purchases of sustainable clothing (Hypothesis 9). These results are in line with the findings which reported that some consumers perceived the price of sustainable clothing as not expensive or too high (Cherradi and Tetik, 2020). A marginal quantity of consumers in Germany and South Africa demonstrated a willingness to pay more for sustainable clothing, just like some luxury consumers in Copenhagen who showed a price-insensitivity towards sustainable luxury clothing (Jein and Sørensen, 2019).

The product-related factors, namely 'aesthetics', 'functionality' and 'exclusivity', were found to have an insignificant influence on the actual purchases of sustainable clothing (Hypotheses 3, 5 and 7). Examining these results, the recommendation from Jung et al. (2020), to consider aesthetic benefits when barriers to purchasing sustainable clothing are evaluated, does not apply to South Africa and Germany. Likewise, 'functionality' and 'exclusivity' benefits are unlikely to counter the barriers to purchasing clothing sustainably, as reviewed in former studies (Jung and Jin, 2014; Rausch and Kopplin, 2021). These results could be attributed to the fact that consumers with sufficient knowledge and information regarding sustainable clothing maintain:

- 1 high sustainability prioritisation, organising their sustainable shopping
- 2 adequate planning, which then leads to sustainable habits and creating
- 3 higher levels of commitment and sacrifice.

They would base their sustainable shopping of clothing on these core values rather than physical product attributes. This may be due to the possibility that these consumers already know what they want and need from sustainable clothing or have specific brand loyalties, which are not impacted by product attributes such as 'aesthetics', 'functionality' and 'exclusivity'. Moreover, this may mean that the appeal of fair pricing (even if it is high) that aligned with 'sustainable core-values' was more important for actual purchases of sustainable clothing than how sustainable clothing looked, functioned or represented exclusivity for consumers. Figure 3 illustrates the factors influencing consumers' intended and actual purchases of sustainable clothing in Germany and South Africa, with 'aesthetics' being the only factor that did not influence the intention and actual sustainable clothing purchases.



Figure 3 Research outcomes: summary of results

6 Conclusions and recommendation

It can be concluded that there are trivial intention-behaviour gaps in Germany and South Africa when purchasing clothing sustainably. This could be attributed to the improved sustainable core-values of consumers. On the other hand, the only product attribute relevant to consumers' actual sustainable purchases of clothing was 'price-insensitivity' (the willingness of consumers to pay premium prices). 'Exclusivity' and 'functionality' only influenced the intention to purchase clothing sustainably, while 'aesthetics' had no impact on the actual or intent to purchase clothing sustainably.

These findings regarding the influences of consumers' sustainable intentions and actual purchase behaviour lead to several implications. For the clothing industry, stakeholders and policy-makers are encouraged to invest more time and effort in informing and motivating consumers about sustainable core-values rather than communicating product-related attributes. How societies and industries encourage and support the 'sustainable core-values' is pivotal to sustainable clothing consumption. Should product attributes be considered, in South Africa, for marketing purposes in order to influence sustainable purchase intentions towards clothing, the focus should be on 'exclusivity' and 'functionality'. Thus, for South African retailers and producers, it is recommended that they firstly ensure some form of exclusivity, when retailing or producing sustainable clothing. Secondly, they would need to consider appropriate levels of functionality, linked to longevity, quality, versatility, utility and durability. Conversely, in Germany, the focus should be to first highlight functionality attributes, and then consider an appropriate level of exclusivity. Aesthetics, however, is not an

influencing factor in either Germany or South Africa with regard to sustainable clothing purchases. Therefore, it would be recommended for the factor 'aesthetics' not to be prioritised before exclusivity and functionality. Furthermore, primarily focusing on price attributes may not have the desired impact on the clothing industry to drive consumer intentions towards sustainability.

7 Limitation and suggestions for further research

As a whole, this paper did not include some of the product-related constructs. Additional constructs such as 'authenticity', 'equity', and 'localism' could be considered for future research (Jung and Jin, 2014). The paper was limited to the selected product attributes, as it did not focus on a specific product category, such as slow fashion. As this paper, therefore, generalised clothing categories, it is suggested that future research consider different clothing categories such as sportswear (which is more functional), independent fashion-designer clothing (which is more exclusive and aesthetics based) and second-hand clothing or occasional wear/fashion. Overall, this study revealed that consumers' intentions to purchase clothing sustainably mostly translated into actual sustainable behaviour in Germany and South Africa and was not driven by specific product attributes, but rather by consumers' assertiveness towards sustainable core-values.

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