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Design and validation of the brand personality scale in food industries

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In the competitive context in which food industries operate, the brand plays a predominant role in differentiating and establishing an emotional connection with customers. However, despite being an important factor, only some studies analyze brand personality in this context. This research aimed to develop and validate a brand personality scale, a practical tool that brands in the food sector can use to analyze the position of their brands and make correct strategic marketing decisions. An exhaustive literature review was carried out to generate an initial set of items. Based on surveys in person with 510 consumers in three cities in Ecuador, confirmatory and exploratory factor analyses were carried out to extract the relevant factors. The results show a four-dimensional structure: innovative, creative, honest, and rugged. The results obtained support the reliability and validity of the construct, which implies that brands in the food sector can use this scale to analyze the position of their brands and make correct strategic marketing decisions.

KEYWORDS

brand personality, food industries, marketing, design and validation, psychometrics, consumer behavior

Introduction

The consumption of snacks has become deeply integrated into individuals' dietary patterns, forming an essential part of their habits across all life stages. These products not only satisfy the need for quick and convenient nourishment but have also gained significance within modern lifestyles. Furthermore, snack brands face the challenge of distinguishing themselves in an increasingly competitive and saturated market, where brand personality becomes a crucial tool for attracting and retaining consumers.

In the context of the food industry, brand personality refers to the human attributes and traits that consumers associate with a brand (Maneechaeye and Maneechaeye, 2022). This concept has been extensively studied and is recognized as a critical factor in the success of companies (Brakus et al., 2009; Hassan et al., 2023). As competition within the industry intensifies, brand differentiation and innovation become essential for food companies to achieve effective market positioning (Soleimani et al., 2022). Additionally, contemporary consumers increasingly seek products that align with values such as sustainability and health consciousness (Shafiee et al., 2022), requiring brands to adapt swiftly to these emerging trends. Nonetheless, the development of an authentic and appealing brand personality remains a challenge, particularly in light of shifting consumer expectations (Cruz-Tarrillo et al., 2023).

Despite the recognized importance of brand personality in fostering a strong brand-consumer relationship, there are few validated instruments available to measure this construct specifically within the food industry. Most existing scales have been developed in other contexts, such as sporting events (Karagiorgos et al., 2023), World Heritage Sites (Brakus et al., 2009; Hassan et al., 2023), or the health sector (Schätzle et al., 2022). This lack of tailored tools for the food industry has limited the scope of research and the practical application of brand personality-based marketing strategies (Cruz-Tarrillo et al., 2022). Consequently, there is a clear need to develop a scale specific to the food industry that enables brands to accurately assess and comprehend their brand personality.

The objective of this study is to develop and validate a brand personality scale tailored to the food industry, with a particular focus on snacks such as cookies and granola. To achieve this, a thorough review of the literature was conducted, and a methodology was designed, incorporating exploratory and confirmatory factor analyses with a sample of 510 consumers across three cities in Ecuador. These analyses facilitated the identification of key dimensions of brand personality within this sector, ensuring the validity and reliability of the proposed instrument.

This article follows a structured approach, beginning with a comprehensive review of existing literature on brand personality and its relevance to the food industry. The methods and materials employed in the development of the scale are then presented, followed by a detailed account of the primary results. The discussion addresses the implications of these findings, with the article concluding by emphasizing the study's theoretical contributions, limitations, and potential avenues for future research.

Literature review

Brand personality is grounded in social and personality psychology, offering valuable insights into the emotional responses brands evoke in consumers (Sweeney and Brandon, 2006). The development of this concept has relied on frameworks such as the Big Five personality traits, associative network theory, attachment theory, and self-concept theory. These approaches help explain how brands establish symbolic and emotional relationships with consumers, going beyond functional attributes to build identity-based connections (Sprott and Liu, 2016; Vicencio-Ríos et al., 2023).

