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Social and Psychological Drivers of Purchase Intention Toward Sports Nutrition Products Among Fitness Center Members

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Abstract

This empirical investigation explored the interplay between social and psychological constructs—namely Subjective Norm, Perceived Behavioral Control, Perceived Benefits, Perceived Barriers, Health Consciousness, and Personal Innovativeness—in shaping Purchase Intention (PUIN) toward sports nutrition products (SpNuPr). Drawing on data from 345 valid participants who are fitness center members in Ankara, the study confirmed that all six antecedents exert statistically significant effects on PUIN, thereby reinforcing the theoretical robustness of the proposed model. The findings illuminate the multifactorial nature of consumer decision-making in the context of health-oriented consumption, where both normative pressures and individual dispositions converge to influence behavioral outcomes. By integrating constructs from behavioral theories and consumer psychology, this research contributes to a more granular understanding of the motivational architecture underlying SpNuPr engagement. Future inquiries may extend this framework across diverse cultural and market settings to assess its cross-contextual validity and predictive generalizability.

Keywords:, *Consumer Behavior, Purchase Intention Sports Nutrition Products*

INTRODUCTION

In recent years, the global sports nutrition sector has experienced pronounced expansion, propelled by heightened consumer health awareness, the proliferation of fitness-oriented lifestyles, and escalating interest in products designed to optimize physical performance (Business Research Insights, 2025). Sports nutrition products (SpNuPr) are specifically formulated to support athletic performance, recovery, and overall physical well-being, and include items such as protein powders, amino acids, creatine, pre- and post-workout supplements, energy gels, and electrolyte drinks (Kerksick et al., 2018). Unlike general dietary supplements, SpNuPr are

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designed to meet specific nutrient requirements that optimize training and competition performance, particularly for physically active individuals engaged in structured exercise routines (Burke et al., 2016).

Kerksick et al. (2018) provide a comprehensive classification of SpNuPr, emphasizing their roles in muscle hypertrophy, endurance, and recovery, and outlining how ergogenic aids and dietary supplements are regulated and evaluated for scientific merit. Nieman (2025) highlights the evolution of sports nutrition through advanced research methodologies, noting that specific foods and supplements can significantly influence physiological responses to exercise. Shlykov et al. (2025) further underscore the importance of combining macronutrients and hydration strategies to enhance post-exercise recovery, with supplements such as BCAAs, creatine, and vitamins playing a critical role. Although these studies extensively examine the physiological and functional aspects of SpNuPr, there remains a noticeable gap in the literature concerning the behavioral and psychological factors influencing consumers' purchase intentions (PUIN), particularly among fitness center members.

Fitness center members constitute a key demographic in the sports nutrition market due to their regular engagement in physical activity and heightened awareness of performance-enhancing strategies. These individuals often seek products that complement their workout routines, improve recovery, and support body composition goals (Shlykov et al., 2025). Studies have shown that behavioral intentions among fitness center users are influenced by factors such as perceived quality, perceived value, satisfaction, and E-Lifestyles (García-Fernández et al., 2018). Additionally, demographic variables such as age, gender, and training frequency can moderate their purchasing behavior (Garg & Sharma, 2020). Understanding the motivations and preferences of fitness center members is essential for developing targeted marketing strategies and designing products that align with their expectations and lifestyle (Riseth et al., 2019).

The sports nutrition market has experienced substantial global growth, driven by rising health awareness, increased gym memberships, and demand for performance-enhancing products. In 2025, the global market is projected to reach approximately $52.32 billion, with expectations to surpass $101.14 billion by 2034, growing at a compound annual growth rate (CAGR) of 7.6% (Precedence Research, 2025). Additionally, more than 55% of health-conscious consumers globally report regular use of sports nutrition supplements, with over 42% showing increased demand for plant-based and clean-label products, and approximately 63% of gym-goers in the U.S. regularly

use protein powders for performance and recovery purposes (Global Growth Insights, 2025). In Türkiye, the sports nutrition market is also expanding, with a projected increase of USD 46.6 million and a CAGR of 10.8% in 2025, despite economic challenges such as high unemployment and reduced disposable income (StrategyHelix, 2025). These trends indicate a growing market opportunity and a shifting consumer mindset, making it increasingly important to understand the behavioral drivers—such as PUIN—among fitness center members in Türkiye, who represent a highly engaged and influential segment of this market.

While global trends underscore the growing popularity of SpNuPr, the Turkish context introduces distinctive cultural, economic, and behavioral dynamics that shape consumer decision-making. Culturally, collectivist orientations and strong social norms prevalent in Türkiye amplify the influence of subjective norms within fitness communities, where peer recommendations and group conformity often guide product choices (Hofstede, 2011). Economically, the rapid expansion of the fitness industry coexists with income disparities, making perceived barriers—such as affordability—particularly salient in shaping PUIN. Behaviorally, Turkish consumers exhibit increasing health consciousness driven by urbanization and lifestyle shifts, yet adoption of innovative health products remains cautious, reflecting moderate levels of personal innovativeness compared to Western markets (Euromonitor International, 2023). These contextual characteristics not only justify the inclusion of constructs such as subjective norm, perceived barriers, health consciousness, and personal innovativeness but also underscore the originality of examining their interplay within Türkiye's evolving fitness culture.

The Theory of Planned Behavior (TPB) constitutes a robust and empirically substantiated theoretical paradigm for elucidating consumer behavioral intentions, exhibiting considerable predictive efficacy in forecasting purchasing conduct across diverse consumption contexts (Li & Shan, 2025). While the TPB offers valuable insights into consumer intentions, it falls short in capturing the internal psychological determinants and health-oriented motivations underlying SpNuPr choices; in addressing these limitations, the Health Belief Model (HBM) provides a theoretically sound framework for examining how individual beliefs about health and perceived risks shape consumption behavior (Singh et al., 2025). Accordingly, integrating the TPB and the HBM, complemented by a nuanced examination of health consciousness (HECO) and personal innovativeness (PINN), yields both theoretical enrichment and practical relevance in explaining fitness center members' PUIN toward SpNuPr.

The joint application of the TPB and the HBM in the context of SpNuPr is not merely theoretically appealing but theoretically imperative. TPB offers a robust framework for understanding intention formation through attitudinal, normative, and control beliefs; however, it does not sufficiently capture health-related cognitions such as perceived benefits and perceived barriers, which are central to decisions involving functional health products (Ajzen, 1991). Conversely, HBM explicates health-motivated behaviors but lacks explanatory power regarding social influence and perceived behavioral control—critical factors in consumer contexts where peer norms and self-efficacy shape purchasing decisions (Rosenstock et al., 1988). SpNuPr occupy a unique intersection of health and lifestyle consumption, where both normative pressures (e.g., fitness community expectations) and health-related perceptions (e.g., benefits and barriers) jointly influence PUIN. Therefore, integrating TPB and HBM provides a theoretically necessary approach that captures the multidimensional nature of consumer decision-making in this domain, offering explanatory depth beyond what either model could achieve independently.

