



The Effect of Perceived Healthiness and Perceived Tastiness on The Intention to Consume Products with High Protein Claims

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Abstract

The growing demand for functional foods has increased consumer interest in products labeled as high in protein. However, determinants of consumers' intention to consume such products remain inconsistent across studies. This research aimed to examine the effects of nutrition knowledge, health motivation, price, brand, perceived healthiness, perceived tastiness, and online review on consumers' intention to consume high protein products, both partially and simultaneously. A quantitative analytical survey was conducted among 58 respondents of productive age using a structured questionnaire. Data were analyzed using multiple linear regression. The results showed that, partially, only perceived healthiness and perceived tastiness had a significant effect on intention to consume high protein products ($p < 0.05$). In contrast, nutrition knowledge, health motivation, price, brand, and online review did not show significant partial effects. Nevertheless, simultaneous testing indicated that all variables collectively had a significant effect on consumption intention ($p < 0.05$), with a coefficient of determination of 30.7%. These findings highlight that consumers' intention to consume high protein products is primarily driven by perceptual factors rather than general cognitive or marketing related factors. Therefore, product development and nutrition promotion strategies should integrate credible health claims with positive sensory experiences to encourage sustainable consumption intentions.

Introduction

The development of modern nutrition science shows a paradigm shift from food as merely fulfilling basic nutritional needs toward the concept of food as medicine, in which food is viewed as having a functional role in preventing chronic diseases and promoting public health through the consumption of functional foods (Fekete et al., 2025). In line with this development, the functional food and beverage industry has experienced rapid growth and is globally projected to continue increasing at a stable annual growth rate, driven by strong consumer interest in products associated with additional health benefits (Gupta et al., 2023). The consumption of healthy food has now become an important trend in modern society, as increasing evidence demonstrates a close relationship between consumer behavior, healthy food consumption, disease prevention efforts, and improved quality of life (Chen et al., 2024). One category of food products receiving particular attention is high protein products, including beverages and snacks. Foods with high protein claims are considered capable of supporting active lifestyles, aiding weight management, and maintaining muscle and bone health, making

them increasingly popular, especially among people of productive age (Ortega et al., 2024; Mesinovic et al., 2025; Kumar & Vinayakan, 2024; Pop et al., 2023; Theodorakis et al., 2024).

The intention to consume food products is viewed as a key proximal predictor of actual eating behavior; therefore, changes in consumption behavior generally begin with the formation of a strong intention within individuals (Ashrafi et al., 2023). Several studies in health behavior show that individuals do not choose food solely based on biological needs but are also influenced by psychological factors such as attitudes toward healthy food, perceptions of benefits and risks, and motivation to maintain health (Liu et al., 2021; Pasaribu, 2022). In addition, social factors such as support from family, peers, and prevailing social norms also shape perceptions of whether a consumption behavior is considered appropriate or not (Azzura & Muslim, 2023). The intention to consume healthy food or products with nutritional claims is influenced by how individuals evaluate a product, who influences them, and how easy they perceive it to be to make such choices in their daily lives (Haubenstricker et al., 2023; Prates et al., 2022; Hallez et al., 2023).

Nutrition knowledge is an important cognitive factor that plays a role in shaping attitudes, increasing nutritional awareness, and guiding individuals in selecting healthier foods. Individuals with good nutritional understanding tend to show positive attitudes toward healthy foods and are better able to evaluate food quality based on nutritional content, thereby influencing more rational and healthier consumption patterns (Escobar Farfán M et al., 2025). Moreover, increased nutrition knowledge has also been shown to be associated with better eating practices and greater attention to nutritional information and the long term health impacts of food (Siagian et al., 2024).

Health motivation or health consciousness reflects an individual's level of awareness and concern about their health condition, which encourages preventive behaviors such as choosing healthy foods, limiting risky food intake, and increasing consumption of nutritious foods (Li et al., 2025). Several studies indicate that individuals with higher levels of health consciousness are more likely to choose foods perceived as healthy and demonstrate stronger intentions to consume healthy foods than those with lower health awareness. Although many studies have examined factors influencing healthy food consumption, research integrating nutrition knowledge, health motivation, price, brand, perceived healthiness, perceived tastiness, and online reviews into a single analytical model for high protein nutritional products remains limited (Phuong et al., 2025). Differences in approaches, respondent characteristics, and product contexts have also resulted in previous findings that do not yet show consistent patterns. Therefore, more comprehensive studies are needed to better understand the factors influencing intentions to consume high protein nutritional products in greater depth.

