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The Role of Demographics in Green Purchase Intentions: Evidence from Jordan, the United Arab Emirates, and the Kingdom of Saudi Arabia

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Abstract

This study investigates the role that demographic factors (country of origin, age, gender, and education) play in green purchase intentions (GPIs) among consumers in Jordan, the United Arab Emirates, and the Kingdom of Saudi Arabia (KSA). It is based on primary, quantitative, cross-sectional data collected using the questionnaire. The final sample included 680 consumers from the three countries. Hypotheses are tested using the independent samples t-test and one-way ANOVA. Results of the study show that age, gender, and education are not significant differentiators in GPI, while partial support was found regarding the role of country of origin. The study points out the relevance of GPIs and indicates the theoretical and practical implications. It enriches the scarce literature on green consumer behavior in the Middle East region and presents future research suggestions for its further development.

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1. Introduction

In 2016, the World Health Organization (WHO) published an article showing that 12.6 million deaths annually and almost 25% of all diseases worldwide are due to avoidable environmental causes. Diseases and health issues linked to the environment include asthma, chronic obstructive pulmonary disease, cardiovascular diseases, etc. To curb the pollution causing these maladies, the Center for Disease Control and Prevention (2018) recommends sustainable food choices, using alternative means of transportation, and purchasing eco-friendly or green products. Sustainability concerns contributed to the emergence of green marketing, international firms' focus on green production, and consumers' focus on green purchasing (Zaremohzzabieh et al., 2021).

In the Middle East region, specifically Jordan, the United Arab Emirates (UAE), and the Kingdom of Saudi Arabia (KSA), the importance of consuming environmentally friendly products is ever-increasing for several reasons. The most pressing one is the immediate and direct effect of the consumption of green products on human health. Additionally, the region is especially vulnerable to air pollution. Deemed "the silent killer," the air in these countries is among the most toxic globally (Cooke, 2017).

All these problems in the region and the rest of the world have led to a growth in public awareness of the environment and its importance, which in turn has resulted in increased calls for changing consumption and purchasing habits next to enacting laws that lead to consumers' awareness about

the importance of environmental sustainability in their regions and communities.

Laroche et al. (2001) and Kilbourne et al. (2009) argued that consumers' awareness of environmental problems related to their consumption will make it more likely that consumers will seek to purchase environmentally green products for the benefit of future generations. During the last decades, the focus on sustainability among consumers has been on the rise, accompanied by increased environmental concerns among companies' CEOs around the globe (Uddin & Khan, 2016).

Whereas the substantial research interest in and awareness of the environment had begun in the second half of the 20th century (e.g., Kinnear et al., 1974; Leonard-Barton, 1981; Alwitt & Pitts, 1996), there remains a gap in the understanding of consumer behavior regarding purchasing green products. De Moura et al. (2012) and Verbeke et al. (2007) indicated that consumers retain the right to choose products and how to consume them while a growing interest in the concept of preserving the environment has also emerged as a parallel major concern. Nevertheless, as Kilbourne et al. (2009) explained, consumers do not appear to show any consistent preference for green products in the long term.

To further increase the knowledge on green consumer behavior, it is essential to investigate its determinants. According to Ajzen (1991), intention is the best predictor of an actual behavior. Although not every intention will result in a behavior, every behavior is preceded by an intention (Ajzen, 1991; Krueger et al., 2000). Therefore, understanding consumers' green purchase intention (GPI) would significantly contribute to increasing information on green consumer behavior as GPI is its fundamental element (Al-Adamat et al., 2020).

Currently, research on GPI and green consumer behavior in Jordan, UAE, and KSA is scarce. More research is needed to investigate the factors affecting them, while the existing studies have several limitations. For instance, Mohammed et al. (2020) have investigated the factors influencing green behavior among young consumers in the KSA. However, the study omitted remaining age groups and other demographic variables (e.g., education), which could affect green consumer behavior. Additionally, focusing only on outcomes (i.e., green consumer behavior) excludes a significant portion of consumers who might have high GPI but have not practiced the behavior for various reasons. Important environmental awareness and sustainability changes cannot be achieved if only those who already directly contribute to it are included. Therefore, studying GPI instead of green consumer behavior becomes even more important from this perspective.