Despite the burgeoning market for SpNuPr and the growing consumer interest, extant scholarship has predominantly concentrated on physiological efficacy and functional attributes (Kerksick et al., 2018; Nieman, 2025), leaving behavioral determinants largely underexplored. Specifically, prior research has seldom examined the interplay among social and psychological constructs—such as subjective norms, perceived behavioral control, and health-related cognitions—in shaping PUIN within fitness-oriented populations. This lacuna underscores a critical need for theoretically grounded inquiries that transcend market trends and illuminate the cognitive and normative mechanisms influencing consumer decision-making. Addressing this gap, the present study advances an integrative framework that synthesizes the TPB and the HBM, augmented by HECO and PINN, to explicate the antecedents of PUIN toward SpNuPr.

Despite the increasing prominence of SpNuPr, existing scholarship has primarily emphasized their physiological implications—such as the scientific validity of performance-enhancing claims (Heneghan et al., 2012) and evidence-based recommendations for optimizing exercise outcomes and recovery (Kreider et al., 2010)—while empirical understanding of the determinants shaping consumer PUIN remains notably underexplored. To address this gap, the present study investigates the social and psychological determinants of PUIN toward SpNuPr among fitness center members, employing an integrated framework that combines the TPB, the HBM, and two additional constructs—HECO and PINN. These variables were incorporated to capture

individual differences in health orientation and openness to novel products, thereby offering a more comprehensive understanding of the motivational and cognitive mechanisms driving consumption behavior. This study contributes to the existing literature by introducing a theoretically enriched framework that integrates the TPB, the HBM, HECO, and PINN to examine the social and psychological drivers of PUIN toward SpNuPr among fitness center members in Türkiye. This multidimensional approach offers a nuanced understanding of the complex interplay between belief-based, motivational, and cognitive factors, yielding both actionable insights for industry practitioners and a robust foundation for future research in health-related consumer behavior.

Although prior scholarship acknowledges the relevance of psychological constructs in health-related consumption, the literature on SpNuPr remains fragmented and theoretically narrow. Specifically, applications of the TPB and the HBM in this domain are markedly underrepresented, with most studies privileging aspects of SpNuPr (Shlykov et al., 2025). Furthermore, empirical inquiries rarely focus on fitness center members—a population characterized by heightened health orientation and product exposure—despite their strategic importance for understanding PUIN dynamics. Existing findings are also inconsistent: while some studies report significant associations between HECO and PUIN (Li & Shan, 2025), others find no significant effects (Michaelidou & Hassan, 2008). These gaps underscore the need for a comprehensive, theoretically informed framework that systematically examines the social and psychological drivers of purchase intention within fitness-oriented cohorts.

To address these gaps, this review adopts a mechanism-integrative perspective that synthesizes the complementary functions of the TPB and the HBM. TPB emphasizes the roles of Subjective Norm—shaped by socially visible behaviors in fitness settings—and Perceived Behavioral Control, which reflects individuals' perceived capacity to incorporate supplementation into their routines (Ajzen, 1991). HBM contributes the evaluative dimensions of Perceived Benefits and Perceived Barriers, forming a health-risk and utility calculus central to SpNuPr decisions (Rosenstock, 1974; Champion & Skinner, 2008). Additionally, HECO amplifies responsiveness to benefit cues, while PINN reduces hesitation toward novel products (Agarwal & Prasad, 1998; Michaelidou & Hassan, 2008). Taken together, these constructs offer a theoretically enriched framework in which social influence, volitional capacity, and health-related evaluations jointly shape purchase intention among fitness-center members.

Theory of Planned Behavior (TPB)

The TPB, proposed by Ajzen (1991), is a widely utilized framework for predicting and explaining human behavior across various contexts, including health and consumer decision-making. Within the framework of the TPB, behavioral intention is conceptualized as the immediate antecedent of enacted behavior, with its formation contingent upon three fundamental dimensions—namely, evaluative attitudes toward the act, normative pressures exerted by significant referents, and perceived volitional control over the behavior. Collectively, these constructs influence intention, which in turn predicts behavior, making TPB a robust model for understanding volitional actions such as purchasing SpNuPr.

Some studies have applied TPB in sports and nutrition contexts. For instance, Haubenstricker et al. (2023) examined dietary supplement use among competitive women bodybuilders and found that attitudes, subjective norms, and perceived behavioral control explained 38% of the variance in intention, and that intention significantly predicted supplement use. Similarly, El Khoury et al. (2019) developed and validated a TPB-based questionnaire to assess determinants of dietary supplement use among athletes and non-athletes, confirming the relevance of TPB constructs in predicting supplement-related behaviors.

Taken together, TPB locates proximal intention antecedents in referent influence subjective norm and perceived behavior control. However, in product categories like SpNuPr, what individuals believe they can and should do is co-shaped by their appraisals of outcomes and constraints. Here, HBM is complementary rather than competing: perceived benefits can enrich the evaluative substrate of TPB's attitudinal and control beliefs, whereas perceived barriers often map onto control impediments (e.g., cost, access) that depress perceived behavior control (Ajzen, 1991; Champion & Skinner, 2008). Thus, an integrated lens treats HBM's benefit–barrier calculus as content-specific inputs that structure the belief system through which TPB's normative and control processes operate in fitness settings (Armitage & Conner, 2001).

Health Belief Model (HBM)

The HBM, introduced by Rosenstock in the mid-20th century, is a theoretical paradigm that elucidates health-related behavioral patterns through individuals' subjective appraisals of susceptibility, severity, and anticipated benefits of preventive actions (Rosenstock, 1974). The model comprises six key constructs: perceived susceptibility, perceived severity, perceived benefits (PEBE), perceived barriers (PEBA), cues to action, and self-efficacy. These components

interact to shape health behavior decisions, positing that individuals are more likely to adopt preventive or health-promoting behaviors when they perceive themselves at risk of a serious condition, believe in the efficacy of the recommended action, and feel confident in their ability to perform it (Boslaugh, 2024).

HBM has been applied in nutrition and fitness contexts to understand consumer choices. For example, Espeño et al. (2024) integrated HBM with TPB to analyze fitness supplement consumption, finding that PEBE and PEBA significantly influenced health motivation and behavioral intentions. Similarly, Deshpande et al. (2008) used HBM to predict healthy eating habits among college students, confirming that perceived susceptibility and PEBE were strong predictors of dietary behavior. These findings underscore the utility of HBM in explaining psychological drivers behind nutrition-related decisions, particularly in populations engaged in fitness activities.

