Journal of Infrastructure, Policy and Development 2024, 8(7), 4297.
https://doi.org/10.24294/jipd.v8i7.4297

Article

From mills to millets, the mediating role of regiocentrism on materialism: Augmenting the theory of planned behavior

Shivam Joshi[1,*], Anita Sengar[1], Atri Nautiyal[2], Anil Prakash Joshi[3], Rakesh Kumar[3]

[1] School of Business, UPES, Dehradun 248001, Uttarakhand, India
[2] School of Liberal Studies, UPES, Dehradun 248001, Uttarakhand, India
[3] Himalayan Environmental Studies and Conservation Organization (HESCO), Dehradun 248001, Uttrakhand, India
*** Corresponding author:** Shivam Joshi, researchshivamjoshi@gmail.com

CITATION

Joshi S, Sengar A, Nautiyal A, et al. (2024). From mills to millets, the mediating role of regiocentrism on materialism: Augmenting the theory of planned behavior. Journal of Infrastructure, Policy and Development. 8(7): 4297. https://doi.org/10.24294/jipd.v8i7.4297

ARTICLE INFO

Received: 18 January 2024
Accepted: 23 February 2024
Available online: 18 July 2024

Abstract: The United Nations General Assembly declared 2023 the "International Year of Millets" in order to promote millet cultivation, consumption, and conservation. Millets play an important role in food security, livelihoods, and biodiversity. Despite its numerous benefits, millet cultivation and consumption in Uttarakhand have declined due to a variety of constraints. This paper examines the effects of regiocentrism and materialism on intention towards Uttarakhand's regional food products (millets). It employs PLS-SEM to investigate relationships between latent variables and generate results on a sample of 460 participants. This study elucidates the intricate interplay between materialism, regiocentrism, and intention towards regional food products in the Himalayan region, enriching the theory of planned behavior (TPB) with a nuanced understanding of personal values and regional identity. It reveals materialism's positive association with attitudes towards regional food products, suggesting materialistic individuals may view these products as status symbols, thus affecting behavioral intentions. Additionally, the research highlights regiocentrism's dual influence—enhancing attitudes yet deterring purchase intentions—underscoring the complexity of regional pride in consumer decision-making. These findings advance TPB by integrating broader value systems and cultural context, offering significant theoretical and practical insights for promoting sustainable consumption patterns.

Keywords: millets; regiocentrism; materialism; TPB; PLS-SEM

1. Introduction

Millets, or coarse grains, are small-seeded grasses that people have produced and eaten for thousands of years. Millets have grown in popularity due to their nutritional value, environmental sustainability, and adaptability to many climates (Rizwana et al., 2022). The UN General Assembly named 2023 the "International Year of Millets" to encourage millet cultivation, consumption, and conservation (FAO, 2023). Millets are crucial to food security, livelihoods, and biodiversity. Regional food products are food items that are tied to a specific geographic region, and are often the culinary result of cultural influences, local ingredients, and traditional cooking techniques. This study places a particular emphasis on millets, a staple crop and a significant regional food of Uttarakhand, known for its nutritional value, ecological benefits, and cultural importance. Among these, Mandua (Finger Millet) stands out not only as a traditional food grain but also as a symbol of the region's agricultural heritage and dietary wisdom. In Uttarakhand, millets like Mandua are not just food products; they represent a confluence of health, heritage, and sustainability. However, despite their significance, these grains have seen a decline in consumption over recent years,

overshadowed by more commercially popular crops. This shift underscores the urgency of examining the factors that influence INT (Intentions) towards such regional foods. Millets are a traditional meal in Uttarakhand, a hilly state in northern India. Finger, foxtail, tiny, and pearl millet are grown in the region's different agro-climatic zones (Erler et al., 2020). Uttarakhand's sustainable millet farming practices protect the region's unique agro-biodiversity. Hence, the "Year of Millets" project promotes millets, supports Uttarakhand farmers, and protects the environment (Disha Shetty and Anvi Mehta, 2023).

Due to many constraints, millets cultivation and consumption in Uttarakhand have dropped despite its many benefits. Monoculture and commercial farming have reduced crop diversity, which is a big issue. Traditional millet crops, considered low-yielding and unprofitable, have been neglected. Due to a lack of millet processing and marketing infrastructure, millet-based products are scarce on the market, reducing customer demand. Processed and refined foods are more convenient and modern, thus their availability and promotion have also reduced millet consumption (Bhoomi Magazine, 2019; Shetty and Mehta, 2023).

Another significant problem that has contributed to the decline in millet consumption in Uttarakhand is the lack of consumer awareness. The changing food preferences due to materialistic values and lifestyles of people have led to a shift towards processed and convenience foods, which are perceived as more modern and fashionable, resulting in a decline in the demand for traditional foods like millets. Furthermore, the lack of promotion and marketing of millets has resulted in limited availability of millet-based products in the market, making it difficult for consumers to access and purchase them. The absence of awareness campaigns and educational programs has also contributed to the misapprehension of the health benefits of millets among consumers (Shah et al., 2023; White Peak, 2022).

These issues have caused Uttarakhand to lose millet farming and eating knowledge, genetic variety, and cultural heritage. Consequently, boosting millets cultivation and consumption through efforts like the "Year of Millets" is vital to tackling these difficulties and resurrecting millets' cultural and ecological relevance in the region. Also, millets are a traditional or local crop in an Uttarakhand region and promoting them as a part of the region's food culture may appeal to consumers who identify with that region (i.e., regiocentrism). This study focuses on understanding the effect of Materialism (MAT) and Regiocentrism (REG) on regional food products (millets) purchase intention taking evidence from Uttarakhand, India by applying the theory of planned behavior (TPB). Despite the extensive application of the Theory of Planned Behavior (TPB) in understanding consumer intentions, gaps remain in comprehensively understanding how individual values like MAT and regional sentiments, termed REG, influence these behaviors in specific cultural settings. This research aims to bridge this gap by extending the TPB framework to include MAT and REG, offering a nuanced analysis of INT towards regional food products (millets) in the Himalayan region of Uttarakhand. Regional food products mentioned in the subsequent section refer to the millets in Uttarakhand region. This paper focuses on following three research questions:

1) How does MAT affect the TPB constructs in relation to Uttarakhand's regional food products?

2) How does REG affect the TPB constructs in the context of Uttarakhand's regional food products?
3) How do REG and MAT interact in connection with Uttarakhand's regional food products?

This study employs questionnaire as the research instrument with sample collected through convenience sampling with the total number of respondents of 460. PLS-SEM, a data-driven method that can investigate relationships between latent variables and generate accurate results even with small sample sizes, is utilized as the research tool. PLS-SEM can also provide more thorough data, test for mediation and moderation effects, and is adaptable to various data types. In general, this methodology and instrument are appropriate for investigating the TPB (Liu et al., 2017; Mai, 2016).

In the first research of its kind which analyzes the effect of REG and MAT on intention (INT) towards regional food products and it aids marketers in recognising and emphasising the connection between REG and regional consumer appeal. To increase consumption, businesses should focus on strengthening the connection between REG, subjective norms (SN) and perceived behavior control (PBC). The study emphasises the significance of understanding consumer attitudes and behaviour when marketing millets based regional food products.

2. Literature review

Theory of planned behavior (TPB) is a sociological theory that hypothesises three distinct constructs: Attitude (ATT); Subjective Norms (SN); and Perceived Behvior Control (PBC) (Ajzen, 1991). According to TPB, the intent of a person to perform an action is the immediate cause of that action. INT encompasses all of the determinants of an action. SN refer to the pressure that members of a society exert on someone to engage in, or refrain from engaging in, a specific action, while an individual's attitude toward a behaviour refers to their own personal decision to do or abstain from that behaviour. TPB also seeks to anticipate non-voluntary behaviours by using PBC as a predictor of INT and behaviour over involvement in the behaviour. PBC, which has been idealised to represent the apparent behavioural skills or abilities, resources, and opportunities, is the perceived impression of the ease or difficulty of engaging in a specific behaviour (Ajzen, 1991).

Many diverse behaviours have been predicted using the TPB and its many extensions. When self-identity and moral standards were added to the ATT was determined to be the most significant factor in determining purchase INT among Iranian university students (Yazdanpanah and Forouzani, 2015a). In a related research, Abdullah looked at how ATT, PBC, and purchase intent were all affected by the presence or absence of SN. He came to the conclusion that every component of the TPB was moderately impacted by the SN (Al-Swidi et al., 2014). Zhou extended TPB by including the concept of human values. Further, he distinguished between injunctive norms and descriptive norms when discussing SN (Zhou et al., 2013).