Psychology plays a vital role in shaping brand personality, as consumers often perceive brands as human-like entities. This anthropomorphizing allows consumers to relate to brands on an emotional and relational level (Oklevik et al., 2020). A key concept in this relationship is the congruence between brand personality and the consumer's self-concept when the brand's perceived image aligns with the consumer's self-image. Studies have shown that this alignment fosters stronger emotional bonds and brand loyalty, moving the relationship beyond transactional value toward identity-based connection (Nienstedt et al., 2012).

Brand personality, conceptualized as the set of human characteristics associated with a brand (Aaker, 1997), has established itself as a central construct in analyzing consumer behavior and brand management. This construct contributes to the understanding of how consumers perceive, interact and develop emotional bonds with brands. However, a critical analysis reveals theoretical and empirical gaps that this study aims to address, especially regarding the structural delimitation in relation to the dimensions proposed in existing frameworks.

Aaker's (1997) initial model of brand personality is composed of five universal dimensions: sincerity, emotion, competence, sophistication, and ruggedness these dimensions have been reproduced and adapted in various cultural contexts (Geuens et al., 2009). However, the literature shows inconsistencies in the stability of these dimensions and that they cannot be applied to other contexts when considering cultural factors, product categories and industry sectors. While some research suggests that these dimensions are valid in Western contexts, others identify new dimensions specific to emerging markets (Das et al., 2012). This lack of consensus suggests a need for more flexible and context-sensitive models. This study addresses that gap by proposing a brand personality scale specifically designed for the food industry.

Understanding how consumers choose products remains a pending agenda in academia and society. As companies strive to attract new consumers, they have extensively used the brand humanization strategy, which seeks to provide a personal identity (Nagpal et al., 2023). In this sense, various studies have been carried out to explain the effect of brand personality on consumer decisions (Rai and Budhathoki, 2023). It has been investigated how this construct can influence consumer choice, seeking to understand which traits and characteristics are most attractive and persuasive to consumers during purchase decisions.

The approach of Aaker (1997) has been widely recognized and used as a solid foundation for understanding and measuring brand personality. Its personality dimensions, such as sincerity, emotion, competence, and sophistication, have been considered fundamental elements to evaluate how consumers perceive and relate to a brand in terms of human characteristics (Mulyanegara and Tsarenko, 2009; Thomas and Sekar, 2008). However, as studies have progressed, some critical voices have emerged regarding the applicability in different sectors and contexts. Some studies argue that certain personality traits may not be relevant or appropriate in certain sectors such as the food industry (Ross, 2008; Sargeant et al., 2008).

In today's global marketplace, brand personality management has become a critical part of the business marketing program (Sung et al., 2009). Multiple investigations have been carried out, in which discrepancies are evident depending on the contexts, indicating that consumers perceive each brand with different personality characteristics (Murase and Bojanic, 2004). These can be influenced by various factors such as advertising strategy, cultural diversity, and the link with the brand.

An individualized perception of brand personality can foster consumers' active involvement in brand communities, strengthening their emotional bond and promoting loyalty and greater (Kumagai and Nagasawa, 2019) purchase intent. This symbolic bonding becomes relevant when consumer self-image aligns with perceived brand attributes, which increases consumer satisfaction and decreases their willingness to switch brands (Le, 2020). The congruence between self-image and brand personality not only reinforces the emotional connection, but also consolidates the positive perception towards the brand, increasing its differentiation in competitive markets. In addition, brand personality strategically contributes to building meaningful relationships with consumers, directly influencing their perception, attitude and purchase decisions (Chuenban et al., 2021).

It is essential to highlight that advertising plays a fundamental role in the formation of the personality of brands. This is because the stimuli in the advertisements contribute to the construction of each brand's unique identity. The persuasion and creativity of the advertisement act as a powerful medium, projecting values, attributes, and characteristics. A very effective strategy within advertising is the Sonic logo, an auditory representation of a brand, such as a melody or

a distinctive sound. Recent studies have explored how a Sonic logo can influence brand personality awareness, providing a multi-sensory experience (Techawachirakul et al., 2023).

