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The Role of Environmental Values, Environmental Self-Identity, and Attitude in Generation Z's Purchase Intentions for Organic Food

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Organic food consumption can slow down environmental degradation by discouraging inputs and processes such as synthetic pesticides, fertilizers, and genetically modified organisms. A better understanding of factors that influence consumer behavior regarding the consumption of organic food in a developing nation such as Pakistan, particularly Generation Z. In this regard, this research explores the role of environmental values, environmental self-identity, and attitude towards organic food over Generation Z's purchase intentions towards organic food. The statistical analysis of the conducted survey reveals distinctive results that provide a new direction in line with existing research. The study found that environmental values are not direct drivers of Generation Z's attitude towards organic food. Rather, altruistic values like the wellbeing of others and society are important motivators. There are potential barriers such as affordability and availability of organic food that influence the purchase intentions of organic food. Interestingly, hedonic values, which drive joyful experiences, showed a positive impact over environmental self-identity, suggesting implications for marketers and practitioners to make Generation Z connect with nature through pleasurable activities, which eventually strengthen environmental consciousness. Finally, this research validates a positive influence of attitude towards organic food over purchase intentions, while challenges such as affordability and availability can weaken the purchase intentions among Generation Z consumers.

Keywords: Environmental values, attitude towards organic food, environmental self-identity, purchase intentions.

Introduction

The growing emphasis on the complex connection between human health and environmental sustainability has attracted considerable interest from environmentalists and scholars (Lee et al., 2018; Basha and Lal, 2019). The substantial environmental damage caused by rapid economic growth and industrialization has resulted in the depletion of resources and adverse health effects (Sultan et al., 2020). The impact on human health

and the environment has resulted in a notable change in consumer food choices, causing a noticeable increase in the consumption of organic food (Chekima et al., 2017; Nuttavuthisit and Thøgersen, 2017). While organic food consumption has mostly risen in rich nations, Pakistan and other developing countries require methods to boost the demand for organic food. It is crucial to comprehend the factors that influence consumer behavior regarding the consumption of organic food in a developing nation such as Pakistan, particularly concerning environmental sustainability in the context of the largest strata of the country's population – Generation Z. Therefore, this research endeavors to explore the antecedents that are environmental values, environmental self-identity, and attitude towards organic food over Generation Z's purchase intentions towards organic food.