2.1. Regional ethnocentrism (REG)

Sharma defined ethnocentrism as the consumer's beliefs towards domestic and international products, which negatively influences ATT towards imported products.

Furthermore, they linked beliefs with moral values and validity (Shimp and Sharma, 1987). REG is the inclination to purchase goods made in one's own territory, or consumer ethnocentrism on a regional scale. Nadiri and Tümer (Nadiri and Tümer, 2010) employed ethnocentrism as a predictor of desire to buy locally made products, while found that Chinese customer ethnocentrism negatively influences the buying ATT towards Korean functional food. Regiocentrism has been used in various contexts and has proven to be good indicator for regional values (Boswell, 2018; Pestar Bizjak et al., 2018). REG scale has been validated in different contexts and can be used as a tool for determining regional values for a particular behavior (Waehning and Filieri, 2021).

2.2. MAT

When a customer places a high value on material goods, this is called MAT(Belk, 1984). MAT as a construct has been used in lot of studies including luxury products. INT is positively impacted by MAT. In his study on how MAT affects Chinese consumers' gift-giving behaviour, Chen and Kim (2013) demonstrated that MAT was not a reliable indicator of gift-related INT. MAT and ATT toward ecotourism were directly linked, and the author's research shows that MAT has different effects on those sentiments (Hultman et al., 2015). However, the use of MAT as a framework for food goods is restricted. According to research, MAT is a big factor in modern personal value for food consumption, whereas nationalism is a significant predictor of traditional personal value. in the realm of food consumption, materialistic values can shape preferences towards products that are marketed as exclusive, premium, or in some way superior, thereby affecting not only what is consumed but also how these consumption choices are socially interpreted (Ali et al., 2020; Ali, 2018).

2.3. REG, MAT and ATT

Click or tap here to enter text. It is found out that there is a considerable link between MAT, consumer ethnocentrism, and value consciousness, it was discovered. Das and Mukherjee (Das and Mukherjee, 2020) tested an indirect relationship between MAT and consumer ethnocentrism and the study revealed that MAT alters consumer ethnocentrism positively with regard to ethnic identity. In the study focused on the shift in consumption patterns among Lebanese Muslims, connections were made between ethnic identification, MAT, and consumer ethnocentrism, illustrating how these factors interplay to influence consumption behaviors (Cleveland et al., 2013). The research on the effect of consumer ethnocentrism on ATT toward global brands revealed that those with a high global identity did not exhibit strong links between ethnocentrism and ATT whereas those with a low global identity did exhibit a significant relationship between ethnocentrism and ATT (Guo, 2013)

Existing literature has extensively explored the components of TPB—ATT, SN PBC—in predicting consumer behavior across various contexts. However, there is a noticeable paucity of research that integrates the constructs of MAT and REG within this well-established framework, particularly in the context of rural consumer markets. This gap is significant, considering the increasing importance of local food systems in sustainable development and the growing influence of consumerism on cultural

identity and environmental choices. Moreover, the unique socio-cultural and economic backdrop of the Himalayan region presents a compelling case for examining these relationships, where traditional values and modern consumerism intersect in shaping consumption patterns.

2.4. Hypothesis development

In the study of ATT and behaviour, the idea of regionalism is crucial. The preference for their own region can be seen in many different areas such as political opinion, economic decisions, and cultural ATT Research has shown that REG has a powerful influence on ATT and behavior. For instance, persons from a given region are more likely than people from other regions to have favourable sentiments toward the people and culture of their own region. For instance, persons from a given region are more likely than people from other regions to have favourable sentiments toward the people and culture of their own region. This can lead to a strong regional identity, which can be beneficial for a variety of reasons, such as increased civic engagement, increased economic development, and increased social cohesion. However, it can also lead to negative outcomes such as increased racism and xenophobia. Thus, REG is an important phenomenon to consider when examining ATT and behavior (W. J. Lee et al., 2016). REG in the context of food products is evident to have an impact on all theory of planned behaviour categories (Pestar Bizjak et al., 2018), hence the development of the first hypothesis was done on this basis. The conceptual framework was developed on the basis of the developed hypothesis (**Figure 1**).

H1(0): Regiocentrism towards a product does not affect the attitude towards the regional food products of Uttarakhand.

MAT has been studied in relation to ATT for decades. According to a study MAT is associated with a variety of negative ATT and outcomes such as lower levels of life satisfaction, higher levels of depression, greater envy, and a diminished sense of community (Richins and Dawson, 1992). The theory of planned behaviour has revealed that MAT is a significant predictor of ATT and INT. According to research, a person's ATT toward a behaviour and their INT to partake in that behaviour can be significantly influenced by materialistic values. For example, materialistic individuals have been found to have more positive ATT towards purchasing items, and a greater INT to purchase than individuals who are not materialistic. People with a stronger materialistic orientation tend to evaluate outcomes related to consuming more positively than those with a weaker materialistic orientation. Furthermore, materialistic individuals tend to have a stronger influence on the behavior of others. Thus, MAT appears to be a powerful factor influencing ATT and behavior in the TPB (Chen and Kim, 2013).

H2(0): Materialism does not affect the attitude towards regional food products of Uttarakhand.

Research has found that materialistic values are associated with greater reported levels of depression, anxiety, and difficulty forming meaningful relationships (Kasser and Ahuvia, 2002). Additionally, MAT has been linked to lower levels of life satisfaction and psychological well-being (Richins, 2004). SN have also been linked to MAT. MAT is more likely to occur when others around a person have similar values

and beliefs about the importance of material possessions (Richins, 2004). In other words, when individuals are surrounded by people who prioritize material possessions, they are more likely to prioritize possessions as well. MAT has been seen to effect the SN in different studies (Bu et al., 2020; Ganseforth, 2022) and hence a hypothesis indicating the effect of MAT on SN for regional food products of Uttarakhand was developed.

H3(0): Materialism does not affect the subjective norms for the regional food products of Uttarakhand.

MAT has been linked to the TPB in multiple research articles. Social norms, ATT, and PBC have all been identified as key components of the TPB in relation to MAT. According to study, those with more materialistic friends also tend to be more materialistic. Social norms refer to the perceived prominence of materialistic values in one's social circle (Wang et al., 2019). Materialistic behaviour has been proven to be strongly predicted by one's ATT about a behaviour (Kamal, M. S. et al., 2020). Lastly, PBC relates to the belief that one is able to engage in the materialistic behavior of their choice. Higher PBC has been associated with higher levels of MAT (Liao et al., 2018). It became imperative to look at the link between MAT and PBC.

H4(0): Materialism does not affect the perceived behavior control for regional food products of Uttarakhand.

REG and MAT are two distinct economic philosophies that inform the way goods are produced and consumed. REG encourages localized production, consumption, and investment. It also attempts to reduce reliance on imported goods and services. MAT, on the other hand, is a belief in the overriding importance of material possessions and the acquisition of wealth over other values. It holds that economic growth is the primary aim of economic policy and thus encourages economic globalization and the pursuit of economic growth and profits (Boswell, 2018). REG and MAT may appear to be contradictory, but they can be complementary in some cases. For example, increased economic growth through globalization can lead to increased demand for locally produced goods and services, which can benefit local producers (Friedman, 2020).

H5(0): Regiocentrism does not affect the materialism for regional food products of Uttarakhand.

REG significantly affects consumers' intent to buy (Phuong and Dat, 2017). Customers frequently take the product's geographic origin into account while evaluating goods (Phuong and Dat, 2017; Y.-H. Lee et al., 2016). Additionally, because they think local products are of a higher quality, consumers are more inclined to pay more for them (Phuong and Dat, 2017). REG can therefore be considered a significant element determining INT.

H6(0): Regiocentrism does not affect the purchase intention for regional food products of Uttarakhand.

Numerous studies have established a clear relationship between MAT and buying intent, with people who were more materialistic being more likely to have stronger purchasing inclinations (Abid et al., 2021; Bu et al., 2020; Ganseforth, 2022). It established the foundation for creating a hypothesis.

H7(0): Materialism does not affect the purchase intentions for regional food products of Uttarakhand.

Research shows that a person's local culture and values have an impact on their purchasing decisions (Das and Mukherjee, 2020; Fernández-Ferrín and Bande-Vilela, 2013; Klein et al., 2006). Conversely, SN are cultural standards and beliefs that people have absorbed via social acceptance (Ajzen, 1991). As a result, REG and SN are related since REG depends on comprehension of regional values and norms to appropriately analyse consumer behaviour. Additionally, REG may be used to study how SN affect consumer behaviour through regional cultures.