The literature has provided relevant empirical evidence that supports the advancement of brand personality dimensioning in various sectors, especially in the sports field, where five-factor models (security, local orientation, authenticity, competitiveness, and enthusiasm) have been proposed to capture the distinctive personality characteristics of these specific brands (Karagiorgos et al., 2023). In addition, other studies have identified several additional relevant factors, including exceptionality, attractiveness, identification, responsibility, and brand relevance (Hassan et al., 2023).

In other studies, a three-dimensional scale composed of effectiveness, relevance, and credibility is shown (Carvalho et al., 2022); kindness, exaggeration, directness, and rugged (Liu et al., 2022); status, warmth, competence, and reliability (Schätzle et al., 2022); contemporary, competent, and calm (Quintal et al., 2021). Other findings reveal that sincerity and sophistication can be compared to the brand personality scale of Aaker (Aaker, 1997). Additionally, dimensions unique to retail brands were identified, such as antipathy, traditionalism, enthusiasm, antagonism, and innovation (Kuo et al., 2022).

Likewise, sincerity, discomfort, and traditionalism are standard dimensions in all cultures. On the other hand, innovation, sophistication, and antagonism are specific dimensions of American culture, while enthusiasm is a particular dimension of Taiwan. Another finding was that it builds a brand personality model through emojis (Moussa, 2021). This model has four dimensions: agreeableness, conscientiousness/openness, extraversion, and neuroticism.

According to studies, the most important traits are likability, topicality, uniqueness, reliability, success, and emotion (Lee et al., 2018; Rutter et al., 2018; Su and Reynolds, 2019). In addition, other important dimensions have been identified, such as cordiality (Ekinci and Hosany, 2006), the upper class, honesty, emotion and rugged (Murphy et al., 2007), kindness, meanness, snobbery, assiduity, conformity, and discretion (D'Astous and Lévesque, 2003), competence, modernity, originality and vitality, sincerity, freshness, fashion, and cordiality (Sahin and Baloglu, 2011).

Similarly, another model seeks to capture the attributes and characteristics that consumers associate with surf-related brands, such as authenticity, health, beauty, safety, and connection to Western culture (Kakitek, 2018). Likewise, there is the issue that focuses on capturing the attributes that consumers associate with sports teams, such as their success in competitions, the talent of their players, the entertainment they provide, the dedication they show, the admiration they generate, and the care they have for their fans (Stadler Blank et al., 2018). In addition, an empirical extension of the brand personality concepts of Halal products was carried out by (Zainudin et al., 2020), previously developed by (Ahmad and Thyagaraj, 2017).

As discussed, understanding how brand personality influences consumer decisions are increasingly relevant. Numerous studies have analyzed this construction, leading to the development of various models and dimensions based on Aaker's (1997) proposal. However, some researchers question its applicability across different cultures and industries. This is where the present study becomes relevant, as there is no evidence of a validated model specifically designed for the food industry, particularly for snack brands such as cookies and granola. This research aims to address that gap by proposing a new model with four dimensions (innovative, creative, honest, and fair),

made up of 18 traits that enable a more accurate assessment of brand personality and support better strategic decision-making.

Materials and methods

The brand personality scale was developed through a rigorous process that consisted of three stages: Creation of the items, collection of data, and verification of the underlying structure (Churchill, 1979; Kim et al., 2012). In the first phase, relevant items were generated through an exhaustive analysis of the existing literature. In the second phase, data was collected through applied surveys. In the third, an exploratory and confirmatory factor analysis was conducted to verify the scale's validity and reliability.

Creation of items

A comprehensive literature review was conducted to obtain appropriate personality traits for snack brands, specifically cookies and granolas. This stage had as its starting point Aaker's initial proposal (Aaker, 1997), which proposed a generic model of brand personality that is widely recognized in scientific academia. However, despite marketing's relevance, the model may need to accurately measure the particular traits of brand personality in the context of snack brands. To address this need, we reviewed studies that have explored brand personality in similar contexts. This allowed us to identify and tailor more relevant and accurate traits for cookie and granola brands.