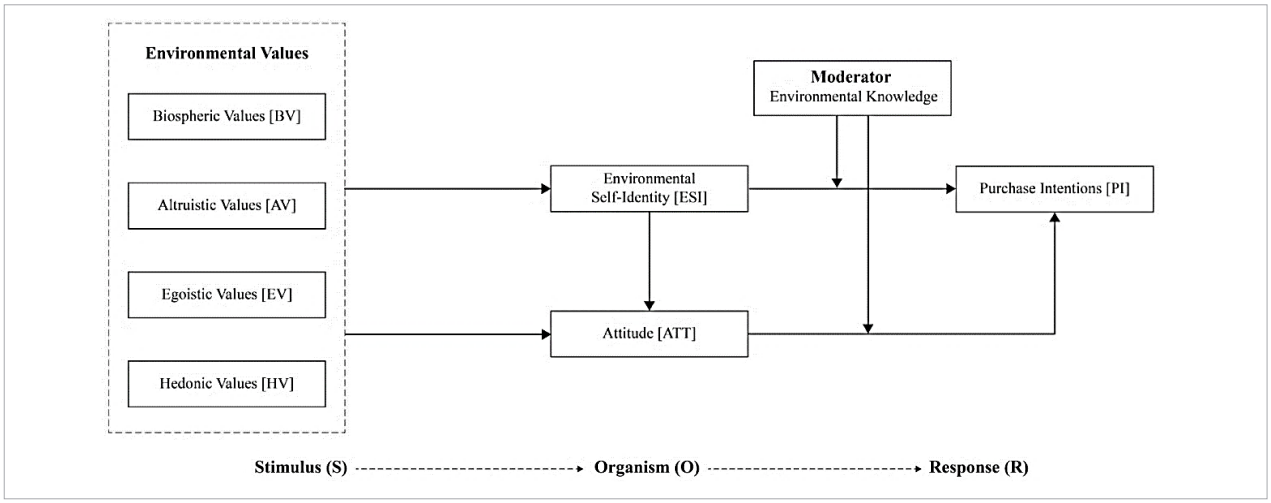
Literature Review

Stimulus response model

Academics and marketing professionals specializing in sustainable practices continue to strive for frameworks and theories that can provide clarity regarding sustainable consumer behavior (Bhutto et al., 2022; Tian and Liu, 2022). The motivation behind this endeavor is the acknowledgment that understanding this conduct not only promotes ecological preservation but also aids in the formulation of approaches to sustainable development (Tamar et al., 2021). The SOR model is a much valuable and convenient framework for examining the complex relationship among the constructs (Sugiarto et al., 2022). A number of research studies suggest a variety of distinctive environmental values such as biospheric, altruistic, egoistic, and hedonic (Wei et al., 2022; Tandon et al., 2020; Hansen et al., 2018). These values are representative of concerns about others' well-being, personal interest, sensory experiences, and self-worth (Wang et al., 2021; Bouman et al., 2018; Schwartz et al., 2012; de Groot and Steg, 2008).

The model is valuable in the context of evaluating the role consumers' purchase intentions as a valuable consumer response that is channelized by antecedents such as environmental self-identity and consumers' attitude towards organic food (Grădinaru et al., 2022). These antecedents, environmental self-identity, and attitude towards organic food appear to be valuable in determining the consumers' preferences, buying, and consumption of organic food (Qasim et al., 2019). Environmental self-identity enables individuals to observe and consider their own selves as environmentally conscious consumers (Van der Werff, 2013). This personal view is crucial in indulging the individuals to practice sustainability principles, such as buying organic food. Moreover, an individual's attitude is considered as a critical factor that can significantly influence not only the purchase intentions towards organic food, but also lead the individual to pro-environmental behaviors (Afroz et al., 2015). Consequently, those individuals who demonstrate a positive attitude toward the perceived benefits are more subject to inclination for opting for organic food choices.

Fig. 1. *Proposed research model*



Environmental values

Schwartz (1992) defines values as important, trans-situational goals that guide the behavior of individuals and social entities. Personal values not only come before a behavior but also direct a person towards a specific behavior. Schwartz's theory of personal values (Schwartz, 1992) emphasizes that individuals possess a set of values that serve as the foundation for their lives. These values act as reference points and help shape individuals' moral decisions. Environmental ethics involves establishing values, responsibilities, and commitments towards nature and the environment to ensure the well-being of future generations and support resources and services for sustainable development (Silva et al., 2018). Environmental ethics influences individuals to make decisions based on values such as aesthetic, ecological, and cultural considerations. Individuals with a keen sense of environmental ethics are more inclined to make eco-friendly choices in their daily lives, demonstrating a commitment to the planet's sustainability. People's goals, actions, and evaluations are driven and manifest by their broad and conceptual values (Steg et al., 2011). While driving environmental values of individuals, Bouman et al. (2018) identified four dimensions that emerge when connecting personal values to environmental values. These dimensions are namely biospheric, altruistic, egoistic, and hedonic.

Biospheric values

These values represent an individual's concern for identifying themselves with nature while recognizing the worth and interdependence of ecological systems (Stern et al., 1993). Prior research validates the direct impact of biospheric values over attitudes towards organic food and environmental self-identity (de Groot and Steg, 2008). Zhang et al. (2023) have explored the direct impact of biospheric values and consumers' attitudes toward organic food. Research indicates that those who have strong biospheric values demonstrate significant interest in sustainable consumption and a high level of preferences for sustainable farming practices. Moreover, Zhang et al. (2023) have suggested and explored a connection between biospheric values and environmental self-identity that describe how individuals view themselves as eco-conscious consumers.

