

Journal of Development Policy, Research & Practice

ISSN (P): [2522-3410](#)

ISSN (E): [2663-3698](#)



Volume 9, 2025

Article History

Submitted:

August 28, 2024

Last Revised:

July 29, 2025

Accepted:

September 10, 2025

Funding

Yes

Copyright

The Authors

Antecedents of Environmental Concerns in Higher Education Institutions: Mediating Role of Attitudes Towards Organic Food

Sadia Farooq¹, Saira Ahmed²

^{1&2}Hailey College of Commerce, University of the Punjab, Lahore, Pakistan.

Correspondence:

Saira Ahmed: Sairaahmed1768@yahoo.com

Article Link:

<https://journals.sdpi.org/index.php/JoDPRP/article/view/123>

DOI: <https://doi.org/10.59926/jodprp.vol09/02>

Citation:

Farooq, S. and Ahmed, S. 2025, 'Antecedents of Environmental Concerns in Higher Education Institutions: Mediating Role of Attitudes Towards Organic Food', *Journal of Development Policy, Research & Practice*, vol. 9, pp. 18-39.

Conflict of Interest: Authors declared no Conflict of Interest

Funding Acknowledgement: This research was funded by the University of the Punjab, Pakistan.

Licensing:



Licensed under a [Creative Commons Attribution 4.0 International License](#).



Scan here to read



An official Publication of the
Sustainable Development Policy Institute, Islamabad,
Pakistan



Antecedents of Environmental Concerns in Higher Education Institutions: Mediating Role of Attitudes Towards Organic Food

*Sadia Farooq and Saira Ahmed**

ABSTRACT

This study examines how attitudes towards organic food may act as a mediator in the relationship between environmental concern and health consciousness. It also looks at how collectivism directly affects environmental concerns. The study, which is based on the Theory of Planned Behaviour, advances theoretical knowledge by incorporating individual-level attitudes, behaviours, and beliefs into the analysis. It employed a quantitative cross-sectional research design and utilised Partial Least Squares Structural Equation Modeling (PLS-SEM) to test its hypotheses. Data was collected through purposive sampling from a sample of 201 employees working in Higher Education Institutions (HEIs) in Punjab, Pakistan. The results highlighted that attitudes towards organic food significantly mediates the relationship between health consciousness and environmental concerns. Furthermore, collectivism was found to significantly influence environmental concerns, reaffirming the cultural dimensions that shape pro-environmental behaviour. This study adds to the emergent literature on environmental psychology and sustainable consumer behaviour by elucidating the interconnection between individual health motivations and broader ecological outcomes. It reinforces the notion that decisions made to benefit personal health can have positive cascading effects on the environment, promoting a holistic view of sustainability. The findings of the study offer useful insights into relevant regulatory and policy making bodies for designing policies and tailoring adequate health and sustainability campaigns targeted towards promoting organic food consumption for better health and environmental outcomes.

Keywords: Health Consciousness, Organic Food, Collectivism, Theory of Planned Behaviour, Environmental Concern, PLS-SEM.

JEL Classification Codes: I12, M14

* *Dr Sadia Farooq* is an Assistant Professor at the Hailey College of Commerce, University of the Punjab, Lahore, Pakistan. *Saira Ahmed* is also associated with the Hailey College of Commerce, University of the Punjab, Lahore, Pakistan.

1. INTRODUCTION

There has been a rise in public awareness about environmental issues due to climate change (Badullovič [2022](#)). The adverse effects of climate change cannot be mitigated except by taking active measures to safeguard the environment (Gifford [2008](#)). These adverse impacts are anticipated to be detrimental to individual well-being and consumption patterns with higher consumption of processed and fast foods resulting in greater usage of plastic bags and dangerous pesticides (Wood et al., [2021](#)).

High levels of chemicals and toxins used in fruit and vegetable cultivation are also linked to climate change, and these practices present greater health risks, particularly for people who are unwilling to change their consumption patterns despite the harm to the environment (Gifford [2022](#)). On the other hand, there has been a notable trend towards organic farming in an effort to ease the stress and anxiety of people who are concerned about their health (Martin et al., [2022](#)). In response to this trend, researchers have looked at how eating organic food can encourage environmentally friendly behaviour (Kushwah et al., [2019](#)) and the consumption of foods that have not been refined (Hansmann et al., [2020](#)).

Hence, food has emerged as a significant sector to showcase and project advocacy for environmentally friendly and sustainable practices (Shin et al., [2019](#)). Consumers, for example, are motivated by various factors that influence their organic food consumption, linked to their environmental awareness and health consciousness (Poulston and Yiu [2011](#)). Consuming organic food is a way to promote pro-environmental and sustainable practices, and this consumption pattern has increased in recent years (Khalid [2021](#); Kirmani et al., [2022](#)). This trend is mainly driven by the restaurant industry's proactive response to growing consumer demand for healthier and sustainable dining choices. Additional factors that drive individual choices include food safety, individual perceptions about flavour, and ethical considerations (Golob et al., [2018](#)).

Nonetheless, more research is still required to fully comprehend the major determinants that affect individual choices to invest in and buy organic food, especially in workplaces like educational institutions (Hanks and Mattila [2016](#)). The research study intends to examine the health-related behaviours of teaching staff at Higher Education Institutions (HEIs) in the province of Pakistan's Punjab province, building on the work of Costa et al. ([2007](#)).

Green consumption is also associated with ecological responsibility, wherein consumers consider the impacts of acquiring, utilising, and disposing of various goods (Fawehinmi [2020](#)). In order to promote environmental preservation and sustainability, individuals need to modify their conduct. Individuals who hold strong environmental values and have more awareness are more inclined to act in environmentally responsible ways. However, a concerning trend has surfaced whereby excessive consumption patterns, especially the early consumption of processed foods, may shorten life expectancy by more than ten years.

Antecedents of Environmental Concerns in Higher Education Institutions

(Fadnes [2022](#)). Due to this circumstance, there is an urgent need to investigate the purchasing habits of young people, especially in developing countries like Pakistan, and to inform and inspire them to support a green and sustainable environment (Zafar et al., [2020](#)). Building on the findings of Soomro et al., ([2020](#)), this study posits that young Pakistani consumers may serve as the primary drivers of the desired shift towards green consumption.

The primary factors that motivate individuals to consume organic food are linked to their cultural background and health consciousness (Poulston and Yiu [2011](#)). Scholars have investigated organic food choices both as an expression of environmentally sustainable behaviour (Namkung and Jang [2016](#)) and as a preference for food that is free from chemical modification (Lu and GURSOY [2017](#)). People who are mindful of the potential advantages associated with incorporating organic products into their lifestyles prefer organic food and are generally willing to pay a premium price. Drawing on broader consumer behaviour research, such as the work of Hanks and Mattila ([2016](#)) on health-conscious food choices, there is a need for a more context-specific analysis of the factors that influence decision-making among health-conscious teaching staff.