Design and sample

The instrument used the positivist paradigm, adopting a quantitative methodological perspective and an instrumental design (Ato et al., 2013). The academic literature mentions various sampling procedures; quota sampling was chosen for this study. In this approach, each quota is represented by consumers of cookies and granola from a specific city in Ecuador: Santo Domingo, Quito, and Guayaquil. The inclusion criteria concerning brand personality were being a resident of one of the three cities mentioned above, being a frequent consumer of cookies and/or granolas and being a consumer of modern and/or traditional channels. Soper's (2024) recommendations were considered for the treatment of the sample size. The calculation process considered several critical factors, including the number of observed and latent variables in the proposed scale, an expected effect size ($\lambda = 0.10$), a significance level of $\alpha = 0.05$, and a statistical power of 0.80. Although the minimum sample size per city was 88 consumers per quota, a total of 197 respondents were obtained in Quito, 163 in Santo Domingo, and 150 in Guayaquil, thus reaching a total of 510 respondents.

Data collection

To collect the data, the scale's content had to be validated using four evaluation criteria: sufficiency, coherence, relevance, and clarity. Ratings were assigned to these criteria in categories ranging from 1, indicating not meeting the criterion, to 4, indicating a high level. Five experts, including academics and marketing managers in the food

industry, validated these criteria. Subsequently, Aiken's V coefficient (Penfield and Giacobbi, 2004) was applied to determine content validity. Obtaining the following results:

Coefficient formula $V = \frac{S}{n(c-1)}$, where s is the sum of the scores

minus the minimum number of scores, n is the number of judges, and c is the number of categories. The scores received by the experts are as follows: expert 1 = 4; expert 2 = 4; expert 3 = 3; expert 4 = 3; expert 5 = 4.

$$S = (4 + 4 + 4 + 4 + 4) \Rightarrow S = 20 - 5 = 15 \quad \Rightarrow; \quad \text{so} \\ V = \frac{15}{5(4-1)} \Rightarrow V = \frac{15}{15} \Rightarrow V = 1.000.$$

The data was collected in person. This process involved the research team's physical presence in the strategic cities to collect information directly from the participants. The data collection team in each city comprised six sample takers plus a leader. To guarantee the accuracy of the responses, staff had to be previously trained in administering the survey and approaching the respondent. Likewise, previously organized meeting points were established, such as supermarkets and wineries, where the interaction with the respondents took place. In these places, the previously designed instrument was administered. The approximate duration of the application of the instrument was 15 min, which facilitated efficient data collection. In total, 510 participants were surveyed. Collecting the data in person facilitated the clarification of some participants' doubts in real-time, thus ensuring the quality and integrity of the data.

Likewise, as a prerequisite for completing the survey, participants carefully reviewed the informed consent form in the instrument's introductory section. Additionally, by the precepts established in the 1964 Declaration of Helsinki, as well as in the National Code of Scientific Integrity, it is important to highlight that the participants involved in the present research formally expressed their consent by signing a document that attests to their approval and agreement with the terms and conditions of the study, evidenced by their signature.

A pilot test was carried out in Santo Domingo with 150 respondents to ensure that the scale presents an adequate internal structure. Subsequently, an internal consistency analysis was carried out, determining that the scale is highly reliable for its application since it widely exceeds the threshold of the minimum criteria established in the literature ($\alpha > 0.70$). Based on these positive results, the survey application was extended to Quito and Guayaquil.

Ethical approval

This study was approved by the Ethics Committee of Universidad Peruana Unión, Peru, with ethics approval reference 2023-CEEPG-00168 on August 18, 2023. Written informed consent was obtained from all the participants. The questionnaires were anonymized, and patients were free to opt out of participation in the study whenever they were uncomfortable.