H1 (a): Biospheric values have a significant influence on the attitude towards organic food.

H2 (a): Biospheric values significantly influence environmental self-identity.

Altruistic values

Schwartz (1994) describes altruistic values as individuals' concerns for the well-being of others as well as for their forthcoming generations. These people, while demonstrating a strong sense of responsibility and empathy, act in favor of society and the whole world (Stern, 2000). Like biospheric values, these values positively influence the consumers' attitude towards organic food and environmental self-identity. This positive relationship can be explained through their beliefs about the potential advantages for the environment and overall eco-system (Vermeir and Verbeke, 2020). Moreover, self-identity theory posits that individuals strive for achieving congruence between their beliefs, preferences, and actions which eventually minimize their internet dissonance and guilt (Vermeir and Verbeke, 2020). However, determining whether such a pursuit of internal congruence in the context of the altruistic values and preferences for organic food exist requires further investigation, specifically in case of Generation Z.

H1 (b): Altruistic values have a significant influence on the attitude towards organic food.

H2 (b): Altruistic values significantly influence environmental self-identity.

Egoistic values

Egoistic values drive self-centeredness and indulge individuals in pursuing personal gains such as better lifestyle, social status and healthy eating habits (Schwartz, 1992). These individuals make consumption choices maximize personal satisfaction (Steg et al., 2011). Existing research indicates a positive relationship between egoistic values and the consumers' attitude towards organic food consumption (Hartmann et al., 2016). However, the impact of egoistic values over environmental self-identity requires further exploration. Moreover, the influence of egoistic values over both the attitude towards organic food and environmental self-identity needs further research in the context of Generation Z's consumption choices. In this regard, the research suggests the following hypotheses:

H1(c): Egoistic values have a significant influence on the attitude towards organic food.

H2(c): Egoistic values significantly influence environmental self-identity.

Hedonic values

Hedonic values vary from other values in ways that these values prioritize pleasure, enjoyment, and emotional responses (Schwartz, 1992). Research indicates that these values drive consumer choices, specifically for products that provide excitement, joy, and instant pleasure. Consumers driven by hedonic values give priority to those products and services that appeal to their sensual and emotional experiences. In this regard, determining whether these values impact the consumers' attitude towards organic food and their environmental self-identity requires further investigation.

H1 (d): Hedonic values have a significant influence on the attitude towards organic food.

H2 (d): Hedonic values significantly influence environmental self-identity.

Attitude towards organic food as mediator

Generation Z's environmental values enable these individuals to regard the inherent benefits ingrained in our ecosystem. This regard for the environment encourages the generation to support organic farming methods that potentially reduce the negative impact on our ecosystem (Zhang et al., 2023). Specifically, among the four environmental values, altruistic values give priority to the well-being of upcoming generations, which is in line with the perceived benefits of pro-environmental intentions and behavior such as organic farming, less pollution, and increased soil natural fertility. Moreover, Gen Z's increased concern for their personal health and well-being may translate into their positive evaluation of organic food choices due to the perceived health benefits and environmental impact. It is not necessary that favorable attitude always transform into actual behavior. Studies consider a positive attitude as a stimulating factor that affects individual's choices (Lockie et al., 2002). Therefore, it is important to examine how Gen Z's attitude towards organic food affects their purchase intentions. In this regard, current research hypothesizes the role of Gen Z's attitude towards organic food and their purchase intentions for organic food.

H3: Attitude towards organic food significantly influences the purchase intention of organic food.

Environmental self-identity and purchase intention

Environmental self-identity is an individual's consideration and view of self as an environmental conscious and responsible person (Clayton, 2020). Prior research suggests that strong environmental self-identity encourages individuals to engage in ecologically favorable activities (Qasim et al., 2019). As incongruence between an individuals' beliefs and behaviors lead to cognitive dissonance, individuals aim for harmony between their self-identity and their preferences and actions (Straubinger and Weber, 2016). Resultantly, individuals who consider themselves as eco-conscious tend to prefer products and services that are environmentally safe such as organic food products that are cultivated using environmentally friendly practices.