Additional factors that drive individual choices include food safety, subjective perceptions of flavour, and ethical considerations (Hughner et al., [2007](#)). Consumption contexts and cultural settings influence the reasons people choose to eat organic food (Miao and Wei, [2013](#)). Understanding the health consciousness of teaching staff, especially with regard to their environmental concerns, can help explain their consumption patterns of organic food in collectivist cultures, like those found in many developing nations. According to earlier studies, health consciousness and attitudes towards organic food may be indirectly influenced by environmental concerns, which may then have an impact on consumer behaviour (Lim et al., [2019](#); Jaini et al., [2020](#); Elsantil [2021](#)). Further understanding of consumer behaviour in educational institutions may be obtained by examining the mediating function of attitudes towards organic food within this framework.

By examining how attitudes towards health and environmental issues affect consumers' decisions to buy organic and green products, this study seeks to fill a gap in the literature. The academic community has become more interested in this topic due to rising consumer demand for organic food and increased academic study in this area (Cheah and Aigbogun [2022](#)).

The impact of cultural elements, especially collectivism, on environmental concerns in relation to eating organic food has been mainly ignored in previous research. By directly analysing how collectivism shapes environmental concern, a relationship that is particularly relevant in collectivist societies, this study aims to close that gap. This study adds a cultural perspective to the discussion of sustainable consumer behaviour by examining the relationship between university workers' health consciousness and their environmental concerns, as well as the mediating effect of attitudes towards organic food. Knowing how university employees feel about organic food offers useful information for upcoming

research projects as well as helpful advice for evidence-based policymaking. Such focused insights can help regulatory agencies like Punjab Food Authority develop more efficient communication and intervention plans.

A useful cognitive framework for comprehending university populations' decision-making processes regarding sustainable consumption is the Theory of Planned Behaviour (TPB) (Kamyab et al., [2024](#)). By adding collectivism and health consciousness as antecedent variables that affect attitudes and intentions regarding the consumption of organic food, this study expands on the TPB model. This modification contributes to the continuous theoretical development of TPB by enabling a context-specific evaluation of its explanatory power in HEIs located in collectivist societies (Rakhshani et al., [2024](#)) like Pakistan. The emphasis on HEIs is especially important since universities are generally seen as important avenues for encouraging young people to behave sustainably and establishing the standards of future societies.

2. LITERATURE REVIEW

Individuals prioritising their well-being, particularly regarding their dietary choices, tend to be health conscious. Health consciousness is explained as a person's awareness and concern for their well-being and adoption of behaviour and practices related to consumption of sustainable food, including organic and regional cuisine. Similarly, the term 'health conformity behaviour' pertains to inclination of individuals to engage in prescribed behaviours to maintain their well-being. People who are concerned about their health tend to be more aware of the things that affect it and are driven to make choices that will improve it. Positive perceptions of organic food are frequently the result of this awareness. An individual's cognitive and emotional assessment of the advantages and desirability of eating organic food, including their beliefs, perceptions, and feelings, is referred to in this context as their attitude towards organic food.

Individuals are inclined to respond to healthier meals and develop a favourable perception of restaurants that provide healthy menu selections. Furthermore, it has been observed that those who prioritise their well-being exhibit a greater propensity to consume nutritious foods (Koklic et al., [2019](#)). Therefore, a hypothesis was formulated suggesting a positive relationship between health consciousness and attitude towards organic food:

H₁: Health consciousness is positively related to attitude towards organic food.

People who put their health first frequently show greater concern for their general well-being, which may also extend to the well-being of those around them. Their increased consciousness may prompt them to think about how their dietary and lifestyle choices affect the environment. In this regard, a positive outlook on organic food acts as a link between environmental concerns and individual health consciousness (Fontes et al., [2021](#)). In addition, individuals with increased ecological awareness try to reduce their ecological footprint and advocate sustainable behaviour.

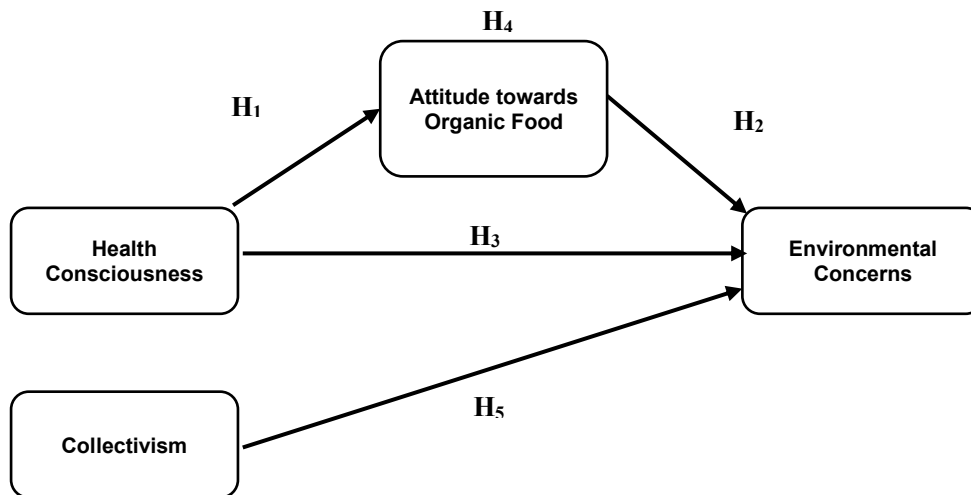
Antecedents of Environmental Concerns in Higher Education Institutions

Because organic food has fewer chemicals and possibly more nutrients, health-conscious people might view it as a healthier choice. This positive assessment is consistent with their health-conscious approach. Furthermore, people who purchase organic food for their own health may later become more conscious of the wider environmental advantages of organic farming methods (Zhang et al., 2018). The recognition of the environmental advantages associated with organic food has the potential to induce a transformation at the individual level of environmental consciousness. Individuals may realise that adopting organic consumption does not merely follow their health objectives but also satisfies the inclination to endorse environmentally sustainable practices (Steg and Vlek 2009). Consequently, individual perspective towards organic food has the potential to impact the association between their level of health consciousness and their level of environmental concern. The favourable disposition towards organic food promotes an enhanced comprehension of the interdependence between individual welfare and environmental health (Carrión-Bósquez et al., 2025; Cavite 2025; Li and Shan 2025). Therefore, it can be posited that if individuals are more health conscious and possess a more favourable attitude towards organic food, there is a corresponding increase in environmental concerns and vice versa.

H₂: Attitude towards organic food is positively related to environmental concern.

H₃: Health consciousness is positively related to environmental concern.