H8(0): Regiocentrism does not have any affect on the subjective norms for regional food products in Uttarakhand.

REG, which is the belief that one's region is superior to others, can lead to PBC over those in other regions. This often results in a sense of superiority and a feeling of being able to dictate how others should behave. This can be seen in the way certain countries or regions often hold particular standards, such as political and religious standards, that they expect all other regions to adhere to (W. J. Lee et al., 2016). Furthermore, REG can cause people to act differently towards those from other regions, often resulting in discrimination. These differences in behavior towards others due to REG can have significant effects on societal relations between different regions and can contribute to tension and conflict and hence giving indication for the next hypothesis.

H9(0): Regiocentrism does not have any affect on the perceived behavior control for the regional food products of Uttarakhand.

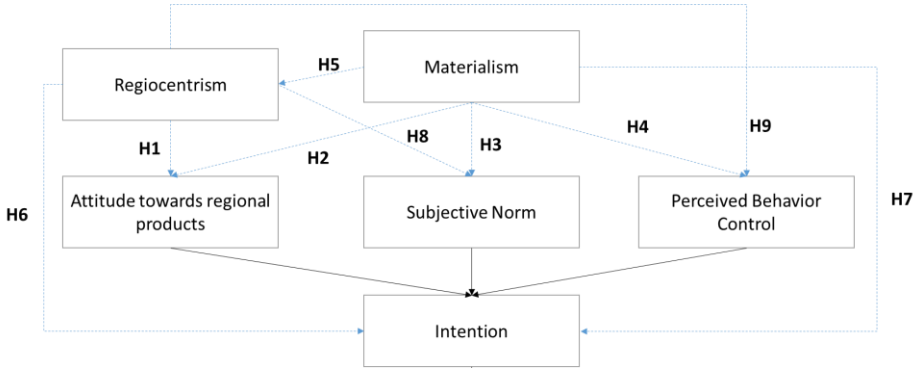

Figure 1. Conceptual framework for the study.

3. Method

3.1. Questionnaire design

Five ATT items have been taken from (Maichum et al., 2016), (Chan and Chan, 2017) and modified according to the requirement of the research; "I like to purchase food products made locally", "I think the nutritional value of the products of my region are higher when compared to other products." "I have a positive attitude about products from my own region" and "It is wise to purchase regional food products."

Four subjective norm items have been taken from (Al-Swidi et al., 2014; Ham et al., 2018) and modified as per the requirement, "My family thinks I should buy food products found in my region", "My friends think I should buy food products found in my region." "People around me think that I should buy food products from my region." and "The number of people I know who buy regional food products is increasing."

Four PBC items have been taken from (Maichum et al., 2016) and modified in regards to the regional food products, "I can buy food products from my own region independently", "I am financially capable of buying food products from my own region", "I have time to go and buy the food products from my own region" and "I know where to buy the food products of my region".

Four intentions items have been taken from (Yazdanpanah and Forouzani, 2015), "If I don't get food products made from my region near to me, I go to specialty shops to buy them." "I am willing to buy food products made in my region on a regular basis." "I would recommend people to buy food products from the region" and "I intend to consume food from the local region."

Eight regiocentrism items are taken from Waehning and Filieri (Waehning and Filieri, 2021b) and modified accordingly, "I only buy food products that are from my region." "I have childhood memories associated with these products." "I feel close to my regional identity when I buy food products from my region." "I buy regional food products because they are of superior quality." "I buy food products from my own region because they are healthier", "I buy food products from the region because it helps in generating local employment." "I buy food products from the region because they have a lower impact on the environment" and "I buy food products from my region because it has good quality/price ratio."

Finally, seven materialism items ae taken from (Richins, 2004), "I like buying food products from major brands (products other than the regional food products from major brands)", "I like a lot of luxury in life and prefer food products that showcase superior life", "I like to buy food products that are branded and would prefer them over the food products that are from my region", "I feel bothered when I am not able to buy food products from major brands", "Buying food products that are branded gives me a lot of pleasure", "Food products from my region does not have that appeal when compared to food products from popular brands" and "I don't put much emphasis on the brands of the food products as luxury does not influence me". All the items and scales have been mentioned in **Table 1**.

Table 1. Scale items for the instrument.

Construct	Code	Questions
Attitude	ATT1	Q1—I like to purchase food products made locally.
	ATT2	Q2—Purchasing food products from my region gives me satisfaction.
	ATT3	Q3—I think the nutritional value of the products of my region are higher when compared to other products.
	ATT4	Q4—I have a positive attitude about products from my own region.
	ATT5	Q5—It is wise to purchase regional food products.
Subjective norms	SN1	Q6—My family thinks I should buy food products found in my region.
	SN2	Q7—My friends think I should buy food products found in my region.
	SN3	Q8—People around me think that I should buy food products from my region.
	SN4	Q9—The number of people I know who buy regional food products is increasing.

Table 1. (*Continued*).

Construct	Code	Questions
Perceived behavior control	PBC1	Q10—I can buy food products of my region independently.
	PBC2	Q11—I am financially capable of buying food products from my region.
	PBC3	Q12—I have time to go and buy the food products from my region.
	PBC4	Q13—I know where to buy the food products from my region.
Intention	INT1	Q14—If I don't get food products made from my region near to me I go to specialty shops to buy them.
	INT2	Q15—I am willing to buy food products made in my region on a regular basis.
	INT3	Q16—I would recommend people to buy food products from the region.
	INT4	Q17—I intend to consume food from the local region.
Regiocentrism	RG1	Q18—I only buy food products that are from my region.
	RG2	Q19—I have childhood memories associated with these products.
	RG3	Q20—I feel close to my regional identity when I buy food products from my region.
	RG4	Q21—I buy regional food products because they are of superior quality.
	RG5	Q22—I buy food products from my own region because they are healthier.
	RG6	Q23—I buy food products from the region because it helps in generating local employment.
	RG7	Q24—I buy food products from the region because they have a lower impact on the environment.
	RG8	Q25—I buy food products from my region because it has good quality/price ratio.
Materialism	MAT1	Q26—I like buying food products from major brands (products other then the regional food products from major brands).
	MAT2	Q27—I like a lot of luxury in life and prefer food products that showcase superior life.
	MAT3	Q28—I like to buy food products that are branded and would prefer them over the food products that are from my region.
	MAT4	Q29—I feel bothered when I am not able to buy food products from major brands.
	MAT5	Q30—Buying food products that are branded gives me a lot of pleasure.
	MAT6	Q31—Food products from my region does not have that appeal when compared to food products from popular brands.
	MAT7	Q32—I don't put much emphasis on the brands of the food products as luxury does not influence me.

Five-point Likert scales offer advantages over seven-point Likert scales for measuring ATT and opinions. Five-point scales are easier to use, better understood by respondents, and more economical in terms of time and resources (Lambert, 2017)They also require fewer items to achieve the same level of accuracy as seven-point scales (Judd et al., 1991). Moreover, five-point scales are better at capturing extreme responses, and are more reliable and valid than seven-point scales(Judd et al., 1991). Therefore, five-point Likert scales are more suitable for measuring ATT and opinions than seven-point scales. Furthermore, when rescaled, both the five-point and seven-point Likert scales yield the same mean scores with no change in skewness

levels (Alzubaidi et al., 2021). As a result, items were evaluated on a five-point Likert scale, which is consistent with previous research (Chen and Kim, 2013; Lorenz et al., 2015; Paul et al., 2016; Thelen et al., 2006; Xin and Seo, 2020; Zhang et al., 2014). Ethical committee approval for the collection of data was taken from Institutional Ethical Committee with IEC No. as UPES/IEC/DEC/2023/15.

3.2. Method applied

Expert validation was performed by soliciting the help of five academic scholars with experience in questionnaire design. Experts' comments were carefully considered, and the questionnaire was revised accordingly. The face validity survey was administered to five members of the sample population. Face validity comments were also taken into consideration. The pilot study included 109 participants, and the authors examined the dependability of the scale items using two types of reliability tests: Cronbach's alpha coefficient and split-half reliability test. While conventional statistical methods have been extensively used to study the TPB, the introduction of Partial Least Squares Structural Equation Modeling (PLS-SEM) provides a robust and adaptable method for analysing the TPB's complex relationships. PLS-SEM is used in this paper to analyse and test data from a sample of 460 participants.