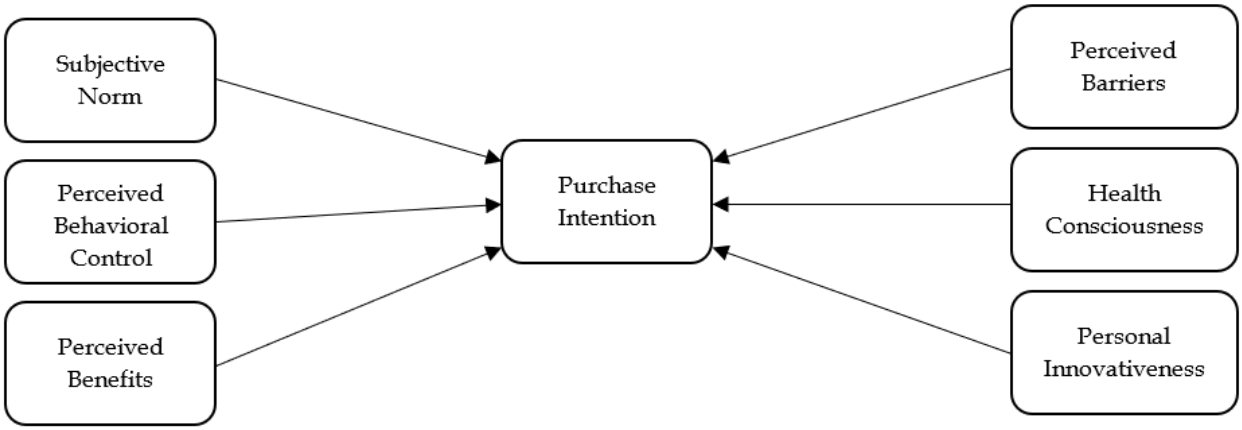
Research Model and Hypotheses

This study examines six antecedents of purchase intention toward sports nutrition products among fitness center members, grounded in the TPB, the HBM, and innovation adoption literature, with the selected constructs—Subjective Norm (SUNO), Perceived Behavioral Control (PBCO), Perceived Benefits (PEBE), Perceived Barriers (PEBA), HECO, and PINN—reflecting a multidimensional approach to understanding the cognitive and social determinants of consumer decision-making (Figure 1). Attitude, although a core TPB construct, was excluded because it conceptually overlaps with PEBE and PEBA, thereby introducing redundancy in the model. Similarly, perceived susceptibility and perceived severity from the HBM were not included, as these constructs primarily relate to illness-avoidance behaviors rather than performance-enhancing product decisions. Limiting the model to the theoretically relevant HBM and TPB components ensured conceptual precision and alignment with the nature of SpNuPr consumption.

To strengthen the theoretical foundation, it is essential to articulate why each construct is expected to influence PUIN toward SpNuPr. SUNO, derived from TPB, reflects perceived social pressure to engage in a behavior; in fitness communities, normative expectations often shape product adoption (Ajzen, 1991). PBCO captures an individual's confidence in their ability to purchase and use SpNuPr under facilitating or constraining conditions, making it a critical determinant of intention. From HBM, PEBE, and PEBA represent cognitive evaluations of product utility and

obstacles; consumers who perceive greater benefits and fewer barriers are more likely to form favorable purchase intentions (Rosenstock et al., 1988). HECO, as an additional construct, signifies a proactive orientation toward health maintenance, which amplifies motivation to adopt products aligned with wellness goals (Michaelidou & Hassan, 2008). Finally, PINN reflects openness to novel solutions, fostering willingness to try specialized products such as sports nutrition supplements (Agarwal & Prasad, 1998). Collectively, these constructs operate as distinct yet complementary antecedents, offering a multidimensional explanation of PUIN formation.

Figure 1
Research Model



SUNO refers to the perceived social pressure to engage in or abstain from a specific behavior (Ajzen, 1991). Within the TPB, SUNO has consistently emerged as a salient predictor of behavioral intention, particularly in contexts where social influence is pronounced. Empirical evidence demonstrates that SUNO significantly predicts PUIN for organic foods (Lamichhane et al., 2023) and dietary supplements among athletes (Espeño et al., 2024). These findings underscore the role of normative beliefs in shaping consumer decisions regarding health-related products.

PBCO denotes an individual's evaluation of the ease or difficulty associated with performing a given behavior, reflecting both internal capabilities and external constraints (Ajzen, 1991). As a central construct in TPB, PBCO has been shown to exert a direct and indirect influence on intention across diverse consumption domains. For instance, studies confirm its predictive validity in supplement consumption behavior (Espeño et al., 2024) and exercise-related decisions (Armitage & Conner, 2001), suggesting that higher perceived control enhances the likelihood of engaging in health-promoting behaviors.

PEBE represent the anticipated positive outcomes of adopting a behavior, such as improved health, enhanced performance, or accelerated recovery, and constitute a core dimension of the HBM (Champion & Skinner, 2008). Prior research indicates that PEBE significantly influences health-related choices, including the use of functional foods and dietary supplements (Espeño et al., 2024). Consumers who recognize tangible advantages of SpNuPr are more inclined to develop favorable PUIN, reinforcing the motivational role of benefit appraisal.

PEBA encompasses the perceived obstacles—such as cost, taste, or potential side effects—that may impede engagement in a behavior (Champion & Skinner, 2008). Within the HBM framework, PEBA are inversely associated with behavioral intention, as documented in studies examining supplement use and healthy eating behaviors (Deshpande et al., 2008). When consumers perceive fewer barriers, their propensity to purchase SpNuPr increases, highlighting the deterrent effect of perceived constraints on health-related consumption.

HECO reflects an individual's awareness of and concern for personal health and well-being, influencing proactive engagement in health-promoting behaviors (Li & Shan, 2025; Pan et al., 2025). Empirical evidence links health consciousness to purchase intention for organic and functional foods, suggesting that health-oriented consumers exhibit stronger preferences for products aligned with their wellness goals (Li & Shan, 2025; Pan et al., 2025). In the context of SpNuPr, heightened HECO is expected to amplify PUIN by reinforcing the perceived relevance of such products to personal health objectives.

PINN refers to an individual's predisposition to adopt novel products or technologies and serves as a critical determinant of adoption behavior (Jeong & Choi, 2022). Studies reveal that consumers with high innovativeness are more likely to exhibit favorable attitudes and intentions toward innovative offerings, including health-related products (Al-Jundi et al., 2019). In sports nutrition markets characterized by frequent product innovation, PINN is anticipated to positively influence PUIN by fostering openness to new formulations and delivery systems.

HECO and PINN warrant particular emphasis among fitness center members. Fitness enthusiasts typically exhibit heightened awareness of health-related behaviors and actively seek products that align with their wellness objectives (Li & Shan, 2025). This predisposition amplifies the salience of HECO as a motivational driver of PUIN toward sports nutrition products. Moreover, fitness centers often serve as hubs for emerging trends in dietary supplementation, creating an environment where PINN—the propensity to adopt novel solutions—becomes a decisive factor

in product adoption (Agarwal & Prasad, 1998). Members who are both health-conscious and innovation-oriented are more likely to perceive sports nutrition products as congruent with their lifestyle aspirations, thereby forming stronger PUIN. These constructs are thus theoretically indispensable for explaining consumer behavior in this niche segment.