Figure 1: Theoretical Framework



Source: Authors' own.

The present study posits that attitude towards organic food serves as a mediator in the association between health consciousness and environmental concern. It has long been recognised (see e.g., Ajzen 1991) that generic attitudes, such as environmental responsibility, do not directly influence specific activities. Instead, the absence or limited

associations indicated that it may have an indirect impact through situation-specific beliefs and attitudes. One's understanding of health consciousness can indirectly influence individual environmental concerns through attitude. Individuals who possess a favourable disposition towards organic food might act as a driving force for health-conscious individuals to expand their focus from personal well-being to embracing ecological welfare (Campos and Qi [2024](#)). This mediated relationship exemplifies the interconnectedness between choices and attitudes in one domain, specifically food choices, and their impact on attitudes and behaviours in another domain, namely environmental concerns (Figure 1). This study is one of the few that examines how health consciousness influences teaching staff's attitudes towards organic food and their environmental concerns.

The most direct predictor of actual behaviour, according to TPB, is a person's intention to engage in a particular behaviour. Three major antecedents: attitude towards the behaviour, subjective norms, and perceived behavioural control, have an impact on environmental concern as a behavioural outcome in the TPB framework. In this sense, attitude is the extent to which a person views engaging in the behaviour in question favourably or unfavourably. (Ajzen [1991](#)). According to Ajzen ([1991](#)), it is crucial to consider the availability of information, skills, opportunities, and resources required to engage in a particular action effectively. According to the TPB model, people are more likely to become concerned about the environment if they believe that resources are more accessible and that there are fewer obstacles in their way. Health consciousness is important because it influences favourable perceptions of organic food, which can strengthen pro-environmental beliefs and actions. It is, therefore, hypothesised that:

H4: Attitude towards organic food mediates the relationship between health consciousness and environmental concerns.

Pakistan is the subject of this study because of its strong collectivist culture and low levels of individualism (Hofstede Insights [2024](#)). Due to deeply ingrained cultural values, strong social cohesion, and group-oriented norms, collectivist societies prioritise collective interests over individual goals (Davari et al., [2024](#); Lou and Li [2021](#); Iqbal et al., [2021](#)). A common sense of duty and group identity within this cultural setting can foster environmental concern. People in collectivist cultures are more likely to see themselves as belonging to a larger community, which strengthens their sense of responsibility to preserve resources and safeguard the environment. As a result, protecting the environment is more likely to be viewed as a shared duty meant to secure long-term prosperity (Saracevic et al., [2022](#)). Environmental sustainability is aligned with this long-term orientation, which involves consideration of future generations.

Meeting group expectations in collectivist societies primarily depends on adherence to shared values and social norms (Aktan and Kethüda 2024). People are more likely to respond to social pressure by adopting environmentally friendly behaviours when environmental concern is ingrained as a shared value. As people realise the value of coordinated, group-based action, this sense of collective efficacy can inspire environmental initiatives (Davari et al., 2024). Furthermore, a more responsible and effective use of environmental resources is encouraged by the collectivist emphasis on resource sharing. Societies with higher levels of collectivism are more likely to support environmental sustainability, according to cross-cultural research (Triandis 2001; Lou and Li 2021; Kara and Min 2024; Duong et al., 2024). Hence, it is hypothesised that:

H₅: Collectivism is positively related to environmental concern.

3. RESEARCH METHODOLOGY

This study employed a quantitative research design to enable an in-depth examination of the study variables and to empirically test the proposed hypotheses (Snyder 2019). The independent variables in this study are health consciousness and collectivism; the mediating variable is attitude towards organic food, and the dependent variable is environmental concern (Eom et al., 2016). The study examined the direct relationships between the independent and dependent variables. In addition, it investigated the mediating role of attitude towards organic food within these relationships.

3.1. Sampling and Data Collection

Non-probability purposive sampling was deployed in this study (Mustafa 2017) as it concentrates on individuals who are capable of and willing to participate in research based on their knowledge and experience (Oliveira and Sousa 2020). This ultimately improves study's rigour and trustworthiness of its data and conclusions by matching the sample to its aims and objectives. The rationale for applying purposive sampling aligns with the study's objective of examining environmental concern and health consciousness among educated individuals with potential awareness of sustainability-related behaviour. The inclusion criteria included full-time employment in a recognised HEI, at least one year of work experience, and an understanding of environmental and health-related concepts, as confirmed through initial screening questions. The sample size was determined in accordance with Kline (2023), who recommends a ratio of approximately ten respondents per questionnaire item (1:10) as a minimum requirement for generating reliable results. Given that this study's instrument comprised 15 items, a minimum sample size of 150 was required. To enhance the robustness of the findings and minimise non-response bias, a total of 201 responses were collected.

After obtaining informed consent of respondents, confidentiality of respondent information was assured by anonymising the questionnaires. Afterward, the data was securely stored in password-protected files. The information was gathered from professors teaching at several

Punjab-based colleges. Due to time and resource limitations, seven colleges were selected across Punjab. There were 300 surveys sent out, with 255 returned and 54 discarded because of the incomplete responses.

3.2. Measures

Health consciousness was measured using three items adapted from Tarkiainen et al. (2005), including the sample item, *'I choose food carefully to ensure good health.'*

Attitudes towards organic food were assessed using three items from Montelius et al. (2016), such as *'I like the idea of purchasing organic food.'*

Environmental concern was measured through a three-item scale adapted from Yadav and Pathak (2015) with a representative item being *'Humans are severely abusing the environment.'*

Collectivism was assessed using a six-item scale developed by Singelis et al. (1995), which included the sample item *'Individuals should only pursue their goals after considering the group's welfare.'*

All items were rated on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

4. ANALYSIS AND RESULTS

The data was analysed using Smart PLS version 3.2.8 and IBM SPSS version 24, employing the partial least squares structural equation modelling technique. The aforementioned approach is frequently employed in research that predicts and investigates exogenous variables. This approach can address both measurement and structural models concurrently. According to Hair et al. (2017), PLS-SEM was found to be the most suitable prediction-oriented method for the present investigation. Descriptive statistics were conducted to understand the sample's main characteristics. The sample consisted of both genders, including 84 females (41.7%) and 117 males (58.2%).

Table: 1 Construct Reliability and Validity

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
ATOF	0.807	0.815	0.886	0.721
CO	0.781	0.802	0.871	0.693
EC	0.700	0.708	0.868	0.767
HC	0.718	0.719	0.842	0.641

Source: Authors' own.