Methods

This study applied a quantitative research approach using an analytical survey design to examine factors influencing consumers' intention to consume high protein nutritional products. The quantitative approach was selected because it enables the measurement of relationships between multiple independent variables and a dependent variable through statistical analysis. The survey design allows the researcher to collect standardized data from respondents and analyze patterns of consumer perceptions, motivations, and evaluations related to high protein food products.

The study targeted individuals within the productive age group, who represent a segment of the population with increasing awareness of health, nutrition, and lifestyle related dietary choices. Data were collected using a structured questionnaire distributed to respondents who met the predetermined inclusion criteria. The sampling technique used was non probability sampling with a convenience sampling approach, in which respondents were selected based on

their accessibility and willingness to participate in the study. A total of 58 respondents were included in the final dataset.

The research instrument was developed based on an extensive review of relevant theories and empirical studies in the fields of nutrition behavior, consumer perception, and functional food consumption. The questionnaire consisted of several sections measuring the independent variables, including Nutrition Knowledge, Health Motivation, Price, Brand, Perceived Healthiness, Perceived Tastiness, and Online Review, as well as the dependent variable, namely the intention to consume high protein nutritional products. Each construct was operationalized into several statement items designed to capture respondents' perceptions and evaluations regarding the product attributes and health related considerations.

All variables were measured using a five point Likert scale ranging from strongly disagree (1) to strongly agree (5). The Likert scale was chosen because it is widely used in behavioral and consumer research to measure attitudes, perceptions, and behavioral intentions in a structured and quantifiable manner. Prior to the main data collection process, the questionnaire underwent validity and reliability testing to ensure that the measurement items accurately represented the intended constructs and produced consistent results. The validity test was conducted using item-total correlation analysis, while reliability was evaluated using Cronbach's alpha coefficient to confirm the internal consistency of the measurement instrument.

Data analysis was performed using statistical software through several stages of analysis. The first stage involved descriptive statistical analysis to summarize the demographic characteristics of the respondents and provide an overview of the distribution of responses across variables. This stage helps describe the profile of respondents and the general patterns of perceptions related to high protein products.

Before conducting regression analysis, classical assumption tests were performed to ensure that the data satisfied the requirements of the multiple linear regression model. The normality assumption was evaluated using the Kolmogorov-Smirnov test applied to the residual values. A significance value greater than 0.05 indicates that the residuals are normally distributed. Linearity between each independent variable and the dependent variable was assessed using the Deviation from Linearity test, where a significance value above 0.05 indicates that the relationship between variables can be considered linear.

Multicollinearity was examined using tolerance values and the Variance Inflation Factor (VIF). Tolerance values greater than 0.10 and VIF values lower than 10 indicate that the independent variables are not highly correlated with each other and therefore do not create multicollinearity problems within the regression model. In addition, heteroscedasticity was evaluated using the Glejser test to examine whether the variance of the residuals remained constant across observations. A significance value above 0.05 indicates the absence of heteroscedasticity, suggesting that the regression model satisfies the homoscedasticity assumption.

After confirming that all classical assumptions were satisfied, the study proceeded with multiple linear regression analysis to examine the influence of the independent variables on the intention to consume high protein nutritional products. This method allows the researcher to analyze the effect of several predictors simultaneously while controlling for the influence of other variables in the model.

Hypothesis testing was conducted through partial and simultaneous tests. The partial effect of each independent variable was evaluated using the t test to determine whether individual predictors significantly influenced consumption intention. Meanwhile, the F test was applied to assess whether all independent variables collectively had a significant effect on the dependent variable. Furthermore, the coefficient of determination (R^2) was calculated to measure the proportion of variance in consumption intention that could be explained by the independent variables included in the regression model. All statistical analyses were performed

using a significance level of 5%, which is commonly applied in behavioral and social science research.

Result and Discussion

Respondent Characteristics

The demographic characteristics of this study include gender, age, highest level of education, occupation, and income. Based on gender, the majority of respondents were female (46 respondents) (79.3%), while 12 were male (20.7%). The age distribution shows that the 15–25 age group constituted the largest group, with 40 respondents (69%), followed by the 26–35 age group (9 respondents) (15.5%), the 36–45 age group (8 respondents) (13.8%), and the 46–55 age group (1.7%).