4. Results

4.1. Pilot

From a total of thirty-seven items, five were removed and thirty-two items were moved forward for the pilot study. Cronbach's alpha for the full scale came out to be 0.856, which displays the results of reliability testing. To conclude that the scale's internal consistency and reliability are sufficient, this coefficient must be greater than 0.7. The reliability of the scale's individual items suggests that they are all measuring the same underlying construct. There were a total of $N = 39$ (including demographic variables) items on the scale. Part 1 of the split-half scale has a Cronbach's alpha of 0.778, while part 2 has a value of 0.829. Twenty items were used in part 1 of the split-half reliability test, while nineteen were used in part 2 for a total of 39 items. The Spearman-Brown split-half reliability coefficient is 0.585, indicating that combining the two versions of the scale will increase its reliability. The Spearman-Brown correlation coefficient is over the cutoff, while the Guttman split-half correlation coefficient is below it (0.573). This indicates that there is some room for variation between the two versions in their evaluation of similar structures. The combined data from the two tables suggests that the scale is reliable enough to be relied upon as a measure of the target construct.

4.2. Sample

Convenience sampling (Alzubaidi et al., 2021b; Ashraf et al., 2019; Das and Mukherjee, 2020; Zhou et al., 2013), were used in order to get the response from the respondents. The largest age group of participants, including 28.5% of the total participants, is between 25 and 35 years old, followed by people under 25 years old, comprising 30.0% of the total participants. The majority of individuals (52.4%) were

married, while 47.6% were single. 58% of all participants were female, compared to 42% of all participants being male. The majority of participants (39.1 percent) came from a nuclear family with parents/in-law, followed by a nuclear family without parents/in-law (7.8 percent). The majority of participants had or were pursuing a postgraduate degree (28%) followed by those with a doctoral degree (14%) and those with a high school diploma (13.7%). The majority of participants were college/university students (32.2%), followed by full-time white-collar workers (33.7%) and part-time white-collar workers (23.3%). Regarding income, the largest group of participants had a salary between Rs. 25,001 and Rs. 50,000 (26.1%), followed by those with a salary between Rs. 75,001 and Rs. 100,000 (21.1%) and those with a salary of Rs. 100,001 and above (20%).

4.3. Normality

Skewness and kurtosis values for 32 variables analysed on 460 sample. The bulk of variables had negative skewness, ranging from −1.527% to −0.315%, indicating that their distributions were skewed to the left with a greater number of negative tails. This indicates that the majority of replies for these variables were concentrated near the top of the scale, with fewer responses at the bottom. Nevertheless, a few variables (INT1, INT2, INT3, and MAT7) exhibited positive skewness, ranging from 0.199 to 0.502, indicating that their distributions were right-skewed with more positive tails, and the majority of responses were clustered at the lower end of the scale with fewer responses at the upper end.

Most variables had kurtosis values smaller than 3, ranging from 0.070 to 2.749, indicating that their distributions were more skewed than the mean. This indicates that more responses were clustered in the distribution's centre and fewer responses were found at the tails. Four variables, however (ATT4, PBC3, MAT4, and MAT5), had kurtosis values larger than 2.656, indicating that their distributions were even more skewed than those of the other variables, with a greater concentration of responses in the centre. The majority of variable distributions were negatively skewed and had more peaks than a normal distribution, according to the findings. A few variables, however, exhibited positive skewness, and the distributions of a few variables were much more skewed than those of the others. The data generally adhere to the parameters of a normal distribution.

The purpose of this study was to investigate the relationships among several latent factors related to MAT, REG, and theory of planned behaviour in relation to regional food products of Uttarakhand. This was achieved by using PLS- SEM as it does not rely on strict assumptions of normality or homoscedasticity of data. Also, PLS-SEM is useful for analysing complex models with latent variables that may not have a normal distribution (Mai, 2016).

4.4. Measurement model

The study sought to examine the reliability and validity of a measurement model by analysing factor loadings, composite reliability, Cronbach's alpha, and convergent and discriminant validity for each construct. Initially, Cronbach's alpha values were above 0.7 for all constructs except for REG, which had a score of 0.652. Composite

reliability (rho *a* and rho *c*) values were all above 0.7 except for MAT, which had a rho *c* score of 0.822. Average variance extracted (AVE) values were above 0.5 for all constructs except for REG and MAT, which had scores of 0.349 and 0.495, respectively. The low Cronbach's alpha score for REG suggested that the items may not be consistently measuring the same construct. The low AVE score for REG and MAT indicated that the latent constructs explained less than half of the variation in the observable indicators, which suggested that the items may not be adequately measuring the underlying concepts.

The discriminant validity-HTMT matrix were also looked at and they indicated that some of the correlation values between constructs were larger than expected for discriminant validity. Particularly, the correlations between REG and INT, MAT, and PBC were all above 0.85, indicating possible discriminant validity concerns. The Fornell-Larcker matrix also revealed possible discriminant validity concerns, with some constructs having correlation values greater than their AVE scores.

To improve the reliability and discriminant validity, items RG1, MAT7, RG2, RG3, RG6, and INT1 were removed from the model which is in accordance to the past researches (Adriel Aure et al., 2020; Saleki et al., 2021). **Tables 2–4** showed the reliability and discriminant validity results after the changes were made, with no issues found. **Figure 2** showed the new model after the changes were incorporated. The improved model had composite reliability (rho *a* and rho *c*) values over 0.7 for all constructs, Cronbach's alpha values above 0.7 for all constructs, and AVE values above 0.5. The revised model also had no issues with discriminant validity.

Table 2. Reliability and AVE of data after changes are incorporated.

	Cronbach's alpha	**rho_*a***	**rho_*c***	**AVE**
ATT	0.846	0.852	0.891	0.621
INT	0.941	0.954	0.962	0.894
MAT	0.821	0.822	0.87	0.527
PBC	0.83	0.858	0.885	0.66
REG	0.819	0.823	0.881	0.649
SN	0.769	0.774	0.852	0.59

Table 3. Discriminant validity-HTMT matrix (after item deletion).

	HTMT Matrix					
	ATT	**INT**	**MAT**	**PBC**	**REG**	**SN**
ATT						
INT	0.222					
MAT	0.584	0.342				
PBC	0.313	0.107	0.082			
REG	0.44	0.131	0.873	0.088		
SN	0.82	0.314	0.444	0.174	0.255	

Table 4. Discriminant validity-Fornell-Larcker (after item deletion).

	Fornell-Larcker					
	ATT	**INT**	**MAT**	**PBC**	**REG**	**SN**
ATT	0.788					
INT	0.165	0.946				
MAT	0.492	0.299	0.726			
PBC	0.269	−0.019	0.053	0.812		
REG	0.372	−0.046	0.724	0.047	0.806	
SN	0.667	0.263	0.355	0.149	0.203	0.768

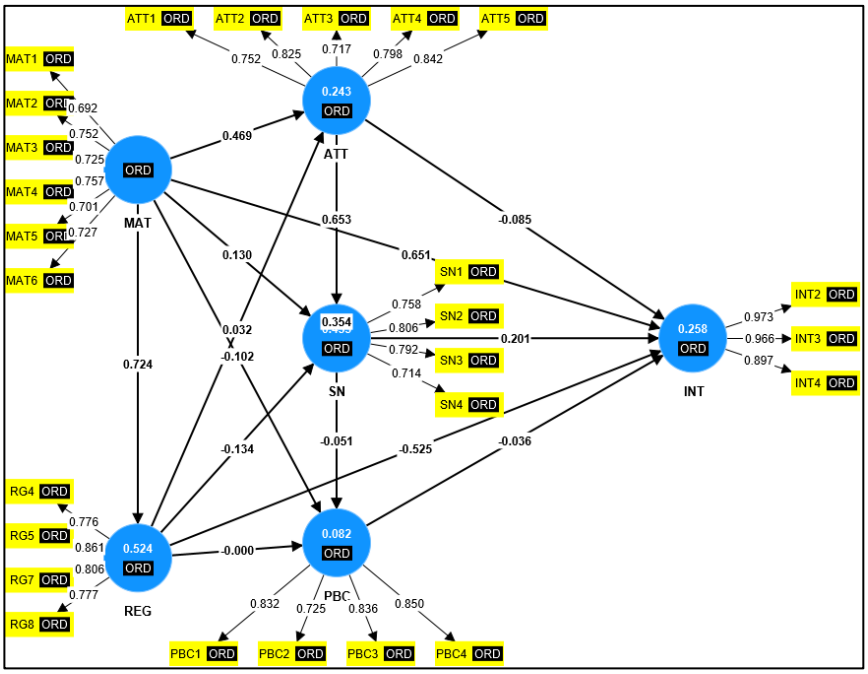

Figure 2. SEM model (after corrective measures).