The primary objective of the initial assessment was to ascertain the degree of convergent validity. The initial step involved conducting a convergent validity test using Smart PLS software to assess the association between the chosen items in the research. The results

Antecedents of Environmental Concerns in Higher Education Institutions

showed a significant positive relationship between the study variables. The scale items were selected by meeting and assessing the thresholds of Cronbach alpha and composite reliability measures. The measured values for both Cronbach alpha and composite reliability of the variables surpassed the threshold of 0.7, aligning with the estimates of Hair and Alamer (2022). These results provided empirical evidence of a robust and statistically significant positive correlation between the various parameters. Likewise, the association was strengthened by the average variance extracted (AVE) value, which had a magnitude exceeding 0.5. the threshold value for rho_A is 0.7 or higher, which is greater for every construct of the study (Hair and Alamer 2022).

Table 2: Heterotrait-Monotrait Ratio (HTMT)

	ATOF	CO	EC
ATOF			
CO	0.634		
EC	0.807	0.644	
HC	0.693	0.525	0.700

Source: Authors' own.

The Heterotrait-Monotrait (HTMT) ratio was employed in Table 2 and the Fornell-Larcker Criterion in 3 to evaluate discriminant validity. This method is widely regarded as one of the most advanced approaches for evaluating the discriminant validity of study constructs. Maintaining the Heterotrait-Monotrait ratio for a positive correlation below 0.90 is advisable. The investigation undertaken by Henseler et al. (2015) yielded robust evidence in favour of the existence of discriminant validity, hence strengthening the overall rigour of the research.

Table 3: Discriminant Validity Fornell-Larcker Criterion

	ATOF	CO	EC	HC
ATOF	0.849			
CO	0.515	0.832		
EC	0.612	0.487	0.876	
HC	0.530	0.395	0.499	0.801

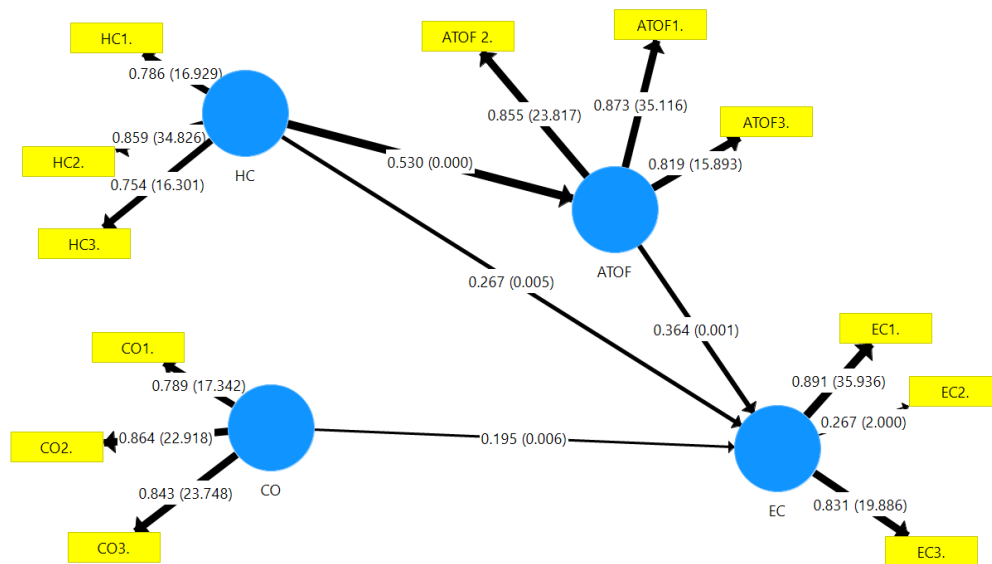
Source: Authors' own.

This study utilised regression analysis to conduct hypothesis testing (presented in Table 4). The data demonstrates a significant link between health consciousness (HC) and attitude towards organic food (ATOF), leading to a more favourable perception of organic food. Furthermore, the role of collectivism in building environmental concerns can also not be neglected. The impact of ATOF extends to EC. The analysis tables support all study hypotheses, respectively H₁, H₂, H₃, H₄ and H₅. Moreover, the study found that the HC accounted for 27% of the explained variance in the ATOF variable and 45% of the

explained variance in the EC due to ATOF. These results support the notion that exogenous variables have a significant predictive influence on the model.

The p-value of the hypotheses is less than 0.05, whereas the t-values exceed 1.64 with no intervening zeros. In order to conduct a thorough investigation, the mediator ATOF was utilised. A bootstrapping of data was applied in the study to understand the function of mediation and relationship between the variables. The findings are presented in Table 5. An important construction is ATOF, which mediates the positive relationship between HC and EC. Hence, H3 revealed positive outcomes with a full mediation relationship. The goodness-of-fit results for the revised measurement model showed an SMRS value of 0.080.

Figure 2: Regression Results



Source: Authors' own.

The results of regressing health consciousness with attitude towards environmental concern were significant, with ($\beta= 0.53, p < 0.01$) supporting H₁ (see Figure 2). The regressing attitude towards organic food on environmental concern was also significantly positive, with ($\beta= 0.36, p < 0.01$) supporting H₂. Likewise, regression results of health consciousness to environmental concern were significantly positive with ($\beta= 0.26, p < 0.05$) H₃ supported. Regression results of collectivism to environmental concern were significantly positive with ($\beta= 0.19, p < 0.05$) H₅ supported. The regression analysis revealed that attitude towards organic food significantly mediated the relationship between health consciousness and environmental concern ($\beta = 0.20, p < 0.05$), thereby supporting Hypothesis 4 (see Table 5).

Table 4: Path Coefficients

	Sample Mean	Standard Deviation	T Statistics	P Values
ATOF -> EC	0.404	0.103	3.896	0.001
CO -> EC	0.201	0.068	2.922	0.006
HC -> ATOF	0.535	0.056	9.520	0.000
HC -> EC	0.202	0.083	2.509	0.005

Source: Authors' own.

Table 5: Hypothesis Testing

Direct Path	Path Coefficients	Hypothesis Decision
HC -----> ATOF	0.530	H ₁ : Accepted
ATOF -----> EC	0.364	H ₂ : Accepted
HC -----> EC	0.267	H ₃ : Accepted
CO -----> EC	0.195	H ₅ : Accepted
Indirect Path		
HC -> ATOF -> EC	0.212	H ₄ : Accepted

Source: Authors' own.