Evidence suggests that demographic factors are highly relevant regarding purchase intentions (Bhat et al., 2021). Hence, this study aims to investigate the role of demographic factors in GPI among consumers from KSA, Jordan, and UAE using quantitative data. The study will answer the following research question:

> *RQ1:* What is the role of demographic factors (country of residence, age, gender, and education) in green purchase intentions among consumers from KSA, Jordan, and UAE?

This study's results provide several contributions. From a theoretical perspective, the study enriches the scarce literature on GPI and the role played by demographic factors in the Middle East Region. From a practical perspective, in addition to raising awareness of environmental issues and green consumption, such knowledge helps companies to precisely target the most relevant customers for green products and carefully tailor their marketing strategies. They will understand which demographic groups already have high GPI that should now be converted to actual behavior and in which groups they need to stimulate such intentions. All of this will increase awareness and sales of green products, which will benefit society's overall health and wellbeing.

After the introduction, this paper presents the literature review and hypotheses, methods, results, and discussion and conclusions.

2. LITERATURE REVIEW AND HYPOTHESES

2.1. Green purchase intention

Chen and Chai (2010) defined green products as products with a limited environmental impact and incorporating strategies with recycled materials, reduced packaging, and less harmful substances. Kumar and Ghodeswar (2015) state that eco-friendly products are developed using healthy ingredients and environmentally friendly measures. Since the ecological development goals call for reducing energy use and lowering heat and pollutant emissions, applying these measures can help to maximize the sustainability of limited resources.

According to Vazifehdoust et al. (2013), green purchasing considers environmental criteria along with others, such as quality and price, during a purchase decision. ***Figure 1*** shows the process of purchase decisions (Kotler, 2012).

Figure 1: Process of making a purchase decision

Source: Kotler (2012)

Recognition means the consumer will realize the need for green products and the reasons behind them, whether it is a better lifestyle or to prevent a specific health issue. In the second stage, the consumer will search for all alternative products and collect more information about them. This leads them to the third step, which is evaluating the products. The consumer will rank every alternative product and compare them according to price, expectations, quality, and with traditional products. The consumer's green purchasing intent will also be affected by internal factors like desires and external factors like prices. In the next stage, the consumer will decide and buy the product. In the final stage, for evaluating the purchasing decision, consumers will ask themselves whether the green product met their expectations, whether the price and quality were acceptable, and whether the product had a noticeable effect on health and daily routine. If consumers are satisfied based on their experience, they will repeatedly purchase the green product in the future (Kotler, 2012).

However, to better understand the actual behavior of consumers regarding green products, it is essential to examine its predictors. As mentioned earlier, the most relevant predictors of actual behavior are precisely intentions (Ajzen, 1991). Additionally, Mohammed et al. (2020) asserted that GPIs are major factors influencing actual green consumer behavior.

Bagozzi et al. (1981) frame purchase intentions (PIs) as personal action tendencies relating to a brand or a specific product. Studying PIs thus helps companies define the factors that lead consumers to purchase a specific product type. Understanding PIs can help marketing managers predict the sales of new products and the possibility of repeating purchases of an existing product (Ali et al., 2011).

Based on the PIs' definition, GPIs can be defined as personal action tendencies toward green/eco-friendly products. Nowadays, a huge number of alternative options and attributes are available for each product, regardless of whether it is a green or a traditional one. On top of that, brands are competing against one another in all target markets (Hinrichs, 2003). All these new conditions

created the actual need to study consumers' GPI, which in turn will help companies and concerned parties understand consumer behavior and how to customize the product to meet the client's expectations, leading to increased profitability in the long run.

Subsequently, institutions are now beginning to realize the crucial importance of their services and products being geared toward customers in all markets. Thus, it is necessary to study business needs and ways to fulfill market requirements (Kotler, 1997). In this context, Weatherell et al. (2003) investigated the motivations of new (concerned) consumers to show a significant interest in (alternative) foods produced under more eco-friendly conditions, including organic agriculture, local supply systems, and general environmentally friendly production. The authors argue that consumers' focus has shifted from the product's prices, packaging, and appearance to its quality and environmental impact that can be traced to specific places. Interest in green alternative products is definitely growing.