Based on these theoretical foundations and empirical findings, the following hypotheses are proposed to examine the relationships among the SUNO, PBCO, PEBE, PEBA, HECO, PINN and PUIN in SpNuPr:

- H1: SUNO positively influences PUIN toward SpNuPr.
- H2: PBCO positively influences PUIN toward SpNuPr.
- H3: PEBE positively influences PUIN toward SpNuPr.
- H4: PEBA negatively influences PUIN toward SpNuPr.
- H5: HECO positively influences PUIN toward SpNuPr.
- H6: PINN positively influences PUIN toward SpNuPr.

METHODS

Participants

To empirically investigate the social and psychological determinants influencing PUIN toward SpNuPr, a structured survey was administered in Ankara, Türkiye. The data collection process was conducted in September 2025 among fitness center members, regardless of whether they had previously consumed SpNuPr, as the study focused on examining intention-forming mechanisms rather than differentiating between experienced and inexperienced users. A total of 371 responses were initially collected through convenience sampling, and responses with substantial missing values or patterned responses indicating inattentiveness were excluded. After this screening, 345 valid responses remained and were deemed suitable for further statistical analysis. The final sample size exceeds the minimum threshold recommended for structural equation modeling (SEM), ensuring adequate statistical power for hypothesis testing (Kline, 2015). Ethical considerations were strictly observed throughout the data collection process. Participation in the study was entirely voluntary, and respondents were unequivocally assured of the strict confidentiality and anonymity of their disclosures. Participants provided demographic

information—including age, gender, educational attainment, and physical activity level—which offered a foundational overview of the sample and is summarized in Table 1.

Table 1
Participant Demographics

Factor	Characteristics	n	%
Gender	Male	191	55.36%
	Female	154	44.64%
Age	18-26	96	27.83%
	27-35	103	29.86%
	36-44	75	21.74%
	45-53	51	14.78%
	>53	20	5.80%
Education	High school and below	101	29.28%
	Associate degree	61	17.68%
	Bachelor's degree	132	38.26%
	Master's degree or above	51	14.78%
Physical Activity Level	Sedentary (little or no exercise)	36	10.43%
	Lightly active (1–3 days/week)	141	40.87%
	Moderately active (sports 3–5 days/week)	120	34.78%
	Very active (sports 6–7 days/week)	48	13.91%

Data Collection Process

The present study employed a cross-sectional research design, which is appropriate for examining associations between social and psychological factors and PUIN at a single point in time. Data were collected through a survey, as this approach enables the systematic collection of self-reported information from a relatively large sample within a defined population. The survey was administered face-to-face in fitness centers, where respondents completed the questionnaire under researcher supervision to ensure clarity and prevent external influence on responses. Data collection occurred in a controlled environment, with standardized instructions provided to all participants. To mitigate potential common method bias arising from the use of a single self-report questionnaire, several procedural remedies were incorporated into the data collection process. Respondents were assured of anonymity and confidentiality, items were arranged to minimize response patterning, and neutral wording was used to reduce social desirability tendencies. These procedures collectively helped reduce the likelihood of systematic measurement bias. To enhance replicability, the methodological procedures—including scale adaptation steps, expert evaluations, and controlled data-collection conditions—were documented in sufficient detail to enable implementation in comparable cultural contexts. By explicitly outlining the translation workflow, item review criteria, survey administration process, and procedural remedies to minimize bias, the study provides a transparent roadmap for future researchers.

The sampling strategy adopted was convenience sampling, primarily due to accessibility and feasibility considerations. The participants comprised 345 members of fitness centers located in Ankara, Türkiye, who voluntarily agreed to participate in the study. This non-probability sampling technique was deemed suitable for exploratory research where representativeness is not the primary objective but rather the identification of underlying patterns and relationships.

The primary data collection instrument was a structured questionnaire, designed to capture demographic characteristics, social influences, psychological drivers, and PUIN toward SpNuPr. The questionnaire consisted of multiple sections, including items measured on Likert-type scales, which are widely recognized for assessing attitudes and perceptions. Prior to administration, the instrument underwent content validation by subject-matter experts to ensure clarity and relevance.

The survey instrument was developed based on validated scales from prior literature and was designed to capture key constructs such as SUNO, PBCO, PEBE, PEBA, HECO, PINN and PUIN. The survey instrument was structured into two sections: the first captured participants' demographic characteristics (e.g., age, gender, education level, and physical activity), while the second comprised items measuring the seven core constructs of the research model. In the finalized measurement scale, each construct was operationalized using 3 to 5 items measured on a 7-point Likert scale (1 = "Strongly Disagree" to 7 = "Strongly Agree"), enabling precise quantification of respondents' attitudinal evaluations. The measurement items for the seven constructs were adapted from validated scales in prior research: SUNO from Ajzen (1991), PBCO and PUIN from Li and An (2025), PEBE and PEBA from Espeño et al. (2024), HECO from Li and Shan (2025), and PINN from De Kervenoael et al. (2021). Because constructs such as SUNO, HECO, and PEBE can vary across cultures, domain experts evaluated each construct to ensure that its theoretical meaning was preserved within the Turkish context. This assessment focused on cultural transferability rather than linguistic accuracy alone, and feedback from the pilot study confirmed that participants interpreted the items consistently with their original conceptual definitions. These steps ensured that the adapted scales maintained conceptual equivalence with the source instruments.

The measurement instrument was constructed by drawing upon previously validated scales; however, the adaptation process required several methodological considerations to ensure conceptual equivalence within the Turkish context. As recommended by cross-cultural adaptation

guidelines (Beaton et al., 2000), all scale items underwent a systematic translation and back-translation procedure. Initially, the original English items were translated into Turkish by two bilingual experts with domain-specific expertise. A separate bilingual academic—blinded to the initial translation—then performed a back-translation into English to verify semantic, idiomatic, and conceptual consistency across versions. Discrepancies identified during this comparison were resolved through consensus meetings.

In addition to the translation and back-translation procedures, further steps were taken to ensure the linguistic and contextual appropriateness of the scales originally developed in non-Turkish settings. Each construct was examined to determine whether validated Turkish versions existed; where suitable versions were available, they were reviewed for conceptual alignment, and when such versions were absent or inconsistent with the study's theoretical framework, the items were translated directly from the original English sources following established cross-cultural adaptation guidelines (Beaton et al., 2000). Expert evaluations and a small pilot test were conducted to assess clarity, cultural relevance, and semantic accuracy, resulting in minor linguistic refinements that preserved the original constructs' meaning. These procedures ensured that all measurement items were linguistically accurate, culturally appropriate, and conceptually equivalent to their original formulations. To further strengthen content validity, the adapted items were evaluated by a panel of three experts specializing in consumer behavior, health psychology, and sports nutrition. Each expert reviewed the items using criteria such as semantic clarity, cultural relevance, and theoretical alignment, leading to minor refinements that preserved the constructs' original meaning. This structured expert assessment ensured that the adapted scales remained both culturally appropriate and conceptually robust.