Data analysis

This analysis was broken down into two phases. First, content validation followed four evaluation criteria: sufficiency, coherence, relevance, and clarity. Ratings were assigned to these criteria in categories ranging from 1, indicating not meeting the criterion, to 4,

indicating a high level. Five experts, including academics and managers in the marketing line, validated these criteria. Subsequently, Aiken's V coefficient was applied to determine content validity.

The second phase consisted of factor analysis, for which the use of the SPSS v27 statistical package was essential to determine the validity and reliability of the scale. In the first version, there were 545 data records; however, 35 cases were excluded due to their atypical nature (De Maesschalck et al., 2000), resulting in a total of 510 cases for analysis. The Varimax rotation method and principal axis factoring executed the exploratory factor analysis (Cruz-Tarrillo et al., 2022; Papadimitriou et al., 2019), which allowed us to understand the factorial structure of the scale. Finally, a confirmatory factor analysis was carried out using the AMOS 24 extension to evaluate the overall adequacy of the scale.

Results

When the sample is distributed by sex, it is revealed that 58% of the participants are women, while 42% are men. Regarding educational level, most respondents have secondary education (48.60%), followed by those with higher education (32.40%). The proportion of respondents with primary education (17.30%) is significant but lower in comparison. The presence of respondents with postgraduate studies (1.80%) is relatively low in the sample (see Table 1). On the other hand, the marital status of the respondents shows a majority of singles (52.20%), followed by married (39.40%). The lowest percentages correspond to divorced people (7.80%) and widowers (0.60%). It is worth mentioning that the data were collected in three urban areas: Guayaquil (32.00%), Quito (38.60%) and Santo Domingo (29.40%).

Exploratory factor analysis of the scale

Table 1 shows how exploratory factor analysis was conducted to reveal the underlying structure of the cookie and granola brand personality model, which was composed of 27 items. The value of the Kaiser-Meyer-Olkin (KMO) index was 0.933, exceeding the minimum threshold of 0.50 (Kaiser, 1974), confirming the suitability of the data to perform an exploratory factor analysis. Likewise, Bartlett's test of sphericity yielded a Chi-square of 13008.603 with a p value of 0.000 ($p < 0.001$), indicating that the correlations between the variables subjected to the analysis are statistically significant, as indicated (Pan et al., 2017).

On the other hand, Table 2 shows how the principal axis factorization and Varimax rotation extraction method were used, according to the proposal of Kaiser (1960), to achieve the study's objectives. The final factor structure explains that 69.573% of the total variance exceeds the minimum recommended value of 60%.

Latent structure confirmation

Table 3 shows the results of the quality of fit of the scale; a confirmatory factor analysis was carried out. As a result, $\chi^2 = 527,690$ was obtained, with 126 degrees of Freedom ($\chi^2/df = 4.188$) and a significance of 0.000. The GFI achieved is 0.905, and the AGFI is 0.871; both exceed the threshold of 0.80, indicating a good fit (Sahoo, 2019). On the other hand, it is shown that the RMSEA is 0.079, and the

TABLE 1 Demographic profile of respondents.

Sociodemographic variables	Categories	Frequency	Percentage
Gender	Female	296	58.00%
	Male	214	42.00%
Age	18–30 years	217	43.00%
	31–40 years	149	29.50%
	41–50 years	77	15.20%
	51–60 years	33	6.50%
	> 60 years	29	5.70%
Instructional level	Elementary	88	17.30%
	Secondary	248	48.60%
	University	165	32.40%
	Postgraduate	9	1.80%
Marital status	Single	266	52.20%
	Married	201	39.40%
	Divorced	40	7.80%
	Widowed	3	0.60%
Residence area	Guayaquil	163	32.00%
	Quito	197	38.60%
	Santo Domingo	150	29.40%

Minimum age = 18 years, Maximum age = 83 years, Average age = 35 years.

TABLE 2 Factor structure of the scale.