2.2. Demographic variables and green purchase intentions

Different studies confirmed that the relationship between demographic factors and green consumer behavior (e.g., Fisher et al., 2012) or the interplay between demographics and GPIs (e.g., Wang et al., 2020; Bhat et al., 2021; In & Ahmad, 2018; Rahim et al., 2017; Chekima et al., 2016; Nath et al., 2015). However, the results reached by these studies are inconclusive which indicates that the role played by demographic factors in GPIs might be context sensitive. Although interest in sustainability research has been growing in the MENA region recently (Ahmad et al., 2022), the area still needs to be studied (Jamali et al., 2020). Therefore, analyzing the interaction between demographic factors and GPIs in Jordan, UAE, and KSA is valuable from multiple perspectives.

2.2.1. Country of residence

As stated before, GPIs are potentially context-specific and, therefore, can be different for people from different countries. Generally, sustainability concerns in the MENA region are interesting because some of its countries rely heavily on oil as the source of their wealth, which opposes environmental protection efforts (Jamali et al., 2020).

For instance, existing studies indicate that Jordanian consumers are environmentally conscious but still prefer traditional products (Alsmadi, 2007; Al-Adamat et al., 2020). UAE consumers share the same concerns and interests as Jordanian ones (Alameeri et al., 2018). Khaleeli et al. (2021) investigated green purchase intentions (GPI) with UEA consumers. The results show how Emirati consumers' awareness positively affected their intention to buy environmentally friendly products, regardless of their price, compared to traditional products. Considering the KSA, the country's economy depends on the oil industry, as with its neighbors. The magnitude of the oil industry also means that KSA faces serious environmental challenges, such as land degradation, desertification, and air pollution related to energy production (Groissböck et al., 2016). Additional problems are related to water supply and quality and solid waste management, caused by high individual consumption levels. Hence, the awareness and willingness of consumers to purchase green products are at least questionable.

Naturally, the government, structure of the economy, culture, etc., can significantly impact individual consumption preferences. Although Jordan, UAE, and the KSA share certain similarities in terms of the mentioned factors, the region is also characterized by diversity among people. Nevertheless, all three countries still need to be more researched regarding GPI and green consumer behavior. Hence, to contribute to a better understanding of GPIs in the region, this study is going to investigate the next hypothesis:

H1. There is a difference in green purchase intentions between consumers from Jordan, UAE, and KSA.

2.2.2. Age of respondents

Numerous studies explained that age is a frequently used segmentation variable for the market (Quester et al. 2007; Kotler & Keller, 2006; Peter & Olson, 2008). Kurtz and Boone (2006) explain that age is an important factor when purchasing and choosing a particular product. As Casalegno et al. (2022) stated, age is a relevant factor in the choice of green products.

The results of various studies investigating green consumer behavior in different age groups are mixed. Fisher et al. (2012) mentioned that younger people were more likely to exhibit environmentally friendly behaviors and also indicated that older people were more likely to do so. However, for instance, Finisterra do Paço et al. (2009) did not find any significant difference. Similarly, Han et al. (2011) indicated no significant differences in eco-friendly intentions across age.

Further, research by Kim et al. (2012) showed that sustainable hotels must target younger travelers or guests, especially 25-35-year-old guests because they are more willing to be accommodated at a sustainable or eco-friendly hotel than older age groups. However, Witek and Kuźniar (2020) stated in their work that young consumers are skeptical about green products.

The relevance of age is further confirmed as Al-Adamat et al. (2020) chose the age limit of 22 for their study of GPI since consumers in this age range are renowned for their green product purchase behaviors and feel empowered to choose the right items from the many available options.

Aapola (2002) confirms that age is key in empirical social research because it is used to categorize participants and explain their differences. Korpunen and Nápravníková (2008) show that people's experience could improve by increasing their age. Regarding GPI and socio-demographic factors, Straughan and Roberts (1999) stated that socio-demographic factors such as age, income, gender, and location were essential parameters to explain consumers' green preferences. Thus, the second hypothesis of this study is proposed:

H2. There is a difference in green purchase intentions due to age as a demographic factor.