Minor linguistic refinements were implemented to enhance clarity and cultural appropriateness while preserving the constructs' theoretical meaning. No substantive modifications were made that would alter the psychometric nature of the original items. To further establish contextual validity, a pilot test was conducted with a small group of fitness center members (n = 30), and minor wording adjustments were made based on their feedback. These procedures ensured that the adapted instrument maintained fidelity to the original scales while achieving cultural and linguistic suitability for Turkish respondents.

All procedures adhered to ethical research standards, including voluntary participation and informed consent. The data collection process was completed over a defined period without any

experimental manipulation, thereby preserving the naturalistic context of consumer attitudes and behaviors.

Data Analysis

Data analysis was conducted using IBM SPSS Statistics 26 and AMOS 24, employing a two-step structural equation modeling (SEM) approach. First, the measurement model was assessed to establish convergent validity and discriminant validity through factor loadings, Average Variance Extracted (AVE), Composite Reliability (CR), Fornell-Larcker criterion and Heterotrait–Monotrait ratio (HTMT). Although the CFA and reliability coefficients indicate satisfactory psychometric performance, these statistical outcomes were interpreted in conjunction with the detailed cultural and procedural adaptation steps implemented prior to data collection. The measurement process—comprising translation, expert review, contextual evaluation, and pilot testing—served as the methodological foundation, ensuring the constructs were assessed accurately in the Turkish context. Thus, the reported psychometric results reflect not only statistical adequacy but also the rigor of a systematically designed and contextually validated measurement procedure.

Second, the structural model was estimated to test the hypothesized relationships, with model fit evaluated using indices such as CFI, TLI, RMSEA, and GFI. Path coefficients and significance levels were examined to determine the strength and direction of effects, ensuring both measurement robustness and structural integrity in the interpretation of findings.

RESULTS

To assess the normality of the data, skewness and kurtosis values were examined for all seven variables. The results indicated that the values for both skewness and kurtosis fell within the acceptable thresholds—specifically, skewness between ±2 and kurtosis between ±7—suggesting that the data met the assumptions of univariate normality (Hair et al., 2010; Kline, 2015). To assess the potential presence of common method bias, Harman's single-factor test was conducted by constraining all items to load onto a single unrotated factor. The first factor accounted for 26.23% of the total variance, which is below the commonly accepted threshold of 50% (Podsakoff et al., 2003), indicating that no single factor dominated the variance structure. Thus, common method bias was not considered a substantive threat to the validity of the findings.

Measurement Model

To evaluate the psychometric properties of the constructs, a confirmatory factor analysis (CFA) was conducted. The measurement model was assessed for internal consistency, convergent validity, and discriminant validity. The measurement model demonstrated acceptable fit, with CMIN = 371.722, CMIN/DF = 1.437, GFI = 0.923, CFI = 0.976, TLI = 0.972, and RMSEA = 0.041, all falling within recommended thresholds for structural equation modeling (Hair et al., 2010; Hu & Bentler, 1999).

Convergent validity was established based on three criteria: (1) standardized factor loadings exceeded 0.50, (2) composite reliability (CR) values were greater than 0.70, and (3) average variance extracted (AVE) values surpassed the threshold of 0.50 (Hair et al., 2010). In this study, factor loadings ranged from 0.659 (PEBE4) to 0.887 (HECO2), CR values ranged from 0.780 (PINN) to 0.897 (PUIN), and AVE values ranged from 0.512 (PEBA) to 0.686 (PUIN), indicating that the constructs demonstrated satisfactory internal consistency and convergent validity (Table 2). Internal consistency reliability was further supported by Cronbach's Alpha values, which ranged from 0.781 (PINN) to 0.897 (PUIN), exceeding the commonly accepted threshold of 0.70 (Nunnally & Bernstein, 1994), thereby confirming the reliability of the measurement scales.

Table 2
Result of Measurement Model

Variables	Items	β	Cronbach's Alpha	CR	AVE
Subjective Norm	SUNO1	0.735	0.825	0.829	0.619
	SUNO2	0.824			
	SUNO3	0.800			
Perceived Behavioral Control	PBCO1	0.707	0.819	0.820	0.532
	PBCO2	0.750			
	PBCO3	0.745			
	PBCO4	0.717			
Perceived Benefits	PEBE1	0.733	0.816	0.819	0.532
	PEBE2	0.769			
	PEBE3	0.753			
	PEBE4	0.659			
Perceived Barriers	PEBA1	0.726	0.837	0.840	0.512
	PEBA2	0.732			
	PEBA3	0.678			
	PEBA4	0.739			
	PEBA5	0.704			
Health Consciousness	HECO1	0.813	0.840	0.843	0.644
	HECO2	0.887			
	HECO3	0.698			
Personal Innovativeness	PINN1	0.738	0.781	0.780	0.542
	PINN2	0.729			
	PINN3	0.743			
Purchase Intention	PUIN1	0.825	0.896	0.897	0.686
	PUIN2	0.852			
	PUIN3	0.851			
	PUIN4	0.785			

Discriminant validity was evaluated employing the Fornell–Larcker criterion, which stipulates that the square root of each construct's (SUNO, PBCO, PEBE, PEBA, HECO, PINN, PUIN) AVE must exceed its highest correlation with any other latent construct within the measurement model. The results confirmed that all constructs (SUNO, PBCO, PEBE, PEBA, HECO, PINN, PUIN) met this criterion, thereby supporting discriminant validity (Fornell & Larcker, 1981) (Table 3). Moreover, discriminant validity was further assessed using the HTMT and all HTMT values remained below the recommended threshold of 0.85 (Henseler et al., 2015), thereby confirming discriminant validity.

Table 3
Discriminant Validity

Variables	SUNO	PBCO	PEBE	PEBA	HECO	PINN	PUIN
SUNO	**0.787**						
PBCO	0.305	**0.729**					
PEBE	0.299	0.261	**0.729**				
PEBA	-0.100	-0.141	-0.224	**0.716**			
HECO	0.160	0.106	0.093	-0.128	**0.802**		
PINN	0.541	0.395	0.385	-0.231	0.218	**0.736**	
PUIN	0.415	0.364	0.514	-0.458	0.264	0.606	**0.828**

Structural Model

In addition to reporting the fit indices of the measurement model, the structural model was also evaluated using commonly recommended goodness-of-fit criteria, and the structural model demonstrated acceptable fit, with values of $\chi^2/df = 1.923$, CFI = 0.931, TLI = 0.923, and RMSEA = 0.052, all falling within the recommended thresholds for SEM model adequacy. The structural model was tested to evaluate the influence of six antecedents—SUNO, PBCO, PEBE, PEBA, HECO, and PINN—on PUIN toward SpNuPr. The results indicated that all hypothesized paths were statistically significant; specifically, SUNO ($\beta_{SUNO\text{-}PUIN} = 0.150$; $p = 0.005$), PBCO ($\beta_{PBCO\text{-}PUIN} = 0.136$; $p = 0.012$), PEBE ($\beta_{PEBE\text{-}PUIN} = 0.331$; $p<0.001$), HECO ($\beta_{HECO\text{-}PUIN} = 0.143$; $p = 0.006$), and PINN ($\beta_{PINN\text{-}PUIN} = 0.373$; $p<0.001$) were positively associated with PUIN, while PEBA ($\beta_{PEBA\text{-}PUIN} = -0.350$; $p<0.001$) exhibited a significant negative relationship (Table 4). The model explained 43.2% of the variance in PUIN ($R^2 = 0.432$), demonstrating substantial explanatory power (Hair et al., 2010).