Personality traits	Factor			
	1	2	3	4
Clever	0.860			
Innovative	0.832			
Attractive	0.832			
Creative	0.765			
Lovely	0.691			
Sincere		0.822		
Clear		0.807		
Reliable		0.711		
Fair		0.689		
Imaginative			0.770	
Exciting			0.687	
Energetic			0.657	
Youth			0.628	
Animated			0.574	
Ruggedness				0.807
Powerful				0.755
Tough				0.615
Close				0.550
Variance	51,352	11,473	7,305	6,003
α Cronbach	0.953	0.853	0.936	0.855
ω McDonald	0.955	0.858	0.938	0.859

TABLE 3 Absolute adjustment values.

Fit measures absolute	Values acceptable	Values obtained
Chi-squared	–	527,690
<i>p</i> -value	< 0.05	0.000
GFI	≥ 0.80	0.905
AGFI	≥ 0.80	0.871
RMSEA	≤ 0.08	0.079
NFI	> 0.90	0.936
RFI	> 0.90	0.922
CFI	> 0.90	0.950
TLI	> 0.90	0.939
IFI	> 0.90	0.950

comparative fit indices (NFI, RFI, CFI, TLI, IFI) exceed the threshold of 0.90, indicating a good overall fit for the model (see [Figure 1](#)).

Convergent and discriminant validation

In [Table 4](#), the results of the convergent and discriminant validation are presented. The composite reliability (CR) values are high and above 0.85, which indicates adequate reliability of the measures for each construct dimension (innovative, creative, honest, rugged). Additionally, the AVE values (of the average variance extracted) are shown, which are generally acceptable because they are all above 0.5, suggesting that there is variability between dimensions.

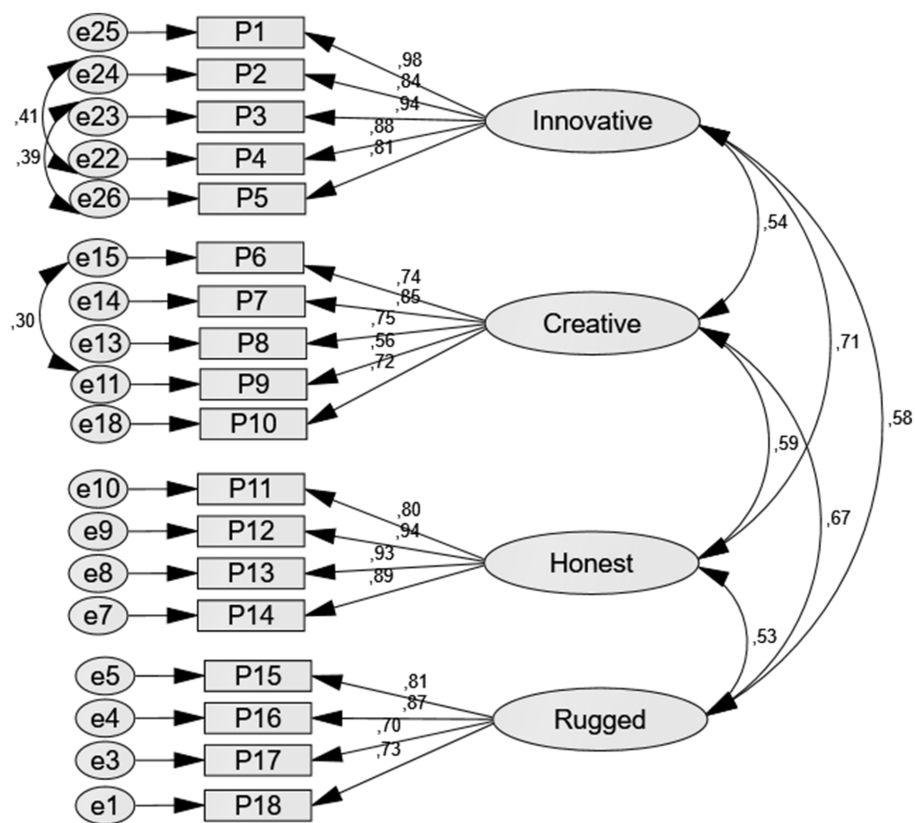


FIGURE 1
Confirmatory model of the scale.