4.5. Cross loadings

Table 5's cross loadings illustrate the strength of the association between each item and its respective construct. The higher the factor loading, the stronger the relationship. ATT The factor loadings of the five items evaluating ATT range from 0.717 to 0.88. This indicates that the items are accurate measures of ATT and have a strong relationship with the construct; INT: The factor loadings for the three items evaluating INT range from 0.897 to 0.997. This indicates that the items are accurate measures of INT and have a strong relationship with the construct; materialism (MAT): The factor loadings for the six items evaluating MAT range between 0.692 and 0.757. While the majority of goods have moderate to substantial loadings, MAT5 has a relatively lesser loading of 0.701. This shows that the item may not be a reliable measure of the concept and may require reconsideration or modification in future research; PBC (perceived behavior control): The factor loadings for the four items indicating PBC range from 0.725 to 0.85. This indicates that the items are accurate measurements of the concept and have a strong relationship with it; REG (regiocentrism): The factor loadings of the four items evaluating REG range from

0.776 to 0.886. This indicates that the items are accurate measurements of the concept and have a strong relationship with it; SN: The four items evaluating SN have high factor loadings ranging from 0.714 to 0.806. This indicates that the items are accurate measurements of the concept and have a strong relationship with it.

Table 5. Factor loadings from SmartPLS 4.0.

	ATT	**INT**	**MAT**	**PBC**	**REG**	**SN**
ATT1	0.752					
ATT2	0.825					
ATT3	0.717					
ATT4	0.798					
ATT5	0.842					
INT2		0.973				
INT3		0.966				
INT4		0.897				
MAT1			0.692			
MAT2			0.752			
MAT3			0.725			
MAT4			0.757			
MAT5			0.701			
MAT6			0.727			
PBC1				0.832		
PBC2				0.725		
PBC3				0.836		
PBC4				0.85		
RG4					0.776	
RG5					0.861	
RG7					0.806	
RG8					0.777	
SN1						0.758
SN2						0.806
SN3						0.792
SN4						0.714

4.6. Structural model

The structural model is a crucial component of Structure Equation Modeling (SEM) since it enables researchers to test hypotheses regarding the correlations between variables. It gives researchers the chance to investigate the relationships between factors that have a causal effect, which can reveal the fundamental principles that underlie the studied events. The structural model can also assist in identifying factors with the greatest predictive power and those with indirect effects. The structural model can aid in identifying the most influential consumer behaviour drivers and give insight into how these factors interact. This data may be utilised to create more successful marketing tactics and to highlight areas for development.

In order to test the structural model bootstrapping is performed in SmartPLS 4.0. Bootstrapping is a resampling method used in partial least squares (PLS-SEM) to estimate standard errors, confidence intervals, and *p*-values for the path coefficients. To execute bootstrapping in PLS-SEM 4, we must first define the number of resamples to be utilised. Normally, at least 5000 resamples are performed to confirm the reliability of the data. The bootstrapping technique then entails continually resampling the data set and re-estimating the model. With each resample, a new set of data is generated by randomly picking and replacing observations from the initial data set. The path coefficients are then stored when the model is computed for the resampled data set. A distribution of path coefficients is produced by repeating this procedure for the desired number of resamples (Mai, 2016).

To determine the importance of a path coefficient, the *t*-value and *p*-value can be examined. The path coefficient to its standard error ratio, which is computed from the bootstrapped distribution of path coefficients, is used to calculate the *t*-value. Under the null hypothesis that the real path coefficient is zero, the *p*-value is the probability of receiving a *t*-value that is equally severe or more extreme than the observed *t*-value. The null hypothesis may be rejected and the path coefficient is statistically significant if the *p*-value is less than the chosen significance threshold (e.g., 0.05). **Table 5** shows the path coefficients, sample means, standard deviations, *t*-statistics, and *p*-values for each of the tested hypotheses.

Table 6. Path coefficient, the *t*-value and *p*-value.

Constructs	O-original sample	M-sample mean	STDEV-standard deviation	*T*-statistics	*P*-values
ATT → INT	0.039	0.038	0.039	1.005	0.315
ATT →PBC	0.317	0.321	0.053	5.929	0
ATT → SN	0.657	0.658	0.036	18.256	0
MAT → ATT	0.491	0.494	0.041	11.933	0
MAT → INT	0.299	0.299	0.039	7.621	0
MAT → PBC	0.05	0.051	0.052	0.964	0.335
MAT → REG	0.724	0.725	0.027	27.051	0
MAT → SN	0.35	0.352	0.043	8.15	0
PBC → INT	−0.049	−0.051	0.048	1.016	0.31
REG → ATT	0.025	0.025	0.056	0.446	0.656
REG → INT	−0.552	−0.556	0.044	12.583	0
REG → PBC	0.023	0.024	0.069	0.327	0.744
REG → SN	−0.112	−0.114	0.061	1.839	0.066
SN → INT	0.209	0.212	0.053	3.926	0
SN → PBC	−0.06	−0.061	0.064	0.941	0.347

Looking at the **Table 6** the following inference for the hypothesis can be taken out; H1(0) which says that REG towards a product does not affect the ATT towards the regional food products of Uttarakhand is failed to reject and alternate hypothesis is rejected; H2(0) which says that MAT does not affect the ATT towards regional food products of Uttarakhand is rejected and alternate hypothesis is fail to reject; H3(0)

which says that MAT does not affect the SN for the regional food products of Uttarakhand is rejected and alternate hypothesis is failed to reject; H4(0) which says that MAT does not affect the PBC for regional food products of Uttarakhand has been failed to reject and alternate hypothesis is rejected; H5(0) which says that MAT does not affect the REG for regional food products of Uttarakhand has been rejected and alternate hypothesis is failed to reject; H6(0) which says that REG does not affect the purchase INT for the regional food products of Uttarakhand has been rejected and alternate hypothesis is failed to reject; H7(0) which says that MAT does not affect the purchase INT for the regional food products of Uttarakhand has been rejected and alternate hypothesis has failed to reject; H8(0) which says that REG does not have any affect on the SN for the regional food products of Uttarakhand has failed to reject and alternate hypothesis has been rejected; H9(0) which says that REG does not have any affect on the PBC for the regional food products of Uttarakhand has failed to reject and alternate hypothesis has been rejected.

4.7. Mediation

Analysis of mediation examines the extent to which one or more mediating factors, or intervening variables, can account for the relationship between two variables. It determines whether or not a third variable mediates the influence of an independent variable on a dependent variable. With the help of this study, suitable intervention or modification points can be found as well as the methods by which an independent variable affects a dependent variable. **Table 7** displays the specific indirect effects for four mediation analysis models in SmartPLS 4.0. Each model consists of three constructs: an independent variable, a mediator, and a dependent variable. The findings of the analysis are presented in the "original sample (O)", "sample mean (M)", "standard deviation (STDEV)", "*T* statistics (|O/STDEV|)", and "*P* values" columns.

Table 7. Specific indirect effects.

Constructs	O-original sample	M-sample mean	STDEV-standard deviation	*T*-statistics	*P*-values
ATT → SN → INT	0.136	0.137	0.036	3.765	0
MAT → REG → INT	−0.381	−0.383	0.041	9.346	0
MAT → ATT → PBC	0.169	0.172	0.038	4.488	0
MAT → ATT → SN	0.311	0.313	0.041	7.616	0

For the first model, "ATT → SN → INT," the specific indirect effect is 0.136. This indicates that the SN partially mediates the relationship between ATT and INT, and the mediation effect is statistically significant ($p < 0.05$). The precise indirect effect for the second model, "MAT → REG → INT," is −0.381. This indicates that REG fully mediates the impact of MAT on INT, and the mediation effect is statistically significant ($p < 0.05$). The specific indirect effect for the third model, "MAT → ATT → PBC," is 0.169. This indicates that the SN partially mediates the relationship between ATT and INT, and the mediation effect is statistically significant ($p < 0.05$). For the fourth model, "MAT → ATT → SN," the specific indirect effect is 0.311. This means that the effect of MAT on SN is partially mediated by ATT, and the mediation

effect is statistically significant ($p < 0.05$).