5. DISCUSSION

As discussed earlier, the significant impact that health consciousness has on perceptions of organic food highlights how important it is in forming personal beliefs as well as environmental concerns. The results of this study are consistent with earlier research that found a connection between environmentally conscious behaviour and health consciousness. The mediating role examined in this study is further supported by earlier research that indicates attitudes towards organic food may be a significant determinant of environmental concern (Kushwah et al., 2019). This relationship remains inconclusive in the existing literature, particularly with regard to the influence of environmental concern, where previous studies have reported mixed findings (Tandon et al., 2020). This has prompted scholars such as Wang et al. (2020) to propose that egocentric motivations, particularly personal health, may be more prevalent in shaping individual attitudes towards organic food. The implications explain how attitude towards organic food mediates the relationship between health consciousness and environmental concerns and can inform marketing strategies. Food producers and retailers could emphasise the two-fold advantages of organic food (Hughner et al., 2007), including its potential health advantages and positive environmental impact, to target health-conscious consumers with high environmental concerns. This research can benefit public health campaigns promoting healthier lifestyles and sustainable choices. More specifically, policymakers can use the findings to highlight the interconnectedness between personal well-being and environmental health, motivating individuals to make healthier and more environmentally conscious choices (Pearson et al., 2011). Findings from this research could support policy

initiatives that promote organic farming practices and sustainable food systems. They can leverage the knowledge that health-conscious consumers will likely respond positively to such policies due to their combined health and environmental benefits. Schools, universities, and organisations can use these findings to develop educational programmes that raise awareness about the link between health-conscious choices and environmental preservation (Filippini et al., [2018](#)). By focusing on the mediating role of attitude towards organic food, these programmes can encourage individuals to adopt more sustainable lifestyles.

The research contributes to the growing understanding of the interconnectedness of individual and environmental health. It reinforces the notion that decisions to benefit personal health can have positive cascading effects on the environment, promoting a holistic view of sustainability. The study of attitude change and persuasion can benefit from insights into how health-conscious individuals can be persuaded to value and support organic food containing health benefits with positive environmental impact. This can have implications for communication strategies and message framing.

6. CONCLUSION

In conclusion, this research study explored the intricate interplay between health consciousness, attitude towards organic food, and environmental concern. A comprehensive analysis of the collected data has provided a clearer understanding of the mediating role of attitude towards organic food in the relationship between health consciousness and environmental concern. The findings of this study underscore the significance of health consciousness as a driving force behind individual choices towards organic food consumption. A heightened awareness of personal health and well-being motivates individuals to seek healthier food options, such as organic products, which are perceived as beneficial to one's physical condition. Concurrently, the study highlights the pivotal role of attitude towards organic food in shaping these choices. A positive attitude towards stems from health-related considerations and intertwines with individual broader environmental concerns.

Furthermore, the mediating effect of attitude towards organic food in the relationship between health consciousness and environmental concern emphasises the interconnectedness of these factors. As individuals become increasingly health-conscious, they develop a more favourable attitude towards organic food, leading to heightened environmental concerns. This cascading effect illustrates a potential avenue for interventions and strategies to promote sustainable food consumption patterns. In a world where environmental sustainability is of paramount importance, the findings of this research hold practical implications for policymakers, marketers, and educators. By emphasising the dual benefits of organic food – promoting personal health and supporting environmental preservation – stakeholders can tailor their messaging and initiatives to resonate more deeply with individual values and motivations. However, it is crucial to

acknowledge the limitations of this study. The research was conducted within a specific demographic and cultural context, so the generalisability of the findings may be limited. Future studies could explore these relationships across diverse populations to ascertain broader applicability.

7. POLICY IMPLICATIONS

7.1.Theoretical Implications

The findings of present study have several theoretical implications. The integration of attitude towards organic food as a mediator with the thematic lens of TPB has been refined by explaining how specific attitudes (towards organic food) bridge the gap between health consciousness and environmental concern (Lo et al., [2020](#)). This understanding expanded the relationship between individual beliefs about health and how they lead to broader environmental actions through specific attitudes. Establishing a linkage between health and environmental concerns guides perceived benefits and cues to the usage of organic products (Japutra et al., [2022](#)). The findings support the insights of environmental psychology emphasising cross-domain health and related theories of environmental behaviour. The interconnectedness of numerous pro-social and pro-environmental motivations can be established as outcomes. The most important takeout of this study is linked to consumer decision-making processes, predominantly how health consciousness can drive environmental concern through the intermediary role of attitudes towards organic products.

7.2.Practical Implications

Investigating the mediating role of attitudes towards organic food in relation to health consciousness and environmental concern provides insights and practical implications for various stakeholders, including policymakers, health practitioners, and environmental organisations (Aleksejeva and Pelse [2019](#)). Health campaigns that focus on the benefits of consuming organic food, and environmental sustainability ought to be arranged in Pakistan's HEIs. The interconnectedness of health consciousness and environmental concern in this research study highlights the importance of underlying motivations for behavioural change. In light of these findings, subsidies for organic farming can be proposed to increase accessibility and availability of organic products (Wang et al., [2019](#)). By reducing the use of hazardous chemicals in agriculture, expanding the supply of organic food can improve consumer affordability and promote environmental sustainability. The advantages of both environmental responsibility and health consciousness should be conveyed through customised advertising campaigns. Sustainable Development Goal 14, which focuses on the protection of life below water which indirectly supports reduced agricultural runoff and chemical usage, is one of the larger sustainability goals that is in line with encouraging a positive attitude towards organic consumption. Marketers can create plans to effectively divide up their customer base according to new tastes in addition to growing their organic product lines. Public service announcements from environmental organisations and academic institutions can be extremely important in increasing awareness

of the connection between environmental sustainability and individual health, which can promote more responsible and informed consumption choices. Policymakers, particularly the Punjab Food Authority and the Punjab Agriculture Department, should develop targeted awareness and labeling initiatives within HEIs to promote organic food consumption, building on the documented links between health consciousness, environmental concerns, and consumer attitudes.

REFERENCES

- Ajzen, I. 1991, 'The Theory of Planned Behavior', *Organizational Behavior and Human Decision Processes*, vol. 50, no. 2, pp. 179-211, <[https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)>.
- Aktan, M. and Kethüda, Ö. 2024, 'The Role of Environmental Literacy, Psychological Distance of Climate Change, and Collectivism on Generation Z's Collaborative Consumption Tendency', *Journal of Consumer Behaviour*, vol. 23, no. 1, pp. 126-140, <<https://doi.org/10.1002/cb.2159>>.
- Aleksejeva, L. and Pelse, M. 2019, 'Procurement of Organic Food by Latvian Schools', *Proceedings of the 20th International Scientific Conference on Economic Science for Rural Development 2019*, University of Life Sciences and Technologies, Issue 50, pp. 305-311, <<https://doi.org/10.22616/ESRD.2019.038>>.
- Badullovich, N. 2022, 'From Influencing to Engagement: A Framing Model for Climate Communication in Polarised Settings', *Environmental Politics*, vol. 32, no. 2, pp. 207-226, <<https://doi.org/10.1080/09644016.2022.2052648>>.
- Campos, B. C. and Qi, X. 2024, 'A Literature Review on the Drivers and Barriers of Organic Food Consumption in China', *Agricultural and Food Economics*, vol. 12, e18, <<https://doi.org/10.1186/s40100-024-00312-y>>.
- Carrión-Bósquez, N.G., Ortiz-Regalado, O., Veas-González, I., Naranjo-Armijo, F.G. and Guerra-Regalado, W.F. 2025, 'The Mediating Role of Attitude and Environmental Awareness in the Influence of Green Advertising and Eco-Labels on Green Purchasing Behaviors', *Spanish Journal of Marketing*, vol. 29, no. 3, pp. 330-350.
- Cavite, H.J.M. 2025, 'Millennial Consumers' Intention to Purchase Organic Food: Do Environmental Concerns Matter?', *Business Strategy and the Environment*, vol. 34, no. 1, pp. 3940-3956, <<https://doi.org/10.1002/bse.4162>>.
- Cheah, W. K. A. and Aigbogun, O. 2022, 'Exploring Attitude-Behaviour Inconsistencies in Organic Food Consumption during the COVID-19 Pandemic in the Klang Valley, Malaysia', *Cleaner and Responsible Consumption*, vol. 7, e100077, <<https://doi.org/10.1016/j.clrc.2022.100077>>.