2.2.3. Gender of respondents

Over time, multiple studies have investigated the relationship between gender and green consumer behavior. Findings by Gundala et al. (2022) indicated that gender plays a significant role in PI for organic foods. According to Fisher et al. (2012), females were found to have double the desire to buy environmentally friendly products than their male counterparts. This aligns with Witek and Kuźniar (2020), who stated that females have more positive attitudes towards purchasing green products. Such findings have become even more relevant since, in Western countries, many studies have pointed out that women make the decision to purchase green products more frequently than men (Banerjee & McKeage, 1994; Mostafa, 2007). Lee's (2009) research indicated that female adolescent consumers show higher eco-friendly interest and peer influence than male adolescents. From another perspective, Mo and Wong (2012) assert that consumers' gender influences their purchase intention by considering their income level. However, Li (2014) found that men are more likely to search for information on green products and to purchase such products, especially healthy food products. However, Masouleh et al. (2013) stated that gender-related studies' findings on eco-friendly products are still questionable and profiling green consumers using gender as the demographic variable is still indecisive. Therefore, to clarify the role of gender in GPIs, the third hypothesis is proposed:

H3. There is a difference in green purchase intentions due to gender as a demographic factor.

2.2.4. Education of respondents

The most consistent results were found for the role of education in green consumer behavior and its predictors. Shahnaei's (2012) research indicated that a higher education level positively impacts green purchasing among Malaysian consumers in the Asian market. Finisterra do Paço et al. (2009) stated that participants with the highest level of environmental concern were also those with the highest education levels. Similarly, higher-educated consumers were found to possess greater knowledge about green goods and the benefits of such products (Roslin et al., 2017). Also, research by Patak et al. (2021) showed that product knowledge is an antecedent of GPI. Many other studies reached similar conclusions regarding consumers' education levels (Dettmann & Dimitri, 2007; Magnusson et al., 2003; Zepeda & Li, 2007). Moreover, people with higher education levels demand more information on organic production methods and processes (Wier & Calverley, 2002). They are also more willing to pay more for organic food (Wandel & Bugge, 1997). Hence, the fourth hypothesis of this study is developed:

H4. There is a difference in green purchase intentions due to education level as a demographic factor.

3. METHODS

3.1. Participants and procedure

This study utilized quantitative research methods as they enable objective measurement of reality (Williams, 2007). A cross-sectional survey was used to collect the data among participants older than 18 living in Jordan, UAE, and KSA. Although this study applied a convenience sampling method, the aim was to collect a large sample to avoid biases associated with non-probability sampling (Sedgwick, 2013).

A digital version of the questionnaire was created using Google Forms and sent to the participants to collect responses conveniently. The survey was anonymous and required permission from the human subject. After collecting the responses, the data were cleaned and checked. The final sample included 680 useful responses.

3.2. Instrument design and measurement

The questionnaire consisted of two sections. The first section was created to collect demographic data from the participants. The country of residence was measured with three categories: Jordan, UAE, and KSA. Age was initially measured in years and then transformed into four age categories (OECD, 2022; new working lives – NWL – individuals aged 18 to 24, prime working lives – PWL – individuals aged 25 to 54, and peak passed working lives –PPWL – individuals aged 55 to 65). Additionally, a category of individuals aged 66 and over was added and categorized as retirement working lives (RWL). Gender was used as a nominal variable, including male and female. Education was measured on five levels: primary school (PS), high school (HS), bachelor's degree (BA), master's degree (MA), and doctorate degree (Ph.D.).

The second section was focused on collecting the data about GPI. Green purchase intentions were measured using the construct adopted from Paul et al. (2016), which was measured on a 7-point Likert scale ranging from very unlikely to very likely. As the original constructs were in English, a back translation (English-Arabic-English) was performed to ensure content validity.

3.3. Analysis

The data was analyzed using SPSS and AMOS software. Data analysis consisted of pretesting and testing of hypotheses. Pretesting included reliability, validity, and frequency analysis. Hypotheses were tested utilizing independent samples t-test and one-way ANOVA.

4. RESULTS

4.1. Pre-testing

Table 1 presents descriptive statistics, reliability, and validity for GPI.