According to Gallup (2021), Generation Z demonstrates a significant emphasis over environmental concerns. Among all other generations, this generation has experienced the most adverse climate changes and environmental deteriorations. These individuals with strong environmental self-identity are expected to take positive actions such as preferring and consuming organic food primarily for the betterment of the environment. In this regard, this study aims to explore the relationship between environmental self-identity and Generation Z's preferences for purchasing and consuming organic food. The findings of this research will be valuable for promoting environmentally sustainable purchase and consumption habits among Generation Z.

H4: Environmental self-identity significantly influences the purchase intention of organic food.

Environmental knowledge

Although Generation Z are expected to demonstrate strong environmental self-identity and attitude towards organic food, translating the identity and attitude into tangibly valuable efforts and actions depend on more factors. Considering this gap, the research endeavors to explore the role of environmental knowledge in influencing the connection between self-identity, attitude, and purchase intentions for organic food. Prior research informs that those who possess environmental knowledge tend to effectively translate their environmental beliefs into environmentally beneficial actions (Kollmuss and Agyeman, 2002). This eventually empowers individuals to make deliberate decisions in congruence with their personal beliefs, such as opting for organic food alternatives. Moreover, these individuals, with a strong environmental self-identity and a positive attitude towards organic food, tend to actively search for organic products (Wang et al., 2021). Individuals with a strong environmental self-identity, while

lacking environmental knowledge, may have difficulties in recognizing and evaluating the environmental consequences of their decisions. This can potentially impede Gen Z's ability to practice their beliefs (Schlegelmilch et al., 1996). Therefore, to understand how environmental knowledge is essential in stimulating the interplay between environmental self-identity, attitude towards organic food, and purchase intentions for organic food among Generation Z, the following hypothesis is tested:

H5: Environmental knowledge significantly moderates the relationship between the attitude and purchase intention of organic food.

Methods

Data collection

By utilizing convenience sampling, this research collected data from participants living in Karachi, Pakistan. The target population is Generation Z, consisting of individuals born between 1997 and 2012. This age group was selected because of their rising buying power, developing environmental awareness, and expanding impact on consumer preferences. After removing the responses that were not fully completed, 253 complete and valid responses were collected through a self-administered questionnaire after going through informed consent procedures. The recruitment process maintained data anonymity and confidentiality during the study. To ensure data quality, incomplete or inconsistent responses were omitted from the final analysis, leading to a final sample size of 253 individuals. This sample size is sufficient for statistical analysis and can be generalized to the target population considering the constraints of using convenience sampling.

Table 1. *Demographic profile of respondents*

Category	Frequency	Percentage
Gender		
Male	155	61
Female	98	39
Other	0	0
Age		
Under 26	176	70
26 and above	77	30
Education		
Intermediate	67	26
Bachelor's Degree	124	49
Master's Degree	43	17
PhD Level	19	8

Measures

The research employed multi-item scales that were adopted from prior sufficiently validated measurement instruments. Few minimum modifications in wordings were applied to make the instrument more understandable to the respondents. The complete questionnaire included 27 items. All these scale items were measured with seven-point Likert scale, ranging from 1 to 7. In the case of environmental values questionnaire (EPVQ), the responses were in terms of 1 (Not like me at all) to 7 (Exactly like me). Apart from EPVQ items, all other items were administered through a scale ranging from 1 (Totally Disagree) to 7 (Totally Agree). The scales descriptions are as follows.

Environmental values

The first part of the questionnaire collected responses for Gen Z's environmental values by utilizing the Environmental Portrait Value Questionnaire (EPVQ) that was developed to assess individual's environmental values (Bouman et al., 2018). The instrument was administered with a seven-point Likert type scale ranging from 1 (Not like me at all) to 7 (Exactly like me). The questionnaire consisted of four different value types; they were biospheric values (BV), altruistic values (AV), egocentric values (EV) and hedonic values (HV).