Table 4
Hypothesis Results

Hypothesis	Relationship	β	t-values	p-values	Decision
1	SUNO -> PUIN	0.150	2.812**	.005	Accept
2	PBCO -> PUIN	0.136	2.523*	.012	Accept
3	PEBE -> PUIN	0.331	5.769***	.001	Accept
4	PEBA -> PUIN	-0.350	-6.055***	.001	Accept
5	HECO -> PUIN	0.143	2.723**	.006	Accept
6	PINN -> PUIN	0.373	6.193***	.001	Accept

Note. *p < .05, ** p < .01, ***p < .001

DISCUSSION

SpNuPr constitutes a category of dietary adjuncts specifically formulated to synergize with an individual's nutritional regimen and physical activity, aiming to optimize physiological health, athletic performance, and overall fitness outcomes (Nieman, 2025). This empirical investigation sought to elucidate the determinants underpinning consumers' PUIN regarding SpNuPr, and a structured questionnaire was administered to a sample of 345 respondents. The analytical framework integrated constructs derived from the TPB and the HBM, augmented by two additional dimensions—HECO and PINN—thereby offering a multidimensional perspective on consumer decision-making in the context of SpNuPr consumption. It should be noted that the cross-sectional design of this study does not permit causal inference. Accordingly, the associations identified between the predictors and PUIN are interpreted as relational rather than causal patterns. Any directional explanations offered in this discussion reflect theoretical expectations rather than empirical confirmation of causality.

First, SUNO were observed to have a significant impact on the PUIN of SpNuPr, and this outcome aligns with extant literature, reinforcing the notion that SUNO function as a salient socio-cognitive mechanism influencing consumer behavior in the domain of organic food consumption (Lamichhane et al., 2023). The data reveal that individuals who perceive social endorsement from their family, close friends, or other significant figures are more likely to form a deliberate intention to engage in purchasing behavior. For instance, when respondents perceive that their family believes they should buy SpNuPr they are more inclined to plan future purchases and exhibit a willingness to pay more for such products. Likewise, the perceived expectations of close friends and other important social actors appear to reinforce the consumer's resolve to increase their consumption of SpNuPr, highlighting the salience of interpersonal influence in health-related consumption contexts.

Second, the analysis further substantiates that PBCO significantly influences PUIN toward SpNuPr, and this outcome is consistent with the foundational premises of the TPB, which posits that individuals' perceptions of control over a behavior are instrumental in shaping their intentions to perform that behavior (Ajzen, 1991). The findings suggest that when consumers feel confident in their ability to access and afford SpNuPr, they are more likely to develop a firm intention to purchase it. Specifically, respondents who expressed confidence in their ability to purchase such products at any time and believed they possessed the necessary resources, time,

and willingness demonstrated a stronger inclination to plan future purchases and pay more for these products.

The results also indicate that PEBE has a significant and positive impact on PUIN toward SpNuPr, and this finding is consistent with extant literature suggesting that consumers' health-related beliefs and perceived utility of functional products are critical determinants of their purchasing behavior (Champion & Skinner, 2008). The data reveal that individuals who associate SpNuPr with tangible health improvements are more likely to form strong purchase intentions. Specifically, respondents who believe that regular consumption of these products contributes to disease prevention and enhances overall well-being tend to be more willing to buy and invest in them. Furthermore, the perception that SpNuPr products improve both physical appearance and bodily sensations appears to reinforce consumers' future-oriented purchasing plans, underscoring the motivational role of anticipated health and aesthetic outcomes in shaping consumption behavior.

The results of the study indicate that PEBA exerts a significant negative effect on PUIN toward SpNuPr and this finding is congruent with extant literature suggesting that structural and psychological impediments can substantially hinder consumer engagement with health-related products (Champion & Skinner, 2008). The data reveal that logistical constraints—such as the distance to retail outlets and the limited availability of accessible purchase locations—diminish consumers' likelihood of intending to buy SpNuPr. Furthermore, economic concerns, particularly the perception that such products are prohibitively expensive, appear to suppress consumers' willingness to invest in them. Psychological factors also play a critical role; a lack of motivation and feelings of embarrassment associated with consumption were found to undermine PUIN, suggesting that internalized stigma and low self-efficacy may act as deterrents. Collectively, these findings underscore the multifaceted nature of PEBA and their capacity to obstruct the formation of positive behavioral intentions in the context of SpNuPr consumption.

The results also indicate that HECO exerts a significant positive effect on PUIN toward SpNUPr, and this finding is consistent with extant literature suggesting that individuals who exhibit heightened awareness and concern for their physical well-being are more inclined to engage in health-promoting consumption behaviors (Li & Shan, 2025; Pan et al., 2025). The data reveal that respondents who are deeply concerned about their physical health and frequently contemplate health-related matters are more likely to form strong intentions to purchase SpNUPr. Notably,

individuals who carefully select such products to ensure good health demonstrate a pronounced willingness to buy more and invest financially in these items, reflecting a deliberate, health-driven consumption pattern.

The findings further reveal that PINN has a significant and positive impact on PUIN toward SpNuPr and this result is congruent with prior studies suggesting that individuals with a high degree of innovativeness are more inclined to explore and adopt novel products, particularly in domains related to health and wellness (Al-Jundi et al., 2019). The data indicate that consumers who are typically early adopters and who actively seek out new SpNuPr and recipes exhibit a stronger PUIN for such items. Specifically, those who enjoy experimenting with different product options and proactively seek innovative formulations are more likely to plan future purchases and to express a willingness to invest in these products. This underscores the role of intrinsic curiosity and openness to novelty in driving consumption behavior within the SpNuPr.

The relatively strong negative effect of PEBA and the comparatively prominent role of PINN warrant additional interpretation beyond their consistency with prior literature. One plausible explanation is that the economic volatility and price sensitivity in Türkiye heighten consumers' perceptions of financial, informational, or trust-related barriers, making these obstacles disproportionately salient in shaping PUIN. Conversely, the strong influence of PINN may reflect the growing adoption of digital health platforms, influencer-driven fitness content, and the expanding supplement culture among younger, urban consumers, which collectively encourage experimentation with novel products. These dynamics suggest that PEBE and PINN may operate not only as cognitive antecedents but also as proxies for broader socio-economic and lifestyle trends. Future research could explore whether these relationships vary across demographic subgroups or levels of fitness experience to further unpack the unexpected strength of these predictors.