Antecedents of Environmental Concerns in Higher Education Institutions

- Costa, A.I.A., Schoolmeester, D., Dekker, M. and Jongen, W.M.F. 2007, 'To Cook or Not to Cook: A Means-End Study of Motives for Choice of Meal Solutions', *Food Quality and Preference*, vol. 18, no. 1, pp.77-90, <<https://doi.org/10.1016/j.foodqual.2005.08.003>>.
- Davari, D., Nosrati, S. and Kim, S.S. 2024, 'Do Cultural and Individual Values Influence Sustainable Tourism and Pro-Environmental Behavior? Focusing on Chinese Millennials', *Journal of Travel & Tourism Marketing*, vol. 41, no. 4, pp. 559-577, <<https://doi.org/10.1080/10548408.2024.2309180>>.
- Duong, C.D., Le, T.L., Lee, E.-M. and Gadomska-Lila, K. 2024, 'How Cultural Values Integrate with Each other to Trigger Sustainable Consumption: A Cross-Culture Study', *Asia Pacific Journal of Marketing and Logistics*, vol. 36, no. 4, pp. 814-836, <<https://doi.org/10.1108/APJML-05-2023-0484>>.
- Elsantil, Y. 2021, 'Antecedents of Green Purchasing Behavior in the Arabic Gulf', *Social Marketing Quarterly*, vol. 27, no. 2, pp.133-149, <<https://doi.org/10.1177/15245004211013467>>.
- Eom, K., Kim, H.S., Sherman, D.K. and Ishii, K. 2016, 'Cultural Variability in the Link between Environmental Concern and Support for Environmental Action', *Psychological Science*, vol. 27, no. 10, pp.1331-1339, <<https://doi.org/10.1177/0956797616660078>>.
- Fadnes, L.T., Økland, J.M., Haaland, Ø.A. and Johansson, K.A. 2022, 'Correction: Estimating Impact of Food Choices on Life Expectancy: A Modeling Study', *PLOS Medicine*, vol. 19, no. 3, e1003962, <<https://doi.org/10.1371/journal.pmed.1003962>>.
- Fawehinmi, O., Yusliza, M. Y., Mohamad, Z., Noor Faezah, J. and Muhammad, Z. 2020, 'Assessing the Green Behaviour of Academics: The Role of Green Human Resource Management and Environmental Knowledge', *International Journal of Manpower*, vol. 41, no. 7, pp. 879-900, <<https://doi.org/10.1108/IJM-07-2019-0347>>.
- Filippini, R., De Noni, I., Corsi, S., Spigarolo, R. and Bocchi, S. 2018, 'Sustainable School Food Procurement: What Factors Affect the Introduction and the Increase of Organic Food?' *Food Policy*, vol. 76, pp.109-119, <<https://doi.org/10.1016/j.foodpol.2018.03.011>>.
- Fontes, E., Moreira, A.C. and Carlos, V. 2021, 'The Influence of Environmental Concern and Green Advertising on Green Purchase Behavior: A Cross Cultural Study', *Journal of Cleaner Production*, vol. 16, no. 3, p. 135869, <<https://doi.org/10.2478/mmcks-2021-0015>>.

- Gifford, R. 2008, 'Psychology's Essential Role in Alleviating the Impacts of Climate Change', *Canadian Psychology*, vol. 49, no. 4, pp.273-280, <<https://doi.org/10.1037/a0013234>>.
- Gifford, R., Lacroix, K., Anderson, E.A., Milne-Ives, M. and Sugrue, P. 2022, 'Climate Change, Food Choices, and the Theory of Behavioral Choice', *Research Square*, <<https://doi.org/10.21203/rs.3.rs-1513250/v1>>.
- Golob, U., Koklic, M.K., Podnar, K. and Zabkar, V. 2018, 'The Role of Environmentally Conscious Purchase Behaviour and Green Scepticism in Organic Food Consumption', *British Food Journal*, vol. 120, no. 10, pp.2411-2424, <<https://doi.org/10.1108/BFJ-08-2017-0457>>.
- Hair, J. and Alamer, A. 2022, 'Partial Least Squares Structural Equation Modeling (PLS-SEM) in Second Language and Education Research: Guidelines Using an Applied Example', *Research Methods in Applied Linguistics*, vol. 1, no. 3, e100027, <<https://doi.org/10.1016/j.rmal.2022.100027>>.
- Hair, J.F., Hult, G.T.M., Ringle, C.M. and Sarstedt, M. 2017, *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*, Second Edition, Thousand Oaks, CA: SAGE Publications.
- Hanks, L. and Mattila, A.S. 2016b, 'Consumer Responses to Organic Menu Items: The Importance of Venue Type and Health Orientation', *Journal of Revenue and Pricing Management*, vol. 15, no. 2, pp.135-149, <<https://doi.org/10.1057/rpm.2015.27>>.
- Hansmann, R., Baur, I. and Binder, C.R. 2020, 'Increasing Organic Food Consumption: An integrating Model of Drivers and Barriers', *Journal of Cleaner Production*, vol. 275, e123058, <<https://doi.org/10.1016/j.jclepro.2020.123058>>.
- Henseler, J., Ringle, C.M. and Sarstedt, M. 2015, 'A New Criterion for Assessing Discriminant Validity in Variance-Based Structural Equation Modeling', *Journal of the Academy of Marketing Science*, vol. 43, pp. 115-135, <<https://doi.org/10.1007/s11747-014-0403-8>>.
- Hofstede Insights 2024, *Country Comparison: Pakistan*, <<https://www.hofstede-insights.com/country-comparison/pakistan>> [Accessed 28 July 2025].
- Hughner, R.S., McDonagh, P., Prothero, A., Shultz II, C.J. and Stanton, J. 2007, 'Who are Organic Food Consumers? A Compilation and Review of Why People Purchase Organic Food', *Journal of Consumer Behaviour: An International Research Review*, vol. 6, no. 2-3, pp. 94-110, <<https://doi.org/10.1002/cb.210>>.
- Iqbal, J., Yu, D., Zubair, M., Rasheed, M.I., Khizar, H.M.U. and Imran, M. 2021, 'Health Consciousness, Food Safety Concern, and Consumer Purchase Intentions Toward Organic Food: The Role of Consumer Involvement and Ecological