Environmental self-identity

The study used a three-item scale constructed by Van der Werff et al. (2013b). As mentioned earlier, the participants responded on a seven-point Likert scale ranging from 1 (Strongly Disagree) to 7 (Strongly Agree).

Attitude towards organic food

This item was developed by Gil et al. (2000) and Lockie et al. (2004). The current study collected responses regarding environmental knowledge of Generation Z by utilizing the instrument comprised of 7 item statements

that were measured through a seven-point Likert scale ranging from 1 (Totally Disagree) to 7 (Totally Agree).

Environmental knowledge

The first three out of the five items for measuring environmental knowledge were adopted from Maichum et al. (2016), and the rest of the two were utilized from Asif et al. (2018). Like all other scales, environmental knowledge was measured over a seven-point Likert scale ranging from 1 (Strongly Disagree) to 7 (Strongly Agree).

Purchase intentions towards organic food

The three-item scale belongs to Schifferstein and Oude Ophuis (1998) and Bredahl (2001). The scale measures respondent purchase intentions to buy organic foods. Again, a seven-point Likert Scale ranging from 1 (Strongly Disagree) to 7 (Strongly Agree) was used to measure the construct.

Data analysis

Data analysis employed a two-step process. First, SPSS 21.0 assessed the reliability and validity of the measures through the measurement model, ensuring consistent and accurate measurement of the key constructs. Second, SmartPLS 3.0 software estimated the structural model to test the hypothesized relationships between environmental values, environmental self-identity, environmental knowledge, and Gen Z's purchase intention for organic food. This approach ensured robust analysis and interpretation of the collected data.

Results and Discussion

Measurement model

The study performed confirmatory factor analysis for the assessment of model fit, reliability, and validity. The factor loadings depicting values from 0.665 to 0.940 are above the specified threshold while suggesting the reliability indicator (Hair et al., 2012). In addition, *Table 2* indicates that composite reliability and average variance extracted (AVE) values are within 0.770–0.913 and 0.529–0.777, respectively. These values ensure sufficient convergent validity and reliability for effective interpretation that meets the standards as suggested by Hair et al. (2012). All constructs in *Table 3* meet the criteria for discriminant validity of Fornell and Larcker (1981) since square root AVEs outperform the correlations between constructs. Moreover, the heterotrait-monotrait ratio (HTMT) scores in addition are all less than 0.90. This indicates a strong discriminant validity below the benchmark of 0.90.

Structural model assessment

The predictive efficacy of the research model was assessed by examining the coefficient of determination R2. This metric represents the degree to which the model explains the variance (referenced in Hair et al., 2012). Research in the context of consumer behavior considers an R2 value as low as 0.20 valid for representing a significant predictive capacity (Hong et al., 2023). In this regard, the results of the current assessment from a partial least squares-structural equation modeling demonstrate that the model explains 23.6%, 24.9%, and 42.2% of the variance in attitudes, environmental self-identity, and organic food purchase intentions, respectively. These findings suggest that the model demonstrates a moderate to strong predictive capacity, particularly regarding intentions to purchase organic food.

Table 2. *Properties of the measurement model*

Construct	Cronbach Alpha	Factors loading	Composite reliability	Average variance
Biospheric values	0.798	0.771–0.851	0.868	0.622
Altruistic values	0.737	0.665–0.821	0.833	0.556
Egoistic values	0.557	0.667–0.815	0.770	0.529
Hedonic value	0.775	0.780–0.822	0.865	0.681
Environmental self-identity	0.808	0.786–0.896	0.887	0.724
Attitude	0.850	0.749–0.940	0.900	0.694
Environmental knowledge	0.857	0.869–0.897	0.913	0.777
Purchase intention	0.804	0.829–0.859	0.881	0.711

Notes: *AVE, average variance extracted; CR, composite reliability; BV, biosphere values; AV, altruistic values; EV, egoistic values; HV, hedonic values; ESI, environmental self-identity; AT, attitude; EK, environmental knowledge; PI, purchase intention.*