The interpretation of the findings becomes clearer when considered within Türkiye's socio economic and cultural context. Ongoing economic volatility and shifts in purchasing power likely heighten consumers' price sensitivity, moderating the influence of PEBE and barriers in evaluating SpNuPr. At the same time, culturally embedded collectivistic norms may amplify the impact of SUNO relative to more individualistic societies, as observed in prior Turkish TPB- and HBM based studies. Additionally, the growing fitness culture and increased exposure to digital health content in urban Türkiye help explain the roles of PINN and HECO, despite their unique

contributions. These contextual dynamics emphasize that PUIN in this domain is shaped by both structural economic conditions and culturally specific social influences.

It is also important to acknowledge that some findings may diverge from theoretical expectations or conventional assumptions. These deviations may stem from contextual factors unique to the Turkish fitness and nutrition market—such as economic uncertainty, varying levels of product literacy, or culturally embedded norms influencing health decisions—that shape how individuals evaluate and respond to SpNuPr. Such alternative explanations suggest that the relationships identified in this study may operate differently across subgroups or contexts and therefore warrant further exploration in future research.

Beyond aligning individual findings with prior studies, the results also highlight nuanced contextual dynamics that warrant deeper interpretation. The relatively modest effect sizes observed across predictors suggest that PUIN toward SpNuPr may be shaped by a broader constellation of social, economic, and cultural influences that extend beyond the variables traditionally examined within TPB- and HBM-based frameworks. In particular, the cultural salience of collective decision-making in Türkiye may amplify the role of SUNO, while simultaneously attenuating the individual-level impact of constructs such as HECO and PINN. Moreover, the unique contributions of PEBE and PEBA indicate that these cognitions may interact in more complex ways with consumers' prior experiences, product familiarity, or trust in nutrition-related information sources. These contextual dynamics suggest that future research should explore potential moderating mechanisms—such as product involvement, fitness experience, or digital health literacy—to more fully capture the determinants of purchase intention within this market domain.

Although the uniform support for all hypotheses underscores the robustness of the proposed model, such consistency also necessitates consideration of potential shared variance among conceptually related predictors. Constructs derived from TPB and HBM often exhibit theoretical proximity—particularly between PBCO and PEBA—which may introduce modest collinearity due to overlapping belief structures. Nonetheless, the diagnostics conducted (e.g., VIF and tolerance values) remained well within accepted thresholds, indicating that multicollinearity did not threaten estimation stability or inflate coefficient magnitudes. The observed pattern is therefore more plausibly interpreted as evidence of genuinely convergent yet distinct psychological pathways jointly shaping PUIN.

Limitations

Despite the valuable insights generated by this study, several limitations should be acknowledged. First, the study employed a cross-sectional research design, which limits the ability to establish temporal ordering or infer causal relationships among the constructs examined. While significant associations between the variables and PUIN were identified, these findings cannot confirm whether changes in the predictors lead to subsequent changes in intention. As a result, the interpretations remain correlational rather than causal. Future longitudinal or experimental studies are needed to validate the directional assumptions of the proposed model and to observe how these relationships evolve over time. Second, the sample was restricted to a specific demographic and cultural context, which may constrain the generalizability of the results to broader populations. Future research should consider more diverse samples across different regions and cultural backgrounds to validate and extend the findings. Third, given the exploratory orientation of the present study, convenience sampling was used to efficiently collect data from fitness center members. Although this approach is methodologically defensible for preliminary model testing, it has an inherent limitation, as convenience-based recruitment restricts the sample's representativeness and, consequently, the generalizability of the findings (Etikan et al., 2016). The purchasing behaviors, attitudes, and health orientations of broader, more diverse populations may differ from those observed in this study, further limiting the external validity of the results. Future research employing probability-based sampling techniques or multi-site sampling across different fitness contexts would enhance representativeness and strengthen the robustness and transferability of the model's predictive power. Fourth, although the model explains 43.2% of the variance in PUIN, the remaining 56.8% indicates that additional determinants beyond the six examined constructs may meaningfully influence consumer decisions. Factors such as brand loyalty, product knowledge, digital engagement, prior usage experience, or price–value perceptions—none of which were included in the present study—may account for part of the unexplained variance. Future research incorporating these complementary variables could improve the model's explanatory power and provide a more comprehensive understanding of intention formation in the context of sports nutrition. Fifth, although all hypothesized relationships were supported, this outcome raises the possibility of model overfitting. To address this concern, the structural model was evaluated against its theoretical grounding and validated measurement properties, which together reduce the likelihood that the results reflect sample-specific patterns rather than true underlying

relationships. Nonetheless, the potential for overfitting is acknowledged as a methodological limitation, encouraging cautious interpretation of the findings. Moreover, although the model exhibited strong explanatory power, the conceptual proximity among several TPB- and HBM-based constructs may introduce partial structural interdependence. Even though multicollinearity diagnostics were within acceptable thresholds, some shared variance is likely inherent to these social-cognitive predictors. Thus, the unique contribution of highly related variables should be interpreted with caution. Future research employing more granular techniques could further disentangle shared versus distinct variance components. Finally, the fact that all structural paths emerged as statistically significant should be interpreted with caution, as this pattern may suggest a degree of model consistency that partly reflects shared variance among predictors rather than independent explanatory power. Although the theoretical foundations of the model support these directional relationships, the possibility of model overfitting or construct overlap cannot be fully ruled out. Future research employing longitudinal designs or alternative model specifications may help verify whether these relationships remain robust across different methodological contexts.

CONCLUSION

This study investigated the social and psychological determinants of PUIN toward SpNuPr among fitness center members, integrating constructs from the TPB and the HBM. Based on empirical analysis, all hypothesized relationships were supported, indicating that SUNO, PBCO, PEBE, PEBA, HECO, and PINN significantly affect PUIN. These findings underscore the multifaceted nature of consumer decision-making in health-related markets, where social influence, perceived control, and individual health orientation interact with cognitive evaluations of benefits and barriers. Furthermore, the positive role of PINN highlights the importance of novelty-seeking tendencies in shaping consumer preferences for SpNuPr. Collectively, these results provide theoretical validation of the integrated framework and offer actionable insights for marketers and health practitioners seeking to promote evidence-based strategies that enhance consumer engagement in fitness and nutrition.

PRACTICAL IMPLICATIONS

The results of this study provide valuable insights for stakeholders in the SpNuPr industry seeking to enhance consumer engagement and drive PUIN. By uncovering the underlying social

and psychological motivators influencing consumer behavior, this research offers a nuanced understanding of the factors that shape purchasing decisions in fitness-related contexts. These findings can inform the development of targeted marketing strategies and product positioning efforts that resonate more effectively with the values and expectations of fitness center members.