The mediation analysis results show that the relationships between the independent variables and dependent variables are partially or fully mediated by the respective mediator variables. These findings provide insight into the underlying mechanisms that explain the relationships between the variables, and can be used to inform interventions or treatments aimed at changing ATT, beliefs, or behaviors. Additionally, the statistically significant mediation effects suggest that the proposed mediation models are plausible and supported by the data. Furthermore, regiocentrism (REG) acts as a mediator between Materialism (MAT) and INT, with a significant negative indirect effect. When comparing the original sample score to the sample mean for the indirect effect, a *t*-statistic of 9.346 indicates that the difference is statistically significant ($p < 0.0001$). This indicates that there is a one-to-one relationship between MAT and INT, with the relationship being fully explained by the effect of MAT on REG and the effect of REG on INT.

This finding may have real-world implications for marketers and advertisers, who may want to take REG into account when forming strategies for reaching their target demographic. A more regiocentric audience may be less receptive to the more materialistic appeals found in advertising and marketing messages. Consequently, businesses may need to rethink their approaches in order to reach these demographics, such as highlighting regional or local features. The influence of REG on the spread of particular practises or laws within geographical areas is another factor that public policy makers and social activists may need to take into account.

5. Discussion

The current study set out to find out what factors affect people's decisions to regional food products of Uttarakhand. The study included 460 respondents in total, and partial least squares structural equation modelling was used to evaluate the data (PLS-SEM). To further understand the connections among REG, MAT, SN, PBC, ATT, and INT, nine hypotheses were explored in the study. The findings demonstrated that attitudes toward regional food products of Uttarakhand are significantly influenced by REG, MAT, SN, and PBC. Particularly, it was discovered that REG and MAT directly affected attitude, whereas subjective noms and PBC were found to indirectly influence attitude.

The study's findings provided support against the null hypothesis between MAT and REG for the regional food products. The examination of the data demonstrated a significant correlation between MAT and REG, indicating that materialistic customers are more likely to identify with their region and its products. This is the novelty of this research for establishing a relationship between REG and MAT.

The study revealed a favourable association between attitude toward regional food products and PBC ($r = 0.317$, p 0.001). This finding shows that customers who have a favourable perception of regional food are more likely to feel in control of their ability to consume it. In other words, consumers who have a positive image of regional food are more likely to believe they possess the necessary means, abilities, and opportunities to consume it. This is consistent with the previous studies (Paul and Rana, 2012; Smith-Spangler et al., 2012; Zepeda and Deal, 2009).

The findings revealed a favourable and statistically significant correlation between PBC and INT. This research implies that consumers who perceive greater control over their behaviour are more likely to intend to consume regionally produced food products. The theory of planned behaviour contends that perceptions of behavioural control are a substantial predictor of INT, and this finding is in line with that view (Erler et al., 2020; K. H. Lee et al., 2015; Yazdanpanah and Forouzani, 2015a). Positive INT toward a behaviour is more likely to be formed by consumers who believe they have control over their behaviours. In the context of purchasing and consuming regional food products from Uttarakhand, customers who believe they are able to do so are more likely to intend to do so. This suggest that increasing customers' perceptions of control over their behaviour could be an effective technique for promoting the consumption of regional food products. For instance, providing information about the availability and accessibility of these items, emphasising their benefits and flavour, and decreasing barriers to their acquisition may boost customers' perceptions of control and, consequently, their intents to consume them.

The results validated the theory, as a positive correlation between MAT and ATT was discovered. This suggests that customers with a higher level of MAT have a more favourable perception of regional food products. This study extends this conclusion to regional food products, showing that materialistic customers may also be more likely to value and consume such products (Abid et al., 2021; Bu et al., 2020).

The data analysis revealed a substantial correlation between regionalism and intent to purchase which is in line with the previous studies (Pestar Bizjak et al., 2018). Specifically, individuals with greater degrees of REG were more likely to intend to purchase regional food products. This finding underscores the significance of local identity in influencing INT. The results demonstrated a statistically significant positive correlation between MAT-INT. This suggests that consumers who place a higher value on material belongings and status are more likely to exhibit a readiness to acquire these products (Abid et al., 2021; Bu et al., 2020; Ganseforth, 2022; Ger et al., 2014; Wang et al., 2019). The result is consistent with prior research demonstrating a correlation between MAT and purchasing INT. Materialistic customers may consider the consumption of local products as a manner of demonstrating their position and affluence. In addition, these customers may see regional products as distinctive and rare, resulting in a desire to possess and exhibit them (Ali et al., 2020; Delistavrou et al., 2020).

The results also demonstrated a positive link between REG and SN. This research implies that consumers who identify more strongly with the region are more likely to experience societal pressure to purchase regional products which reinforces the previous research (Pestar Bizjak et al., 2018). The positive association between REG and SN might be explained by the fact that regional identity is frequently intertwined with cultural and social values. Consumers with a strong connection to the region may regard purchasing local goods to help the community and maintain its cultural history. Subjective noms may thus serve as a strategy for influencing regiocentric customers to purchase regional food products.

The results revealed a positive correlation between regionalism and PBC. This conclusion indicates that consumers who identify more strongly with the region are more likely to feel in control of their abilities to acquire and consume local items. One

possible explanation for this result is that customers who strongly identify with the region may have a stronger sense of familiarity and comfort with local items, which may boost their perceived ability to consume these products.

Since the *p*-value for hypothesis 1 exceeds the alpha level (0.05), the null hypothesis cannot be rejected. This indicates that REG towards a product has no substantial effect on attitudes towards the regional food products of Uttarakhand. Despite the fact that the result was not statistically significant, there was a slight positive correlation between REG and attitude, indicating that there may be a faint practical implication. By highlighting the regional character of the product, firms can appeal to consumers' regiocentric tendencies, which can result in a more favourable perception of the product.

In terms of mediation effects, the study discovered that SN mediated the association between ATT and INT to purchase, indicating that social pressures and norms may influence consumers' inclinations to purchase regional food goods. Both REG and attitude mediated the relationship between MAT and PBC, indicating that individuals' attitudes toward regional food products and their sense of control over their behaviour may be influenced by their materialistic tendencies and attitudes toward regional identity.

It reveals a significant correlation between MAT and positive attitudes towards local products, suggesting that in the Himalayan context, materialistic individuals may perceive local product consumption as an extension of their value system, potentially viewing these products as status symbols. This finding suggests a nuanced precursor-effect relationship where personal values like MAT shape attitudes, which in turn, influence behavioral intentions. This enriches TPB by highlighting the necessity of incorporating broader value systems in the model, particularly in varied cultural contexts.

This research contributes a novel finding by demonstrating REG's dual influence: positively affecting attitudes while negatively impacting INT. This dualism introduces a new layer of complexity to the TPB, suggesting that constructs can simultaneously possess both facilitative and inhibitive pathways to INT. The implication is profound; regional pride does not unfailingly lead to purchase behavior, potentially due to external variables like materialistic value of local products as seen from mediation analysis. This revelation calls for a re-evaluation of how attitudes, influenced by regional identity, might be counteracted by practical considerations of behavior.

6. Conclusion and implication

The nutritional content, environmental sustainability, and climate-adaptability of millets have boosted their popularity, making them an important crop for food security, livelihoods, and biodiversity. The goal of the "International Year of Millets" project is to raise awareness about millets, help farmers in Uttarakhand, and safeguard the planet. However, there are many constraints to millet cultivation and consumption in Uttarakhand, including a lack of infrastructure for processing and marketing, the reduction of crop diversity due to monoculture and commercial farming, and a lack of consumer knowledge. This research sought to answer how MAT and REG influence the behavior for regional food products (millets) in Uttarakhand.

This study's findings have various implications for the marketing of regional food products of Uttarakhand. Firstly, the positive association between REG and ATT shows that consumers who identify with the region more strongly are likely to have a more favourable impression of these products. Therefore, marketers offering these goods can appeal to consumers who appreciate regionalism by emphasising their link to local culture and heritage. Second, the considerable influence of MAT on attitude suggests that customers who place a high value on material belongings are less likely to have a favourable attitude toward regional food products. Therefore, companies offering these products may need to emphasise the quality and health benefits of these products rather than their materialistic qualities. Which means that the materialistic values are counteracting the regiocentric values and hence introduces the complex dynamics between the two that is if the materialistic values towards an intention is higher than they would outweigh regiocentric values for the intention to buy the product made in that region.

The positive effect of SN and PBC on INT suggests that consumers' perceptions of social pressure to consume local items and their confidence in their capacity to do so can influence their actual purchase behaviour. Therefore, companies advertising these items should seek to establish a social norm around the consumption of regional food products and make them accessible to customers.