Source: *Table by authors*

Table 3. *Discriminant validity and heterotrait-monotrait ratio (HTMT)*

	AV	AT	BV	EV	EK	ESI	HV	PI
Altruistic values	0.746							
Attitude	0.417	0.833						
Biospheric values	0.549	0.407	0.789					
Egoistic values	0.382	0.312	0.495	0.727				
Environmental knowledge	0.355	0.654	0.337	0.268	0.881			
Environmental self-identity	0.35	0.326	0.467	0.322	0.399	0.851		
Hedonic values	0.4	0.306	0.354	0.202	0.329	0.329	0.825	
Purchase intentions	0.292	0.562	0.338	0.313	0.596	0.393	0.272	0.843
Altruistic values								
Attitude	0.513							
Biospheric values	0.693	0.491						
Egoistic values	0.576	0.447	0.689					
Environmental knowledge	0.432	0.771	0.402	0.392				
Environmental self-identity	0.434	0.392	0.583	0.469	0.478			
Hedonic values	0.515	0.355	0.416	0.259	0.389	0.397		
Purchase intentions	0.342	0.641	0.406	0.457	0.682	0.48	0.324	

Notes: *AV, altruistic values; AT, attitude; BV, biospheric values; EV, egoistic values; ESI, environmental self-identity; EK, environmental knowledge; HV, hedonic values; PI, purchase intention.*

Source: *Table by authors*

Discussion

Organic food consumption drives environmentally sustainable practices by discouraging synthetic pesticides, fertilizers, and genetically modified organisms that result in a substantial decline in soil degradation, water pollution, and carbon emissions. Considering the potential of organic food consumption, this research explores the antecedents of the purchase intentions of Generation Z for organic food in Pakistan.

This study reveals the insignificance of biospheric values in driving Generation Z's attitude towards organic food. This is counter-expected as compared with the previous findings of Tamar et al. (2021) and Nguyen et al. (2016). Although it seems intuitive that environmental values (EV) are positively associated with attitudes towards organic food (AT), the association may not always exist in every population such as in the case of a developing nation like Pakistan (Akbar et al., 2019). This finding is suggestive of a unique and complicated perspective of Gen Z's preferences for organic food, as these preferences are more driven by other concerns such as culture, family orientations, and economic circumstances (Bhutto et al., 2022). In contrast, altruistic values (AV) were found to be positively influencing Gen Z's attitude that validates the research findings of Steg et al. (2014). This suggests that Gen Z consumers prefer organic food primarily due to their concern for the well-being of others and society as a whole. Moreover, prior research studies suggest a connection between EV, in the context of health concerns, and preferences for organic food among young consumers (Yadav, 2016).

The studies advocate the concern for well-being as an important motivator for Gen Z's preferences for organic food. However, our research findings predict the insignificant role of EV over Gen Z's attitude towards organic food which contradicts prior research considering the contextual variation among the population

consideration. This can be attributed to the changing value structures among Gen Z as this generation demonstrates strong social and environmental awareness (Liang et al., 2022). Also, considering the dominance of collectivism in Pakistan, the AV, which gives rise to concern for others and society, overshadows their concern for themselves in the context of choosing organic food options. This particularly aligns with the finding that Gen Z's environmental values play a critical role in shaping its pro-environmental PI and behavior (Wang et al., 2021). Apart from the cultural aspect, economic realities faced by Gen Z are much more challenging in developing countries like Pakistan (Khan et al., 2022). The overly expensive price of organic food could be an important barrier for Gen Z as compared with their concern for personal health, which may influence their priority for affordability over health. Like in the case of EV, existing research has found HV to be linked with healthy food choices (Carrascal and Morales, 2015). However, Gen Z's behavior appears to be misaligned with this existing pattern as for this young socially active generation the hedonism associated with food goes beyond taste and nutritional value. The "instagrammability" of food in terms of appearance and popular relevant social media trends appear to be more preferable to Gen Z than their hedonic experience in terms of their sensory pleasure (Bryant and Barnett, 2020).