Because SUNO emerged as a significant determinant of PUIN in this study, practitioners should prioritize interventions that strengthen social approval cues within fitness communities. Given that consumers are influenced by the opinions of family, friends, and significant others, marketing strategies should incorporate evidence-based social proof mechanisms such as peer testimonials, family-oriented messaging, and endorsements from fitness influencers who are credible to gym members. Community-building initiatives—including structured referral programs, group challenges, and trainer-recommended supplement lists—can reinforce the normative expectation that using sports nutrition products is socially desirable. These recommendations remain strictly aligned with the empirical finding that normative pressure meaningfully elevates intention among fitness center members.

Because PBCO significantly predicts PUIN in this study, organizations should focus on reducing logistical and cognitive barriers to purchasing SpNuPr. Consumers who feel confident in their ability to obtain and use SpNuPr are more likely to act on their intentions; therefore, brands should ensure accessible distribution channels, clear usage guidelines, and pricing transparency. Enhancing perceived control through subscription options, in-gym purchase stations, simplified usage instructions, or mobile apps that support product planning can directly strengthen autonomy and readiness to purchase. These suggestions remain within the scope of the empirical result that consumers' perceived capability and convenience directly influence PUIN.

Given that PEBE strongly and significantly shape PUIN in this study, practitioners should craft communications that make functional outcomes clear, credible, and personally relevant to fitness center members. Marketing efforts should emphasize empirically supported benefits—such as energy enhancement, muscle recovery, improved endurance, and overall performance gains—backed by transparent scientific evidence, verified user experiences, and goal-specific messaging tailored to different fitness profiles. Visual demonstrations or performance-tracking comparisons can help consumers internalize these benefits more concretely. These recommendations remain directly grounded in the empirical finding that stronger benefit perceptions increase intention to purchase SpNuPr.

Because PEBA significantly and negatively affects PUIN in this study, practitioners should focus on reducing concerns related to cost, complexity, safety, and product uncertainty. Strategies such as transparent ingredient explanations, simplified product categories, trial-size packaging, and cost-reduction initiatives can help alleviate psychological resistance. Providing educational material that directly addresses common misconceptions—particularly those identified in health product literature—can further reduce hesitation. These practices are consistent with empirical evidence that lower perceived barriers are associated with stronger PUIN among fitness center members.

Because HECO significantly predicts PUIN in this study, marketing strategies should appeal to consumers' commitment to wellness, preventive health, and nutritional integrity. Brands can tailor offerings around clean-label ingredients, organic formulations, or clinically validated claims to resonate with health-focused individuals. Initiatives such as wellness workshops, nutrition seminars, or expert-led informational sessions within fitness centers can strengthen alignment between product characteristics and long-term health goals. These recommendations adhere strictly to the empirical finding that higher health consciousness increases consumers' interest in SpNuPr purchases.

Given that PINN significantly predicts PUIN in this research, marketers should engage innovation-oriented consumers who enjoy exploring new products and technologies. Strategies such as limited-edition product lines, early-access trials, beta-testing programs, or personalized digital recommendation tools can stimulate curiosity and encourage adoption. Interactive elements—such as gamified experiences or augmented reality demonstrations—can further appeal to tech-forward fitness consumers. These implications remain tightly linked to the empirical evidence that individuals high in innovativeness are more likely to intend to purchase SpNuPr.

THEORETICAL IMPLICATIONS

This study advances theoretical discourse by addressing a specific conceptual gap that persists in health-related consumer research—namely, the fragmented treatment of social–normative influences and health-belief determinants in explaining product-specific PUIN. Prior studies have generally examined the TPB and the HBM in parallel rather than in a theoretically integrated manner, resulting in partial and sometimes inconsistent explanatory power regarding health-

oriented consumption decisions. By explicitly synthesizing SUNO and PBCO from TPB with PEBE and PEBA from HBM, this study provides a consolidated mechanism that captures both volitional social pressures and cognitive health appraisals within a unified analytical framework. This integration not only demonstrates how these models intersect to jointly shape intention formation but also illuminates their complementary logics—TPB's emphasis on social determination and perceived control, and HBM's focus on cognitive evaluation of health outcomes. Furthermore, the incorporation of HECO and PINN responds to recent calls for extending classical behavioral models with trait-level determinants, thereby offering a theoretically enriched, context-sensitive explanation of PUIN toward SpNuPr. Consequently, the study contributes a novel integrative framework that bridges two widely used behavioral theories and enhances their predictive capacity by incorporating individual difference variables.

The integration of TPB and HBM directly addresses a core conceptual gap in prior health-related consumer research: the absence of a unified explanation that simultaneously accounts for social-normative pressures, perceived volitional capacity, and cognitive health evaluations in shaping product-specific purchase intentions. Earlier studies typically analyzed these frameworks in isolation, thereby capturing only fragmented dimensions of consumer decision-making. By combining their complementary explanatory mechanisms, this study offers a more coherent account of how individuals reconcile peer expectations, self-efficacy judgments, and perceived health utilities when forming intentions toward sports nutrition products. This integration, therefore, resolves a persistent theoretical discontinuity and provides a more complete understanding of intention formation in health-oriented consumption contexts.

Beyond integrating multiple behavioral theories, this study further contributes to the literature by elucidating how cross-framework constructs jointly operate within the highly socialized context of fitness-center consumption. The model demonstrates that combining normative, control-based, evaluative, and trait-level determinants yields a more nuanced account of PUIN, particularly in product categories where both health-risk assessment and peer-driven motivation coexist. In doing so, the study advances theoretical clarity by showing that classical health-behavior models can be meaningfully extended when embedded within domain-specific environments characterized by high product visibility, performance goals, and health salience. Moreover, the findings underscore the value of incorporating stable psychological orientations—such as HECO

and PINN—as higher-order dispositions that modulate how individuals interpret and act upon situational beliefs.

By synthesizing these constructs, the research advances a more integrative framework that captures both external social influences and internal cognitive-motivational drivers of consumer decision-making. This theoretical convergence not only reinforces the relevance of TPB and HBM in contemporary consumption contexts but also demonstrates their adaptability when augmented with individual-level psychological variables. Moreover, empirical validation of this hybrid model in the sports nutrition domain suggests its potential applicability to other health-oriented product categories. Future theoretical work may benefit from extending this framework to include dynamic variables such as digital engagement, brand trust, or longitudinal behavioral shifts, thereby enriching the predictive and diagnostic utility of consumer intention models.

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Authors' Contribution

All processes of this research from the beginning to the end are single authored.

Declaration of Conflict Interest

The author declares that there are no known conflicts of interest associated with this publication and there has been no significant financial support for this work that could have influenced its outcome.

Ethics Statement

Ethical approval for this study was obtained from Ankara Science University Ethics Committee on 06/10/2025, with approval number 2025/36.

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