The non-significant influence of REG on SN and PBC implies that consumers' connection with the region does not necessarily transfer into heightened perceptions of social pressure or higher confidence in their ability to consume these products. On the other hand REG has a mediation effect on INT and MAT in which it counteracts the role of MAT on INT. To stimulate greater consumption of these products, companies promoting these items may need to focus on forging a closer relationship between REG and these concepts.

This study contributes scientifically to the field of consumer behavior and TPB in three critical ways: 1) Theoretical extension: By integrating MAT and REG into the TPB, this study advances the theoretical understanding of consumer behavior, suggesting that personal values and regional affinity significantly impact behavioral intentions. This extension not only enriches the TPB model but also provides a framework for exploring consumer behavior in culturally rich contexts. 2) Cultural contextualization: Applying TPB in the distinct cultural setting of the Himalayan region of Uttarakhand, with its unique socio-economic characteristics, this research contributes to the body of knowledge by demonstrating the model's adaptability and relevance. It underscores the necessity of incorporating local cultural dimensions into behavioral theories, enhancing their predictive accuracy and applicability. 3) Empirical evidence: Through meticulous data collection and analysis, this study offers empirical evidence on the influence of MAT and REG on consumer behavior towards regional food products. The findings not only fill a critical research gap but also provide actionable insights for marketers, policymakers, and local producers on promoting sustainable consumption patterns.

In conclusion, the findings of this study underscore the significance of knowing consumer attitudes and behaviour regarding regional food products. Marketing tactics for these products should take into account the impact of elements such as REG, MAT, SN, PBC on INT. By doing so, they may be able to stimulate demand for these food

products and foster the growth of viable rural economies in the region.

7. Limitation and future scope of work

This study only focuses on the regional food products of Uttarakhand, so the generalizability of the results to other regions or products is limited. Secondly, one limitation of the study could be that the responses to the questionnaire may not fully reflect the actual behavior of consumers in the market. Respondents may have provided socially desirable answers or may have inaccurately reported their actual behavior due to memory or cognitive biases. Additionally, the sample size of the study may have been limited, which could have affected the generalizability of the findings.

As for future scope, researchers could conduct more extensive studies with larger and more diverse samples to further investigate the factors that influence consumer attitudes and behaviors towards regional food products. It may also be useful to explore the role of other variables, such as cultural values, environmental concerns, consumer awareness and marketing strategies, in shaping consumer behavior in this context. Finally, future research could investigate the effectiveness of interventions aimed at promoting the consumption of regional food products and supporting local producers in Uttarakhand.

Despite the limitations, this study provides insights into the factors that influence consumer behavior towards regional food products. The findings can be used by policymakers and marketers to develop targeted strategies to promote the consumption of regional products, particularly in regions with rich culinary traditions. Policymakers can leverage the positive effect of REG on INT to develop policies that promote the production and consumption. Similarly, marketers can emphasize the social and environmental benefits of consuming regional products to appeal to consumers' attitudes towards the local region and their desire to support local communities.

Author contributions: Conceptualization, SJ, AS and AN; methodology, SJ; software, SJ; validation, APJ, RK and AS; formal analysis, SJ; investigation, AS; resources, APJ; data curation, SJ; writing—original draft preparation, SJ and AS; writing—review and editing, AN; visualization, SJ; supervision, APJ; project administration, RK; funding acquisition, RK and APJ. All authors have read and agreed to the published version of the manuscript.

Conflict of interest: The authors declare no conflict of interest.

References

Abid, G., Rehmat, M., Mukhtar, K. (2021) Influence of materialism on impulse buying: Moderated mediation model. 20, 6104–6117.

Adriel Aure, P. H., James Lopez, C. B., Marie Santana, A. C., et al. (2020). Determinants of purchase intention towards social enterprise personal care brands: a PLS-SEM approach. International Journal of Entrepreneurship, 24.

Ajzen, I. (1991). The Theory of Planned Behavior. Organ Behav Hum Decis Process, 34, 1369–1376.

Ali, A., Sherwani, M., Ali, A., et al. (2020). The Moderating Role of Individualism/Collectivism and Materialism: An Application of the Theory of Planned Behavior (TPB) in Halal Food Purchasing. Journal of Food Products Marketing, 26(9), 581–599. https://doi.org/10.1080/10454446.2020.1846148

Ali, I. (2018). Impact of materialism on consumption behavior. Journal of International Management, Educational and Economics Perspectives, 6, 80–99.

Al-Swidi, A., Mohammed Rafiul Huque, S., Haroon Hafeez, M., et al. (2014). The role of subjective norms in theory of planned behavior in the context of organic food consumption. British Food Journal, 116(10), 1561–1580. https://doi.org/10.1108/bfj-05-2013-0105

Alzubaidi, H., Slade, E. L., & Dwivedi, Y. K. (2021). Examining antecedents of consumers' pro-environmental behaviours: TPB extended with materialism and innovativeness. Journal of Business Research, 122, 685–699. https://doi.org/10.1016/j.jbusres.2020.01.017

Ashraf, M. A., Joarder, M. H. R., & Ratan, S. R. A. (2018). Consumers' anti-consumption behavior toward organic food purchase: an analysis using SEM. British Food Journal, 121(1), 104–122. https://doi.org/10.1108/bfj-02-2018-0072

Belk, R. W. (1984). Three Scales to Measure Constructs Related to Materialism: Reliability, Validity, and Relationships to Measures of Happiness. ACR North American Advances NA-11.

Bhoomi Magazine. (2019) How millets were displaced across Uttarakhand's hillsides (and why we need to bring them back). Available online: https://bhoomimagazine.org/2019/04/30/how-climate-change-has-affected-the-food-and-farming-systems-in-uttarakhand (accessed on 10 April 2023).

Boswell, T. (2018). Regiocentrism: A New Economic Philosophy. Journal of Economic Perspectives, 32, 39–60.

Bu, X., Nguyen, H., Nguyen, Q., et al. (2020). Traditional or Fast Foods, Which One Do You Choose? The Roles of Traditional Value, Modern Value, and Promotion Focus. Sustainability, 12(18), 7549. https://doi.org/10.3390/su12187549

Chen, J., & Kim, S. (2013). A Comparison of Chinese Consumers' Intentions to Purchase Luxury Fashion Brands for Self-Use and for Gifts. Journal of International Consumer Marketing, 25(1), 29–44. https://doi.org/10.1080/08961530.2013.751796

Cleveland, M., Laroche, M., & Hallab, R. (2013). Globalization, culture, religion, and values: Comparing consumption patterns of Lebanese Muslims and Christians. Journal of Business Research, 66(8), 958–967. https://doi.org/10.1016/j.jbusres.2011.12.018

Das, M., & Mukherjee, D. (2019). Ethnic Identity Impact on Consumers' Ethnocentric Tendencies: The Moderating Role of Acculturation and Materialism. Management and Labour Studies, 45(1), 31–53. https://doi.org/10.1177/0258042x19890245

Delistavrou, A., Krystallis, A., & Tilikidou, I. (2020). Consumers' decision to boycott "unethical" products: the role of materialism/post materialism. International Journal of Retail & Distribution Management, 48(10), 1121–1138. https://doi.org/10.1108/ijrdm-04-2019-0126

Erler, M., Keck, M., & Dittrich, C. (2020). The changing meaning of millets: Organic shops and distinctive consumption practices in Bengaluru, India. Journal of Consumer Culture, 22(1), 124–142. https://doi.org/10.1177/1469540520902508

Fernández-Ferrín, P., & Bande-Vilela, B. (2013). Regional ethnocentrism: Antecedents, consequences, and moderating effects. Food Quality and Preference, 30(2), 299–308. https://doi.org/10.1016/j.foodqual.2013.06.011

Food and Agriculture Organization of the United Nations (FAO). (2023) International Year of Millets 2023. Available online: https://www.fao.org/millets-2023/en (accessed on 10 April 2023).

Friedman, J. (2020). Localism, Regionalism and Globalism: Exploring the Interplay between Local, Regional and Global Economic Processes. International Journal of Political Economy, 49, 74–90.

Ganseforth, S. (2022). Shifting Matter and Meanings in Japanese Seafood Assemblages: Fish as Functional Food Cyborgs and Emblematic Cultural Commodities. Green Letters, 26(1), 56–71. https://doi.org/10.1080/14688417.2021.2023033

Ger, G., Atalay, A., Alkan, A. (2014). Materialism, purchase intention and impulse buying: The moderating role of product involvement. Procedia-Social and Behavioral Sciences, 148, 261–269.