This research furthers exploration towards assessing the impact of environmental values over ESI of Generation Z. Our findings confirm the outcomes of research by Steg (2014) and Van der Werff et al. (2013) who signify the role of BV in developing ESI. As BV refers to people's concern for the Earth's ecosystem, people who value and correspond positively to the ecosystem perceive themselves as environmentally conscious, which eventually leads to PI towards organic food. Nevertheless, the specific context of Gen Z in Pakistan requires a more profound explanation. This generation is more aware because of its substantial inclusiveness into social media and its frequent content, which consequently makes them more aware and responsive to BV and demonstrate ESI (Khan et al., 2020). However, there are challenges such as a tendency of Gen Z to have limited interaction with nature and green environment as well as limited financial availability and social influence, which might weaken their ESI even for those with strong BV (Khan et al., 2020). While BV turned out to be significantly influencing ESI, on the contrary AV and ESI were not statistically significant. A possible reason could be the broader nature of altruism, as indicated by Tamar et al. (2021), where few aspects of AV might not directly generate ESI among Gen Z. In spite of a weak relationship, AV and ESI remain relevant, because of Gen Z's concern for social justice that can potentially be extended to environmental issues which can eventually influence communities (Csutora and Zsóka, 2011). In case of EV, a lack of significant relationship with ESI can be attributable to the innate conflict between Gen Z's self-interest, which is an important tenet of EV and ESI indicating environmental consciousness. Van der Werff et al. (2013) support this argument which suggests that Gen Z, while prioritizing self-interest, is unlikely to support pro-environmental behaviors. Similarly, while evaluating HV and ESI, our research found a surprising but statistically significant positive correlation. This suggest that people who prefer pleasure and enjoyment are likely to identify as an environment aware self-image. Frantz et al. (2021) argue that connecting with nature drives pleasure. Therefore, people who prefer hedonism enjoy environmentally friendly activities that they find fun, like spending time in nature, hiking or gardening, which could eventually promote a sense of ESI. This call for an implication that marketers can cultivate hedonic values among Gen Z leads to a strong ESI. However, this might be difficult in the context of urban areas of Pakistan that may not allow Gen Z to experience nature firsthand and eventually lead to a weaker link between hedonic value and ESI (Akbar et al., 2019).

The research finds a possible link between ESI and environmental attitude, which is in congruence with existing research suggesting that environmental knowledge, values, and perceived control over actions collectively play an important role in shaping environmental attitudes (Steg et al., 2014). Nevertheless, individuals who firmly identify themselves as environmentally concerned might hold a stronger environmental attitude compared with those with a weaker ESI. Moreover, social conformity and cultural norms can shape Gen Z's values and attitudes and eventually drive their perception towards environmental issues.

The research found a significant role of attitude towards organic food in driving PI among Gen Z consumers in Pakistan, which indicates that Gen Z's stronger attitude towards organic food significantly influences their intentions to buying organic food. This indicates that

people with a stronger attitude towards organic food are more likely to be intended towards buying organic food, which is in line with prior research by Teng and Wang (2015). In the context of Gen Z in Pakistan, their awareness of environment is considerably higher than that of previous generation. However, the economic realities such as high inflation and low purchasing power in the face of expensive price tags of organic food items make it challenging to translate attitude into PI for organic food. On the brighter side, the increasing momentum for sustainable activities and a gradual increase in the demand for organic food are increasing the availability of organic food.

Similarly, validating the prior research (Qasim et al., 2019), our research found a statistically significant relationship between ESI and purchase intention, which suggests that individuals who consider themselves as environmentally conscious are more likely to have PI towards buying organic food. This is in line with the perspective that consumers act following their self-perception, though external factors can potentially influence their intentions and behaviors. Moreover, affordability and availability of organic food within Pakistan can bridge the gap between intention and behavior in the context of Gen Z in Pakistan.