Table 1. Characteristics of Research Respondents (n=58)

Characteristics	Category	n	%
Gender	Male	12	20,7
	Female	46	79,3
Age	15–25 years	40	69,0
	26–35 years	9	15,5
	36–45 years	8	13,8
	46–55 years	1	1,7
Education	Senior High School	34	58,6
	Bachelor's degree	19	32,8
	Master's degree	4	6,9
	Doctoral degree	1	1,7
Job	Students	29	50,0
	College Student	11	19,0
	Employee	12	20,7
	Self employed	4	6,9
	Lecturer	2	3,4
Income / Month	< Rp2.000.000	39	67,2
	Rp2.000.001 – 4.000.000	1	1,7
	Rp4.000.001 – 6.000.000	1	1,7
	> Rp6.000.000	17	29,4

The highest educational attainment of respondents was dominated by high school graduates (34 people) (58.6%), followed by 19 bachelor's (32.8%), 4 master's (6.9%), and 1 doctoral (1.7%). Based on occupation, respondents consisted of students (29 people; 50%), university students (11 people; 19%), employees (12 people; 20.7%), self employed (4 people; 6.9%), and lecturers (2 people; 3.4%). The majority of respondents' monthly incomes were below Rp2,000,000 (39 people) (67.2%), while the remainder were spread across Rp2,000,001–Rp4,000,000 (1 person), Rp4,000,001–Rp6,000,000 (1 person), and above Rp6,000,000 (17 people).

Classical Assumption Test

Normality Test

The results of the Kolmogorov–Smirnov normality test (Table 1) show an Asymp. Sig. value of 0.200, greater than 0.05, indicating that the data are normally distributed. Therefore, the regression model is suitable for use as it meets the normality assumption.

Table 2. Data Normality Test Results

Variable	Kolmogorov Smirnov	Asymp. Sig (2 tailed)	Description
Unstandardized Residual	0,084	0,200	Normally Distributed Data

Source: Primary data processed by the author (2025)

Linearity Test

The results of the linearity test in Table 2 show that all independent variables have an Asymp. Sig. value > 0.05 , indicating that all variables demonstrate a linear relationship with the dependent variable, namely the intention to consume high protein nutritional products. Thus, the model meets the linearity assumption.

Table 3. Results of the Linearity Test for Variables

Variable	Deviation from Linearity	Asymp. Sig (2 tailed)
Nutrition Knowledge – Consumption Intention	1.397	0.232
Health Motivation – Consumption Intention	0.830	0.680
Price – Consumption Intention	1.686	0.083
Brand – Consumption Intention	1.004	0.497
Perceived Healthiness – Consumption Intention	0.810	0.714
Perceived Tastiness – Consumption Intention	1.285	0.251
Online Review – Consumption Intention	0.660	0.864

Source: Primary data processed by the author (2025)

Multicollinearity Test

The results of the multicollinearity test (Table 3) show that the tolerance values for all variables are above 0.1 and the VIF values are below 10. Therefore, no signs of multicollinearity were found in the model, and the independent variables can be used simultaneously in the regression analysis.

Heteroscedasticity Test

The Glejser test in Table 4 shows that all variables have a significance value > 0.05 . This indicates that there is no heteroscedasticity, so the residual variance is homogeneous and the regression model meets the assumption of homoscedasticity.

Table 4. Heteroscedasticity Test Results

Variable	Significance (p-value)
Nutrition Knowledge	> 0.05
Health Motivation	> 0.05
Price	> 0.05
Brand	> 0.05
Perceived Healthiness	> 0.05
Perceived Tastiness	> 0.05
Online Review	> 0.05

Source: Primary data processed by the author (2025)

Multiple Linear Regression Analysis

Regression analysis was conducted to determine the effect of Nutrition Knowledge, Health Motivation, Price, Brand, Perceived Healthiness, Perceived Tastiness, and Online Reviews on the intention to consume high protein nutritional products.

$$Y = 0.530 + 0.065X_1 + 0.099X_2 + 0.089X_3 + 0.219X_4 + 0.406X_5 + 0.307X_6 + 0.117X_7$$

The constant value of 0.530 indicates that when all independent variables are zero, the consumption intention score is 0.530. All independent variables had positive coefficients, indicating that an increase in each variable tended to increase consumption intention, although not all were statistically significant. The variables Perceived Healthiness ($p = 0.019$) and Perceived Tastiness ($p = 0.047$) were shown to have a significant effect. Meanwhile, the variables Nutrition Knowledge, Health Motivation, Price, Brand, and Online Reviews did not show a significant partial effect ($p > 0.05$).