Guo, X. (2013). Living in a Global World: Influence of Consumer Global Orientation on Attitudes toward Global Brands from Developed versus Emerging Countries. Journal of International Marketing, 21(1), 1–22. https://doi.org/10.1509/jim.12.0065

Ham, M., Pap, A., & Stanic, M. (2018). What drives organic food purchasing?—Evidence from Croatia. British Food Journal, 120(4), 734–748. https://doi.org/10.1108/bfj-02-2017-0090

Hultman, M., Kazeminia, A., & Ghasemi, V. (2015). Intention to visit and willingness to pay premium for ecotourism: The impact of attitude, materialism, and motivation. Journal of Business Research, 68(9), 1854–1861. https://doi.org/10.1016/j.jbusres.2015.01.013

Judd, C. M., Smith, E. R., Kidder, L. H. (1991) Research Methods in Social Relations, 6th Ed. Rinehart and Winston, New York.

Kamal, M. S., Sheikh A., Ullah, S. (2020). Materialism and its behavioural consequences in Pakistan: An application of the Theory of Planned Behaviour. International Journal of Research in Business and Social Science, 9, 188–207.

Kasser, T., & Ahuvia, A. (2002). Materialistic values and well-being in business students. European Journal of Social Psychology, 32(1), 137–146. Portico. https://doi.org/10.1002/ejsp.85

Lambert, A. (2017). What is a Likert Scale? Available online: http://www.socialresearchmethods.net/kb/likert.php (accessed on 6 April 2023).

Lee, K. H., Bonn, M. A., & Cho, M. (2015). Consumer motives for purchasing organic coffee. International Journal of Contemporary Hospitality Management, 27(6), 1157–1180. https://doi.org/10.1108/ijchm-02-2014-0060

Lee, W. J., Cheah, I., Phau, I., et al. (2016). Conceptualising consumer regiocentrism: Examining consumers' willingness to buy products from their own region. Journal of Retailing and Consumer Services, 32, 78–85. https://doi.org/10.1016/j.jretconser.2016.05.013

Lee, Y. H., Huang, P. Y., Kim, H. (2016). The effects of regional product origin on purchase intention. International Journal of Retail & Distribution Management, 44, 217–233.

Liao, C. C., Zhang, Y., J. L, Zhou, X. (2018) Materialism and impulse buying: The moderating role of perceived behavioral control. J Bus Res, 86, 186–194.

Liu, H., Wang, X., Cao, Y. (2017). An Overview of Partial Least Squares Structural Equation Modeling (PLS-SEM). Int J Educ Res, 76, 1–13.

Lorenz, B. A., Hartmann, M., & Simons, J. (2015). Impacts from region-of-origin labeling on consumer product perception and purchasing intention – Causal relationships in a TPB based model. Food Quality and Preference, 45, 149–157. https://doi.org/10.1016/j.foodqual.2015.06.002

Mai, X. (2016). Advantages and Disadvantages of PLS-SEM. International Journal of Business Administration, 7, 98–106.

Maichum, K., Parichatnon, S., & Peng, K. C. (2016). Application of the Extended Theory of Planned Behavior Model to Investigate Purchase Intention of Green Products among Thai Consumers. Sustainability, 8(10), 1077. https://doi.org/10.3390/su8101077

Nadiri, H., & Tümer, M. (2010). influence of ethnocentrism on consumers' intention to buy domestically produced goods: an empirical study in north Cyprus. Journal of Business Economics and Management, 11(3), 444–461. https://doi.org/10.3846/jbem.2010.22

Paul, J., & Rana, J. (2012). Consumer behavior and purchase intention for organic food. Journal of Consumer Marketing, 29(6), 412–422. https://doi.org/10.1108/07363761211259223

Paul, J., Modi, A., & Patel, J. (2016). Predicting green product consumption using theory of planned behavior and reasoned action. Journal of Retailing and Consumer Services, 29, 123–134. https://doi.org/10.1016/j.jretconser.2015.11.006

Pestar Bizjak, S., Hristov, H., Košmerl, T., et al. (2018). Influence of consumer regiocentrism on perceived value of wine. British Food Journal, 120(1), 33–43. https://doi.org/10.1108/bfj-03-2017-0181

Phuong, N. N. D., Dat, N. T. (2017). The Effect of Country-of-Origin on Customer Purchase Intention: A Study of Functional Products in Vietnam. The Journal of Asian Finance, Economics and Business, 4, 75–83.

Richins, M. L. (2004). The Material Values Scale: Measurement Properties and Development of a Short Form. Journal of Consumer Research, 31(1), 209–219. https://doi.org/10.1086/383436

Richins, M. L., Dawson, S. (1992). Consumer Values Orientation for Consumerism. Journal of Consumer Research,19, 303–316.

Rizwana, M., Singh, P., Ahalya, N., et al. (2022). Assessing the awareness of nutritional benefits of millets amongst women in Bangalore. British Food Journal, 125(6), 2002–2018. https://doi.org/10.1108/bfj-05-2021-0593

Saleki, R., Quoquab, F., & Mohammad, J. (2021). To buy or not to buy organic food: evaluating the moderating effect of gender using PLS-MGA. International Journal of Business Governance and Ethics, 15(1), 106. https://doi.org/10.1504/ijbge.2021.112334

Shah, P., Dhir, A., Joshi, R., et al. (2023). Opportunities and challenges in food entrepreneurship: In-depth qualitative investigation of millet entrepreneurs. Journal of Business Research, 155, 113372. https://doi.org/10.1016/j.jbusres.2022.113372

Shetty, D., Mehta, A. (2023) Uttarakhand: Millets held the promise of a climate resilient solution, but crops are failing. Available online: https://scroll.in/article/1041728/millets-held-the-promise-of-a-climate-resilient-solution-but-crops-in-uttarakhand-are-failing (accessed on 10 April 2023).

Shimp, T. A., & Sharma, S. (1987). Consumer Ethnocentrism: Construction and Validation of the CETSCALE. Journal of Marketing Research, 24(3), 280–289. https://doi.org/10.1177/002224378702400304

Smith-Spangler, C., Brandeau, M. L., Hunter, G. E., et al. (2012). Are Organic Foods Safer or Healthier Than Conventional Alternatives? Annals of Internal Medicine, 157(5), 348. https://doi.org/10.7326/0003-4819-157-5-201209040-00007

Thelen, S., Ford, J. B., & Honeycutt, E. D. (2006). The impact of regional affiliation on consumer perceptions of relationships

among behavioral constructs. Journal of Business Research, 59(9), 965–973. https://doi.org/10.1016/j.jbusres.2006.03.007

Waehning, N., & Filieri, R. (2021). Consumer motives for buying regional products: the REGIOSCALE. Marketing Letters, 33(2), 215–236. https://doi.org/10.1007/s11002-021-09572-w

Wang, F., Fu, C. H., Chiu, S. H. (2019). Exploring the relationships of materialism, personal values, and life satisfaction among university students: An application of the theory of planned behavior. Sustainability (Switzerland), 11, 4126.

White Peak. (2022). Barnyard Millet & Ragi Potential in Uttarakhand, India. Available online: https://whitepeakconsulting.org/blogs/f/barnyard-millet-ragi-potential-in-uttarakhand-india?blogcategory=Agriculture+ (accessed on 10 April 2023).

Xin, L., & Seo, S. (2019). The role of consumer ethnocentrism, country image, and subjective knowledge in predicting intention to purchase imported functional foods. British Food Journal, 122(2), 448–464. https://doi.org/10.1108/bfj-05-2019-0326

Yazdanpanah, M., & Forouzani, M. (2015). Application of the Theory of Planned Behaviour to predict Iranian students' intention to purchase organic food. Journal of Cleaner Production, 107, 342–352. https://doi.org/10.1016/j.jclepro.2015.02.071

Zepeda, L., & Deal, D. (2009). Organic and local food consumer behaviour: Alphabet Theory. International Journal of Consumer Studies, 33(6), 697–705. Portico. https://doi.org/10.1111/j.1470-6431.2009.00814.x

Zhang, Y., Duysters, G., & Cloodt, M. (2013). The role of entrepreneurship education as a predictor of university students' entrepreneurial intention. International Entrepreneurship and Management Journal, 10(3), 623–641. https://doi.org/10.1007/s11365-012-0246-z

Zhou, Y., Thøgersen, J., Ruan, Y., et al. (2013). The moderating role of human values in planned behavior: the case of Chinese consumers' intention to buy organic food. Journal of Consumer Marketing, 30(4), 335–344. https://doi.org/10.1108/jcm-02-2013-0482