Table 1: Descriptive statistics, reliability and validity for GPI

Variable	Item	SFL	M	SD	α	AVE	CR
GPI	GPI1	0.739	4.095	0.426	0.829	0.506	0.836
	GPI2	0.763					
	GPI3	0.636					
	GPI4	0.726					
	GPI5	0.686					

Note(s): M – mean; SD – standard deviation; SFL – standardized factor loadings; α - Cronbach's alpha; AVE – average variance extracted; CR – composite reliability.
Source: Authors' own.

Cronbach's alpha is higher than 0.70, strongly indicating that the reliability of the construct has been reached (Cronbach, 1987). Furthermore, SFLs and AVE are above 0.5, while CR is higher than 0.60, which shows that convergent validity is also achieved.

Table 2: Frequency of responses per selected demographic variables

Variable	Category	N
Country	KSA	228
	UAE	209
	Jordan	243
Age	18-24	39
	25-54	581
	55-65	51
	66+	9
Gender	Male	403
	Female	277
Education	Primary school	3
	High school	47
	Undergraduate	513
	Masters	104
	Ph.D.	13

Note: N=680.
Source: Authors' own.

Table 2 shows the frequency of responses per selected demographic variable. Regarding the country, 243 participants were from Jordan, 228 from the KSA, and 209 from the UAE. Regarding age, most participants (581) were between 25 and 54 years old. Additionally, 39 participants were 18-24 years old, while 51 participants belonged to the age category of 55-65 years, only 9 participants were

older than 66 years. Regarding gender, 403 participants were male, and 277 were female, meaning that the proportion of males in the sample was 68.74%. Regarding education level, 47 participants graduated from high school, most participants (513) held an undergraduate degree, 104 participants had a master's degree, and 13 participants held a Ph.D.

4.2. Hypotheses testing

A series of one-way ANOVA tests and independent samples t-tests were performed to test the hypotheses to check the interaction between demographic factors and GPI.

Table 3 and ***Table 4*** show GPI analyses based on the country of residence. ***Table 3*** shows the descriptive statistics of GPI based on country of residence. Results suggest that GPIs across countries are in the upper range of the scale. However, there is still much space for improvement. The highest mean (4.183) was reached by the KSA, indicating that respondents in this country have the highest intention to purchase green products. It is followed by UAE (4.067). Jordan scored the lowest mean (3.971).

Table 4 presents the results by comparing the mean differences for each country of residence. The results show no significant differences in GPI between Jordan and UAE and UAE and KSA. However, there is a significant difference between Jordan and KSA (p = 0.030). Such a result indicates that the ***H1*** is partially not supported.

Table 3: Descriptive statistics of GPI based on country of residence

Country	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Jordan	3.971	0.064	3.847	4.096
UAE	4.067	0.060	3.949	4.185
KSA	4.183	0.074	4.038	4.329

Source: Authors' own.

Table 4: Pairwise comparisons of GPI based on country of residence

Category 1 (C1)	Category 2 (C2)	Mean Difference (C1-C2)	Std. Error	Sig.	95% Confidence Interval for Difference	
					Lower Bound	Upper Bound
Jordan	UAE	-0.096	0.087	0.273	-0.268	0.076
Jordan	KSA	-0.212	0.098	0.030	-0.404	-0.020
UAE	KSA	-0.116	0.095	0.225	-0.303	0.072

Source: Authors' own.

Table 5: Descriptive statistics of GPI based on age category

Age category	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
NWL	3.956	0.083	3.794	4.118
PWL	4.065	0.046	3.975	4.155
PPWL	4.102	0.073	3.958	4.246
RWL	4.114	0.150	3.821	4.408

Source: Authors' own.

Table 6: Pairwise comparisons of GPI based on age category

Category 1 (C1)	Category 2 (C2)	Mean Difference (C1-C2)	Std. Error	Sig.	95% Confidence Interval for Difference	
					Lower Bound	Upper Bound
NWL	PWL	-0.109	0.094	0.251	-0.294	0.077
NWL	PPWL	-0.145	0.110	0.188	-0.362	0.071
NWL	RWL	-0.158	0.171	0.355	-0.494	0.177
PWL	PPWL	-0.037	0.086	0.669	-0.207	0.133
PWL	RWL	-0.050	0.156	0.751	-0.357	0.258
PPWL	RWL	-0.013	0.167	0.940	-0.340	0.314

Source: Authors' own.