TABLE 4 Discriminant and convergent validation.

Brand personality constructs	CR	AVE	MSV	MaxR (H)	Creative	Rugged	Honest	Innovative
Creative	0.850	0.535	0.450	0.870	0.732			
Rugged	0.862	0.610	0.450	0.876	0.671	0.781		
Honest	0.939	0.793	0.511	0.950	0.593	0.527	0.891	
Innovative	0.951	0.796	0.511	0.973	0.540	0.575	0.715	0.892

CR = Composite reliability, AVE = Average variance extracted, MSV = Maximum Shared Variance, MaxR(H) = Maximum Reliability of H. Discriminant validity is confirmed when the diagonal values are greater than the non-diagonal values.

Therefore, the present values support the distinction between constructs. These results indicate that the latent variables (Creative, Rugged, Honest, Innovative) have adequate psychometric properties and can be considered valid for subsequent applications.

Discussion

Brands are an increasingly important asset in organizations, playing a crucial role in forming and maintaining corporate reputations. This influence is manifested through the image it projects and the perceived value that the brand brings to the target audience. It should be noted that a consistent brand attracts and retains customers. It also strengthens loyalty and trust towards the organization, contributing significantly to its success. Proper management is a crucial factor for the development and competitiveness of the brand.

This research aimed to design and validate a brand personality scale for Snacks (cookies and granola). To do this, the study analyzed 510 consumers of these foods in Santo Domingo, Quito, and Guayaquil, important cities in Ecuador. To determine the consumer profile, variables such as sex, educational level, marital status, and area of residence were considered, which provided a substantial basis for the analysis, emphasizing the relevance of diversity in the field of research.

Likewise, performing the exploratory factor analysis was decisive in revealing the underlying structure of the model, which was finally structured by 18 items grouped into four dimensions, namely: innovative, refers to the perception of the brand with an orientation to change, capable of providing novel solutions to problems. Creative, the consumer perceives the brand as original and with the ability to generate unique proposals to differentiate itself in the market. Honest, customers perceive a brand as fair, sincere, transparent, generating trust in its target audience. Rugged, is associated with a strong and

imposing brand, capable of facing challenges with determination. This was possible because the KMO = 0.933 considerably exceeds the established minimum threshold, indicating that the data are suitable for further exploration. Furthermore, a Chi-square of 13008.603 and a p value of 0.000 ($p < 0.001$) were obtained. In addition, using the extraction method by principal axis factorization and Varimax rotation adds rigor and consistency to the analysis.

On the other hand, the study highlights the explanation of 69.573% of the total variance, which far exceeded the recommended minimum. This high value suggests that the model efficiently captures the complexity and diversity of snack brands' personalities, providing a solid basis for its interpretation and especially its application in organizational and academic contexts.

However, to confirm this four-dimensional factor structure, the study relies on a confirmatory analysis that suggests that the model provides a robust and accurate representation of the observed data. These data reinforce the usefulness and reliability of the designed scale. The study also includes convergent and discriminant validation, the results of which highlight the psychometric solidity of the variables, thus supporting their validity and reliability. The internal consistency, the variability between dimensions, and the ability to distinguish between constructs indicate that the dimensions evaluated (creative, rugged, honest, innovative) are measured reliably and validly. These results reinforce the credibility of the scale used and provide firm foundations for interpreting the results and their application in various contexts.

This research demonstrates an adequate fit in the confirmatory factor analysis model, similar to other studies, which also used the same analysis to design a scale extracting five relevant factors: Confident, Locally Oriented, Authentic, Competitive, and Excited (Karagiorgos et al., 2023). Furthermore, the UNESCO brand personality scale extracts five factors: Exceptionality, Attractiveness, Identification, Responsibility, and Prominence (Hassan et al., 2023). On the other hand, in another study, four dimensions are extracted: Status, Warmth, Competence, and Reliability (Schätzle et al., 2022).