Table 5. Multiple Linear Regression Results

Variable	Regression Coefficient (β)	Significance (p value)
Constant	0.530	-
Nutrition Knowledge	0.065	> 0.05
Health Motivation	0.099	> 0.05
Price	0.089	> 0.05
Brand	0.219	> 0.05
Perceived Healthiness	0.406	0.019
Perceived Tastiness	0.307	0.047
Online Review	0.117	> 0.05

Source: Primary data processed by the author (2025)

Partial t Test

The t test results showed that only two variables significantly influenced the intention to consume high protein nutritional products:

Perceived Healthiness ($p = 0.019$)

Perceived Tastiness ($p = 0.047$)

The variables Nutrition Knowledge, Health Motivation, Price, Brand, and Online Reviews did not have a significant partial effect, although the direction of the effect was positive.

Table 6. Partial t-Test Results

Variable	p-value	Description
Nutrition Knowledge	> 0.05	Not significant
Health Motivation	> 0.05	Not significant
Price	> 0.05	Not significant
Brand	> 0.05	Not significant
Perceived Healthiness	0.019	Significant
Perceived Tastiness	0.047	Significant
Online Review	> 0.05	Not significant

Source: Primary data processed by the author (2025)

F Test (Simultaneous)

The simultaneous test showed that all independent variables together had a significant effect on consumption intention, as indicated by an F value of 3.167 with $p = 0.008$ ($p < 0.05$). This means that the overall regression model is able to explain variation in consumption intention.

Table 7. F-Test Results

F-value	Significance (p-value)	Description
3.167	0.008	Model is significant simultaneously

Source: Primary data processed by the author (2025)

Coefficient of Determination (R^2)

The R^2 test results showed a value of 0.307, meaning that 30.7% of the variation in consumption intention is explained by the variables Nutrition Knowledge, Health Motivation, Price, Brand, Perceived Healthiness, Perceived Tastiness, and Online Reviews. The remaining 69.3% is explained by other factors not examined in this study.

Table 8. Coefficient of Determination (R^2)

R^2	Percentage	Description
0.307	30.7%	Explained by independent variables
-	69.3%	Explained by other variables outside the model

Source: Primary data processed by the author (2025)

Perceived Healthiness and Perceived Tastiness as Primary Predictors of High Protein Product Consumption Intention

The results indicate that perceived healthiness is a significant factor influencing the intention to consume high protein products. The stronger consumers believe that a product provides health benefits, the greater their likelihood of consuming it. This finding is consistent with a systematic review concluding that perceived healthiness is a key determinant in food choice, particularly for products carrying health and nutrition claims (Steinhauser & Hamm, 2018). This also suggests that consumers' interpretations of a product's nutritional value often play a more decisive role in eating behavior than objective nutritional information.

Research on functional foods also confirms that perceived health benefits are significantly associated with attitudes and consumption intention (Baker et al., 2022). Health claims on packaging or nutrition labels have been shown to influence consumers' evaluations of nutrient content and physiological benefits, thereby affecting food selection decisions (Roberto et al., 2021; Oostenbach et al., 2019). From a nutritional perspective, this condition indicates that nutrition claims function not only as informational tools but also as mechanisms that shape consumer perceptions of food quality. Thus, perceived healthiness serves as an important mechanism bridging nutritional information and actual consumption decisions.

In addition to health perceptions, the findings show that perceived tastiness significantly affects consumption intention. This result aligns with previous studies demonstrating that sensory factors, particularly taste, remain primary determinants in food choice, including among foods perceived as healthy (Paakki et al., 2022). One mechanism explaining this relationship is the *unhealthy = tasty* belief—the assumption that unhealthy foods taste better than healthy ones. This belief has been shown to shape consumer evaluations of nutritious foods, in which unhealthy foods are more often associated with positive emotions such as satisfaction and comfort, whereas healthy foods tend to be perceived as less appealing or even boring (Mai & Hoffmann, 2015; Paakki et al., 2022).

Various experimental and observational studies show that the stereotype “healthy food is not tasty” remains common across different population groups, both explicitly and implicitly (van der Heijden et al., 2020). These studies also emphasize that improving perceived tastiness plays an important role in increasing acceptance, preference, and consumption intention toward healthy foods (Bucher et al., 2016; Hagen, 2021). From a public nutrition perspective, these findings indicate that nutrition promotion interventions should not focus solely on nutrient

content or health claims, but must also be balanced with strengthening palatability and creating positive sensory experiences to achieve changes in eating behavior (van Kleef et al., 2015; Erensoy, 2025).