Table 7: Group Statistics and independent samples t-test - GPI based on gender

	N	M	SD	SE	t	df	Sig.
GPI							
Male	403	4.119	0.4167	0.0207	1.714	573.392	0.087
Female	277	4.061	0.4382	0.0263			

Source: Authors' own.

Table 8: Descriptive statistics of GPI based on education

Education	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
PS	4.200	0.240	3.728	4.672
HS	4.006	0.075	3.859	4.153
BA	4.036	0.048	3.942	4.130
MA	4.136	0.082	3.974	4.298
Ph.D.	4.187	0.144	3.904	4.470

Source: Auhtors' own.

Table 9: Pairwise comparisons of GPI based on education

Category 1 (C1)	Category 2 (C2)	Mean Difference (C1-C2)	Std. Error	Sig.	95% Confidence Interval for Difference	
					Lower Bound	Upper Bound
PS	HS	.194[a,b]	0.252	0.441	-0.300	0.688
PS	BA	.164[a,b]	0.245	0.503	-0.317	0.645
PS	MA	.064[a,b]	0.254	0.801	-0.435	0.563
PS	Ph.D.	.013[a,b]	0.280	0.962	-0.537	0.563
HS	BA	-.030[a,b]	0.089	0.736	-0.205	0.145
HS	MA	-.130[a,b]	0.111	0.244	-0.349	0.089
HS	Ph.D.	-.181[a,b]	0.162	0.266	-0.500	0.138
BA	MA	-.100[a,b]	0.095	0.295	-0.287	0.087
BA	Ph.D.	-.151[a,b]	0.152	0.321	-0.449	0.148
MA	Ph.D.	-.051[a,b]	0.166	0.760	-0.377	0.275

Source: Authors' own.

Table 5 shows the descriptive statistics of GPI based on age category. As with the country of residence, GPI scores across different age groups are similar and in the upper range of the scale. However, the highest mean (4.114) was reached by RWL, indicating that respondents belonging to this group have the highest intention to purchase green products. Contrarily, respondents in the NWL age category scored the lowest mean (3.956). Generally, it seems that the GPI rises gradually with age categories. It should also be mentioned that RWL has the highest standard error, which can be attributed to the small number of respondents in this group (N=9).

Table 6 presents the results by comparing the mean differences for each age category. Results show that age does not play a significant role in GPI. Thus, ***H2*** is not supported.

Table 7 presents the statistical results and differences in gender regarding GPI. The means are in the upper range of the scale and relatively close regarding gender. However, the results of independent samples of the t-tests are conclusive that the difference in GPI between genders is not statistically significant. Therefore, ***H3*** is not supported.

Table 8 and ***Table 9*** show analyses of GPI based on education. Table 8 shows descriptive statistics for GPI based on education levels. Again, all educational levels' means are in the upper range of the scale and are close to each other. However, the PS category reached the highest mean (4.200), indicating that respondents in this group had the highest intention to purchase green products. Also, respondents in the Ph.D. category scored the second-highest mean with (4.187). Respondents from the HS category scored the lowest mean (4.006).

Table 9 compares the mean differences for each education level. However, the results are insignificant. Hence, ***H4*** is not supported.

5. DISCUSSION AND CONCLUSIONS

Despite the recent increase in research on GPI, it is still a relatively new concept. However, the interest of researchers and marketers is not surprising, as studying GPI significantly contributes to understanding green consumer behavior. In line with this, the present study investigated the interplay between demographic factors such as country of residence, age, gender, and educational level and GPI in Jordan, UAE, and KSA.

The research question posed in this study was RQ1: What is the role of demographic factors (country of residence, age, gender, and education) in green purchase intention among consumers from KSA, Jordan, and UAE? Regarding the country of residence, many studies showed that Jordanian consumers are aware of green but still prefer traditional products (Al-Adamat & Al-adamat, 2019; Al-Adamat et al., 2020; Alsmadi, 2007; As' ad & Alhadid, 2014). For the UAE, studies demonstrated that consumers' awareness positively affected their intention to buy environmentally friendly products (Khaleeli et al., 2021). In the KSA, Groissböck et al. (2016) stated that the country faces serious environmental challenges, such as land degradation, desertification, and air pollution related to energy production. Government organizations are aware of these challenges. However, this study's results showed significant differences in GPI between Jordan and KSA, where respondents from Jordan achieved higher scores. Several explanations for such results are possible. One could be the higher income in KSA compared to Jordan, which can shift consumers' focus from price to other relevant aspects, such as sustainability. Another explanation could be government organizations' attitudes toward GPI in the KSA. These organizations provide the needed information and raise awareness about the importance of green products. Furthermore, the market's pricing policy and offering process could help consumers and traders.