Antecedents of Environmental Concerns in Higher Education Institutions

- Motives', *Sage Open*, vol. 11, no. 2, <<https://doi.org/10.1177/21582440211015727>>.
- Jaini, A., Quoquab, F., Mohammad, J. and Hussin, N. 2020, 'Antecedents of Green Purchase Behavior of Cosmetics Products: An Empirical Investigation among Malaysian Consumers', *International Journal of Ethics and Systems*, vol. 36, no. 2, pp. 185-203, <<https://doi.org/10.1108/IJOES-11-2018-0170>>.
- Japutra, A., Vidal-Branco, M., Higuera-Castillo, E. and Molinillo, S. 2022, 'Unraveling the Mechanism to Develop Health Consciousness from Organic Food: A Cross Comparison of Brazilian and Spanish Millennials', *British Food Journal*, vol. 124, no. 1, pp. 197-220, <<https://doi.org/10.1108/BFJ-10-2020-0952>>.
- Kamyab, A., Bijani, M., Jormand, H., Harsini, P.A. and Jeihooni, A.K. 2024, 'Education Based on the Theory of Planned Behavior to Improve Medication Regimen Adherence, Hope, and Marital Quality in Patients with Substance Use Disorder', *BMC Public Health*, vol. 24, e3173, <<https://doi.org/10.1186/s12889-024-20651-1>>.
- Kara, A. and Min, M.K. 2024, 'Gen Z Consumers' Sustainable Consumption Behaviors: Influencers and Moderators', *International Journal of Sustainability in Higher Education*, vol. 25, no. 1, pp. 124-142, <<https://doi.org/10.1108/IJSHE-08-2022-0263>>.
- Khalid, B. 2021, 'Entrepreneurial Insight of Purchase Intention and Co-Developing Behavior of Organic Food Consumption', *Polish Journal of Management Studies*, vol. 24, no. 1, pp. 142-163, <<https://doi.org/10.17512/pjms.2021.24.1.09>>.
- Kim, Y. J., Njite, D. and Hancer, M. 2013, 'Anticipated Emotion in Consumers' Intentions to Select Eco-Friendly Restaurants: Augmenting the Theory of Planned Behavior', *International Journal of Hospitality Management*, vol. 28, no. 4, pp. 563-573, <<https://doi.org/10.1016/j.ijhm.2013.04.004>>.
- Kirmani, M.D., Shahzad, N., Ahmad, A., Uddin, S.M. F., Ayyub, S. and Adil, M. 2022, 'Socio-Environmental Considerations and Organic Food Consumption: An Empirical Investigation of the Attitude of Indian Consumers', *Food Quality and Preference*, vol. 100, e104604, <<https://doi.org/10.1016/j.foodqual.2022.104604>>.
- Kline, R.B. 2023, *Principles and Practice of Structural Equation Modeling*, Fifth Edition, New York: Guilford Press.
- Koklic, M.K., Golob, U., Podnar, K. and Zabkar, V. 2019, 'The Interplay of Past Consumption, Attitudes and Personal Norms in Organic Food Buying', *Appetite*, vol. 137, pp.27-34, <<https://doi.org/10.1016/j.appet.2019.02.010>>.

- Kushwah, S., Dhir, A., Sagar, M. and Singh, A. 2019, 'Determinants of Organic Food Consumption: A Systematic Literature Review on Motives and Barriers', *Appetite*, vol. 143, e104402, <<https://doi.org/10.1016/j.appet.2019.104402>>.
- Lee, W-C.J., Shimizu, M., Kniffin, K. M. and Wansink, B. 2013, 'You Taste What You See: Do Organic Labels Bias Taste Perceptions?', *Food Quality and Preference*, vol. 29, no. 1, pp.33-39, <<https://doi.org/10.1016/j.foodqual.2013.01.010>>.
- Li, Y. and Shan, B. 2025, 'Exploring the Role of Health Consciousness and Environmental Awareness in Purchase Intentions for Green Packaged Organic Foods: An Extended TPB Model', *Frontiers in Nutrition*, vol. 12, e1528016, <<https://doi.org/10.3389/fnut.2025.1528016>>.
- Lim, Y.J., Perumal, S. and Ahmad, N. 2019, 'The Antecedents of Green Car Purchase Intention Among Malaysian Consumers', *European Journal of Business & Management Research*, vol. 4, no. 2, <<https://doi.org/10.24018/ejbmr.2019.4.2.27>>.
- Lo, A., King, B.E.M. and Mackenzie, M., 2020, 'Segmenting Chinese Millennial Restaurant Customers: A Lifestyle and Health and Environmental Consciousness Approach', *Journal of China Tourism Research*, vol. 16, no. 2, pp.183-213, <<https://doi.org/10.1080/19388160.2019.1604281>>.
- Lou, X. and Li, L.M.W. 2021, 'The Relationship between Identity and Environmental Concern: A Meta-Analysis', *Journal of Environmental Psychology*, vol.76, p.101653, <<https://doi.org/10.1016/j.jenvp.2021.101653>>.
- Lu, L. and Gursoy, D. 2017, 'Does Offering an Organic Food Menu Help Restaurants Excel in Competition? An Examination of Diners' Decision-Making', *International Journal of Hospitality Management*, vol. 63, pp.72-81, <<https://doi.org/10.1016/j.ijhm.2017.03.004>>.
- Martin, G., Reilly, K., Everitt, H. and Gilliland, J.A. 2022, 'The Impact of Climate Change Awareness on Children's Mental Well-Being and Negative Emotions – A Scoping Review', *Child and Adolescent Mental Health*, vol. 27, no. 1, pp. 59-72, <<https://doi.org/10.1111/camh.12525>>.
- Miao, L. and Wei, W. 2013, 'Consumers' Pro-Environmental Behavior and the Underlying Motivations: A Comparison Between Household and Hotel Settings', *International Journal of Hospitality Management*, vol. 32, pp.102-112, <<https://doi.org/10.1016/j.ijhm.2012.04.008>>.
- Montelius, C., Erlandsson, D., Vitija, E., Stenblom, E.-L., Egecioglu, E. and Erlanson-Albertsson, C. 2016, 'Corrigendum to Body Weight Loss, Reduced Urge for Palatable Food and Increased Release of GLP-1 Through Daily Supplementation