As can be seen, there is important research on brand personality. However, since Aaker's (1997) proposal, studies have focused on identifying different brand personality traits specific to each economic sector. This is because it is only possible to generalize a scale for some sectors since each brand in a specific economic sector projects different trait. The scale proposed in this research is important because no scales measure brand personality in the food industry. This study, therefore, fills a critical gap in the literature and provides a valuable tool for organizations in this sector, allowing them to assess and manage their brand identity and perception more effectively.

On the other hand, scientific literature has played a transcendental role in theoretical construction in various application areas. Contributions have been developed to innovation and loyalty on websites (Wang et al., 2006). In the context of non-governmental organizations, significant scales have been developed, providing valuable practical tools. Furthermore, the development of constructs related to brand personality has been considered in various geographical contexts. In Brazil, research was carried out that resulted in a valuable understanding of the elements that make up the personality of brands in that country (Muniz and Marchetti, 2012). Similarly, the Asian continent (Tsaor et al., 2016) has contributed to developing and understanding brand personality in this region, especially in social networks (Mutsikiwa and Maree, 2019), pioneers in investigating how brand personality constructs manifest in virtual environments.

Likewise, brand personality in the tourism industry has been explored, providing a valuable perspective on how it has manifested itself. An emerging area that shows the exploration of brand personality beyond conventional boundaries is the significant influence of the adoption of public figures on attitudes toward the brand (Singh and Banerjee, 2019); this innovative approach expands the understanding of the intrinsic relationships between celebrity perception and emotional connection to the brand. Derived from the above, this research is invaluable since it contributes to the literature with a new construct that measures brand personality in the snacks segment (cookies and granola), so it could be useful for managers and administrators of said establishments.

The study was conducted in three Ecuadorian cities that, although considered the most representative, could present generalization errors. On the other hand, the study focused on analyzing the personality of cookies and granola, so evaluating different types of snacks could result in erroneous conclusions. Therefore, for future research, it is suggested that other Ecuadorian cities be covered and the sample expanded to have greater precision. The studies must address the snacks that the population consumes the most to guarantee their importance.

Conclusion

The scale design in the food industry represents a significant advance in the measurement of brand personality. This study contributes a new scale with robust psychometric properties, reflecting the traits that brands project toward their consumers. Through an exhaustive development and validation process, it has been possible to ensure accurate measurement of brand personality traits, allowing companies to understand better how their brands are perceived regarding human characteristics. The study's findings demonstrate adequate internal consistency, with alpha values higher than those established in the literature ($\alpha > 0.7$) and adequate validity, both convergent and discriminant. This advancement facilitates a more accurate assessment of brand personality, providing marketing professionals with valuable tools for managing and developing effective brand strategies in the food industry.

However, the research could be limited due to the geographical population studied and the delimitation in which the study was applied due to cultural differences so that a detailed review could be required for future applications in other geographical contexts. Furthermore, the study was developed in the food industry, specifically cookie and snack brands. Therefore, its applicability in other contexts could mean measurement errors. In that sense, the applicability in future research would facilitate discovering the appropriate personality traits of each brand and will allow improvement actions to be taken for the corresponding area. Moreover, researchers are encouraged to continue examining the psychometric properties of the scale. In particular, a cross-cultural validation is recommended to assess its relevance across different regions and cultural groups within Ecuador.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving humans were approved by the Ethics Committee of the Graduate School Of The Universidad Peruana Unión. The studies were conducted in accordance with the local legislation and institutional requirements. The participants provided their written informed consent to participate in this study.

Author contributions

JC-T: Conceptualization, Formal analysis, Investigation, Project administration, Supervision, Validation, Writing – original draft. JI: Investigation, Supervision, Validation, Visualization, Writing – review & editing. CR-R: Formal analysis, Investigation, Software, Validation, Writing – original draft. JT-P: Data curation, Formal analysis, Investigation, Methodology, Validation, Visualization, Writing – original draft. JP-V: Data curation, Formal analysis, Methodology, Validation, Visualization, Writing – original draft.

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