Fisher et al. (2012) indicated that both younger and older people were likely to exhibit

environmentally friendly behaviors. Further, some studies emphasized the importance of age in GPI (e.g., Kim et al., 2012), while others found no connection between the two (e.g., Han et al., 2011). In line with the latter, this study's results suggest no significant differences in GPIs across different age groups. Although the differences are not statistically significant, younger respondents had lower GPI, which is in line with the assertion by Witek and Kuźniar (2020) that young people are skeptical about green products.

Regarding gender, the previous literature demonstrates an important area of investigation due to mixed conclusions from various studies. While many studies have indicated that female consumers showed higher interest in eco-friendly products (Fisher et al., 2012; Lee, 2009), evidence suggests that gender had no significant influence on GPI (Shahnaei, 2012). In line with the latter, this study's results suggest no significant difference in GPI between genders.

When it comes to education, most of the literature demonstrated that people with higher education levels require more information on organic production methods and processes and are more aware of green products (e.g., Finisterra do Paço et al., 2009; Roslin et al., 2017; Shahnaei, 2012). However, the results of this study oppose existing findings by showing no differences in GPI across different educational groups.

5.1. Implications of the results

The results provide findings that could be useful to companies interested in green consumer behavior. Therefore, this research carries several practical implications. Firstly, the results suggest no differences in GPI across Jordan, UAE, and KSA, except in comparison between Jordan and KSA. Companies can offer their green products using similar marketing strategies in these countries since all of them are characterized by similar levels of GPI. A first step for such businesses could be to open regional offices and support local suppliers and operators in handling ground services and operations. Next, services and coverage can be gradually developed and expanded based on consumers' feedback. Businesses can then customize the products according to the market. Additionally, businesses should focus on raising awareness and developing GPI in these countries, as there is much room for improvement.

Secondly, findings showed that age is not a relevant differentiator in GPI. Although insignificant, results show that GPI gradually increases with age. Therefore, companies should focus on all age groups when targeting them with green products. However, it is important to emphasize raising awareness of green consumption among younger generations that show somehow lower intention to purchase green products. Investments in this age category can pay off over the long run.

The study also showed that gender is not a significant differentiator in GPI. Therefore, companies should only use this demographic variable in their marketing strategy for green products if it is required due to good/service characteristics.

Finally, the study demonstrated no difference in GPI due to individual education levels. Therefore, companies should promote green consumption among members of all educational levels, as there is a lot of space for an increase in GPI.

5.2. Study limitations and future research

This study has limitations. Firstly, the study focused on differences in GPI based on demographic factors. Other studies could focus on predictors of these intentions, which would provide even more valuable theoretical and practical implications. Secondly, the study is based on data collected at one point and during the same period, limiting causal inferences and conclusions. Future studies could

therefore use a longitudinal study design to measure GPI at different time points and then make comparative assessments regarding demographic factors. Finally, the study deals with a multi-country sample, but these countries share many similar characteristics, such as culture, race, religion, and language. As demographic trends are one of the most dynamic in the current environment, future studies could investigate the scope of research in multicultural studies.

5.3. Conclusion

The aim of this study was to investigate the differences in GPI based on demographic factors in Jordan, UAE, and KSA. This study made four main contributions. First, the study enriches the existing literature on GPI by showing that certain differences in them could exist based on country of residence, even when countries share many similarities. Second, the study contributes to the literature on the interplay between age, gender, and education on one side and GPI on the other by showing that these demographic factors are not responsible for differences in intentions to purchase green products. Third, as explained earlier, these findings provide significant implications for companies operating relevant region.

Declarations

The authors have no relevant financial or non-financial interests to disclose. The data are available upon a reasonable request from the authors.

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