Antecedents of Environmental Concerns in Higher Education Institutions

- with Green-Plant Membranes for Three Months in Overweight Women', *Appetite*, vol. 96, pp. 645-646, <<https://doi.org/10.1016/j.appet.2015.09.002>>.
- Mustafa, M. 2017, *Qualitative Research Methods: A Practical Guide*, Lahore: Ilmi Publishers.
- Namkung, Y. and Jang, S. 2016, 'Are Consumers Willing to Pay More for Green Practices at Restaurants?,' *Journal of Hospitality & Tourism Research*, vol. 41, no. 3, pp.329-356, <<https://doi.org/10.1177/1096348014525632>>.
- Oliveira, C.P. de and Sousa, B.M. 2020, 'Green Consumer Behavior and its Implications on Brand Marketing Strategy', In: *Green Marketing as a Positive Driver Toward Business Sustainability*, Hershey, PA: IGI Global, pp. 69-95, <<https://doi.org/10.4018/978-1-5225-9558-8.ch004>>.
- Pearson, D., Henryks, J. and Jones, H. 2011, 'Organic Food: What We Know (and Do Not Know) about Consumers', *Renewable Agriculture and Food Systems*, vol. 26, no. 2, pp. 171-177, <<https://doi.org/10.1017/S1742170510000499>>.
- Poulston, J. and Yiu, A. 2011, 'Profit or Principles: Why Do Restaurants Serve Organic Food?,' *International Journal of Hospitality Management*, vol. 30, no. 1, pp.184-191.
- Rakhshani, T., Asadi, S., Kashfi, S.M., Sohrabi, Z., Kamyab, A. and Jeihooni, A.K. 2024, 'The Effect of Education Based on the Theory of Planned Behavior to Prevent the Consumption of Fast Food in a Population of Teenagers', *Journal of Health, Population and Nutrition*, vol. 43, e147, <<https://doi.org/10.1186/s41043-024-00545-6>>.
- Saracevic, S., Schlegelmilch, B.B. and Wu, T. 2022, 'How Normative Appeals Influence Pro-Environmental Behavior: The Role of Individualism and Collectivism', *Journal of Cleaner Production*, vol. 344, p.131086, <<https://doi.org/10.1016/j.jclepro.2022.131086>>.
- Shin, Y.H., Im, J., Jung, S.E. and Severt, K. 2019, 'Motivations Behind Consumers' Organic Menu Choices: The Role of Environmental Concern, Social Value, and Health Consciousness', *Journal of Quality Assurance in Hospitality and Tourism*, vol. 20, no. 1, pp.107-122, <<https://doi.org/10.1080/1528008X.2018.1483288>>.
- Singelis, T.M., Triandis, H.C., Bhawuk, D.P.S. and Gelfand, M.J. 1995, 'Horizontal and Vertical Dimensions of Individualism and Collectivism: A Theoretical and Measurement Refinement', *Cross-Cultural Research*, vol. 29, no. 3, pp.240-275, <<https://doi.org/10.1177/106939719502900302>>.

- Snyder, H. 2019, 'Literature Review as a Research Methodology: An Overview and Guidelines', *Journal of Business Research*, vol. 104, pp. 333-339, <<https://doi.org/10.1016/j.jbusres.2019.07.039>>.
- Soomro, R.B., Mirani, I.A., Ali, M.S. and Soomro, M. 2020, 'Exploring the Green Purchasing Behavior of Young Generation in Pakistan: Opportunities for Green Entrepreneurship', *Asia Pacific Journal of Innovation and Entrepreneurship*, vol. 14, no. 3, pp. 289-302, <<https://doi.org/10.1108/APJIE-12-2019-0093>>.
- Steg, L. and Vlek, C.A.J. 2009, 'Encouraging Pro-Environmental Behaviour: An Integrative Review and Research Agenda', *Journal of Environmental Psychology*, vol. 29, no. 3, pp. 309-317, <<https://doi.org/10.1016/j.jenvp.2008.10.004>>.
- Tandon, A., Dhir, A., Kaur, P., Kushwah, S. and Salo, J. 2020, 'Why Do People Buy Organic Food? The Moderating Role of Environmental Concerns and Trust', *Journal of Retailing and Consumer Services*, vol. 57, p.102247, <<https://doi.org/10.1016/j.jretconser.2020.102247>>.
- Tarkiainen, A. and Sundqvist, S. 2005, 'Subjective Norms, Attitudes and Intentions of Finnish Consumers in Buying Organic Food', *British Food Journal*, vol. 107, no. 11, pp.808-822, <<https://doi.org/10.1108/00070700510629760>>.
- Triandis, H.C. 2001, 'Individualism-Collectivism and Personality', *Journal of Personality*, vol. 69, no. 6, pp. 907-924, <<https://doi.org/10.1111/1467-6494.696169>>.
- Wang, J., Pham, T.L. and Dang, V.T. 2020, 'Environmental Consciousness and Organic Food Purchase Intention: A Moderated Mediation Model of Perceived Food Quality and Price Sensitivity', *International Journal of Environmental Research and Public Health*, vol. 17, no. 3, p.850, <<https://doi.org/10.3390/ijerph17030850>>.
- Wang, X., Pacho, F., Liu, J. and Kajungiro, R. 2019, 'Factors Influencing Organic Food Purchase Intention in Developing Countries and the Moderating Role of Knowledge', *Sustainability*, vol. 11, no. 1, p.209, <<https://doi.org/10.3390/su11010209>>.
- Wood, B., Williams, O., Nagarajan, V. and Sacks, G. 2021, 'Market Strategies Used By Processed Food Manufacturers to Increase and Consolidate their Power: A Systematic Review and Document Analysis', *Global Health*, vol.17, no. 1, p.17, <<https://doi.org/10.1186/s12992-021-00667-7>>.
- Yadav, R. and Pathak, G.S. 2016, 'Intention to Purchase Organic Food among Young Consumers: Evidences from a Developing Nation', *Appetite*, vol. 96, pp. 122-128, <<https://doi.org/10.1016/j.appet.2015.09.017>>.

Antecedents of Environmental Concerns in Higher Education Institutions

Zafar, S., Aziz, A. and Hainf, M. 2020, 'Young Consumer Green Purchase Behavior', *International Journal of Marketing Research Innovation*, vol. 4, no. 1, pp.1-12, <<https://doi.org/10.1108/APJIE-12-2019-0093>>.

Zhang, L., Nie, Q., Luo, Y. and Zhang, Y. 2018, 'Health Consciousness, Price, and Organic Food Purchase Intention: A Moderated Mediation Model', *International Journal of Environmental Research and Public Health*, vol. 15, no. 12, p.2914, <<https://doi.org/10.3390/ijerph15122914>>.