For products with protein claims, perceived taste has also been shown to directly influence consumption intention (Schicker et al., 2023). This suggests that high protein products are not only perceived as sources of essential macronutrients but must also be sensorially acceptable to consumers. Without adequate taste quality, health claims or high protein content alone may not be sufficient to stimulate consumption intention. These findings reinforce modern nutrition approaches that consider sensory quality an integral component of food quality, especially in efforts to increase adherence to healthy eating (van Kleef et al., 2015; Schicker et al., 2023).

Nutrition Knowledge and Health Motivation Are Not Partially Significant

The results indicate that nutrition knowledge and health motivation do not have a significant partial effect on consumption intention. This finding suggests the presence of a *knowledge intention gap*, a condition in which knowledge or motivation does not automatically translate into specific intentions or behaviors. Health behavior literature shows that good nutritional knowledge is often insufficient to drive consumption intention when confronted with other barriers such as taste preferences, established eating habits, social norms, and economic constraints (Thakur & Mathur, 2021; Glick et al., 2025; Agrawat et al., 2025).

Furthermore, although health consciousness is frequently associated with a tendency to choose healthy foods, general or abstract health motivation does not always translate into intention toward specific products. Several studies show that health awareness only significantly affects consumption intention when translated into benefits that are perceived as concrete and personally relevant by consumers. In this context, health motivation may function as a psychological predisposition that requires mediators such as perceived product benefits or health value to produce a measurable effect on consumption intention (Pan et al., 2025; Escobar Farfan et al., 2025; Baker et al., 2022).

Price and Brand Are Not Significant

The non significant results for price and brand suggest that consumers in this study tend to be more oriented toward the functional benefits of products rather than symbolic aspects. This finding is consistent with studies showing that healthy food consumers emphasize utilitarian value, functional quality, and health benefits more than brand image (Baker et al., 2022; Pan et al., 2025; Escobar Farfan et al., 2025).

In addition, brand trust is known to play a significant role in purchase intention only when consumers have strong and consistent prior experience with the product (Pekaydin, 2024). In the context of relatively new or unfamiliar high protein products, brand experience may not yet be sufficiently developed. Other research also shows that consumers are willing to pay higher prices for healthy products only when the health benefits are perceived as clear, credible, and valuable, which may explain the weak influence of price and brand in this study (Plasek & Temesi, 2019; Sharma & Garga, 2025; Mouchtaropoulou et al., 2024).

Online Reviews Are Not Significant

The results show that online reviews do not significantly influence consumption intention, even though e commerce literature generally emphasizes their importance in purchase decision making. However, the influence of online reviews is highly dependent on product context and purchase situations. For food categories characterized by low involvement and frequent impulse purchases in physical stores, such as protein drinks or functional snacks, consumers tend to rely more on direct experience, taste, and social recommendations rather than online information (Qiu et al., 2024). This may explain why online reviews have not yet become a primary determinant in this research context.

Meaning of Simultaneous Effects and Coefficient of Determination

Although some variables were not significant individually, the simultaneous test results show that all variables collectively have a significant effect on consumption intention. This finding aligns with integrative consumer behavior approaches that view intention as the result of interactions among cognitive, affective, and situational factors (Ajzen, 2020).

The coefficient of determination (R^2) value of 30.7% is also comparable to previous consumer behavior studies, which generally explain about 20–40% of intention variance through psychological constructs and product perceptions (Vermeir et al., 2020). The unexplained variation may be influenced by other factors such as food culture, family habits, marketing exposure, and prior consumption experience.

Conclusion

This study shows that consumption intentions for high protein products are primarily influenced by perceptual factors, particularly perceived healthiness and tastiness, rather than general cognitive factors or external marketing factors. Perceptions of health benefits act as the primary mechanism bridging nutritional information and consumption decisions, while taste perception remains a crucial determinant of product acceptance, even for foods positioned as healthy. In contrast, nutrition knowledge, health motivation, price, brand, and online reviews did not show significant partial effects, indicating a knowledge intention gap and the importance of product context and sensory experience in shaping consumption intentions. Nevertheless, the significant simultaneous influence of all variables confirms that consumption intentions are the result of a complex interaction between cognitive, affective, and situational factors. Therefore, efforts to increase consumption of high protein products require integrating credible health claims with positive sensory experiences to foster sustainable consumption intentions.

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