The research exploring the role of environmental knowledge (EK) found that EK does not strengthen or weaken the influence of EA on PI. This means that if Gen Z carries strong attitudes toward organic food, EK might not directly intensify their purchase intention towards organic food. Our research is aligned with the findings of Skackauskiene and Vilkaite-Vaitone (2019) who suggest that eco-literacy among Gen Z can influence their choices for organic food attributing to clearer understanding of environmental advantages. Moreover, while examining the impact of environmental knowledge over purchase intention for organic food, the study found a non-significant interaction of environmental knowledge, suggesting that environmental knowledge may not necessarily increase or decrease the influence of attitude towards organic food and PI of Gen Z in Pakistan. This non-significant impact indicates that the "value-action gap" as presented by Abraham et al. (2007) may exist, suggesting that positive intentions like pro-environmental attitudes fail to generate PI towards organic food because of the externalities. Limited access and lack of affordability of organic food could be critical constraints in the given context. Even with sufficient environmental knowledge and pro-environmental attitudes, Gen Z might experience significant challenges in adopting these products.

Limitations and future research

While providing valuable findings for better defining the complex relationship between environmental values and organic food consumption among Generation Z consumers in Pakistan, this research contains a few constraints that necessitate further exploration for a better understanding in this regard. Considering the specific focus of the study on Gen Z consumers in Pakistan, further research is required for greater generalizability over a broader population. In this regard, future studies should consider broader population samples that cover socio-economic and regional differences across Pakistan. Moreover, future studies should address social-desirability biases that stem from the overstated responses in the context of the respondents' environmentally conscious behaviors (Kashif and Jan, 2021). To eliminate such biases, future research should integrate self-reported data with other techniques, such as observational techniques, in real purchase activity settings (Akber et al., 2019).

Furthermore, the limitedness of the cross-sectional design in this research can be overcome by future research through longitudinal research that would be valuable in understanding the progression of environmental values concerning organic food consumption over different life cycle stages of the respondents. This can potentially provide a better understanding of the evolving relationship between environmental awareness and organic food consumption among the respondents. Though the research provides valuable findings for the importance of environmental knowledge, a more detailed investigation in this regard can fill further research gaps in the context of the "identity-action gap" as identified in this research. These thorough research findings could identify insufficient knowledge gaps that may guide concrete efforts for creating awareness and inducing consumer initiatives such as urban farming. Finally, future research can further explore factors such as affordability and accessibility in congruence with environmental self-identity that can significantly influence Gen Z's choices for organic food. These findings would allow practitioners to develop strategies for encouraging pro-environmental behaviors along with sustainability initiatives such as eco-labeling.

Conclusions

Our study offers detailed insights into the complex relationship between Generation Z's attitudes and behaviors regarding organic food consumption in Pakistan. The results highlight the substantial impact of environmental principles, especially altruism, on forming favorable views towards organic food. We acknowledge the complex difficulties presented by socio-economic limitations and cultural conventions when trying to turn these thoughts into concrete acts. In the face of such difficulties, Generation Z demonstrate a congruence between their willingness to buy organic food and their concern for the environment. Such intentions for organic food consumption support healthy and long-lasting dietary habits. However, closing the values, attitude and purchase intention gap necessitates meaningful interventions. In this regard, this study accentuates the critically important role of environmental knowledge to fill this gap. Through increased environmental knowledge and enabling informed decision making, this research aims to suggest guidelines for Gen Z to sufficiently respond to socio-economic and cultural challenges. It is important to drive tailored tactics accustomed to the distinctive context of Pakistan. Positioning organic food in Pakistani market as accessible and affordable in congruence with promoting health and ecological benefits can substantially drive people's intentions towards purchasing organic food. Therefore, future research is suggested to further explore specific factors that empower Generation Z in making sustainable choices that help establish an organic food system and promote an eco-conscious generation.{Gurauskiene, 2006, Eco-design methodology for electrical and electronic equipment industry}

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