

CONSUMER BEHAVIOR | RESEARCH ARTICLE

The Role of Motivation and Reference Group on Functional Food Consumption Behavior

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Abstract: The advancement of food science and technology has encouraged the development of functional foods in Indonesia. This study aimed to examine the influence of motivation and reference groups on functional food consumption behavior. This cross-sectional research involved 204 active students of IPB University who were selected using the simple random sampling technique. The data were analyzed using descriptive and inferential data analysis. The linear regression tests revealed that pocket money, reference groups, and motivation positively affected the frequency of functional food consumption. In addition, motivation had a significant positive effect on the number of types of functional foods consumed. The results showed that students' motivation to consume functional foods was low. In light of these findings, the government should actively promote the consumption of functional foods by regulating the prices of functional food sources in the market. Universities and industry producers must collaborate to conduct extensive outreach and education to effectively disseminate information about functional foods.

Keywords: consumer behavior, consumption behavior, motivation, functional food, reference group

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PUBLIC INTEREST STATEMENT

The development of functional foods in Indonesia follows the advances in food science and technology. People today are increasingly aware of the importance of maintaining health, particularly through the consumption of functional foods. Functional foods provide physiological effects, improve the body's metabolic performance, and prevent various diseases.

There are few studies analyzing functional food consumption in Indonesia, although various innovations related to functional food have been carried out. Motivation as an internal factor and reference group as an external factor were used as variables in analyzing functional food consumption behavior. Specifically, this study identified each variable and analyzed the influence of gender, pocket money, motivation, and reference groups on functional food consumption behavior.



1. Introduction

The development of functional foods in Indonesia has led to food science and technology advancements. People are increasingly aware of the importance of maintaining health, particularly through the consumption of functional foods. Functional foods provide physiological effects, improve metabolic performance, and prevent diseases. The functional food market is one of the fastest-growing and most exciting research areas in the food sector (Verma et al., 2018). Granato et al. (2017) define functional foods as processed or natural foods with positive health effects beyond essential nutrition when consumed regularly with a diverse diet. Motivation as an internal factor and reference group as an external factor are important variables in the analysis of functional food consumption behavior. This study identifies each variable and analyzes the relationship and influence of gender, pocket money, motivation, and reference groups on functional food consumption behavior.

This study analyzes factors influencing the decision to consume functional food as part of consumer behavior. Consumer behavior involves the intricate decision-making process that individuals, groups, or organizations undergo before, during, and after acquiring goods, services, or experiences to fulfill their needs, wants, and demands (Ruvio & Lacobucci, 2023). Today, people are increasingly aware of the importance of maintaining health and diet and that processed foods can improve metabolic performance in one's body. Topolska et al. (2021) found that motivation and benefits of use influence consumer acceptance of functional food; family health problems also encourage consumer interest in buying functional food. Functional foods have additives that offer health benefits beyond regular foods (Farida & Victor, 2017). The benefits of health include boosting the immune system, preventing the risk of osteoporosis, and improving physical condition (Topolska et al., 2018; Topolska et al., 2020).

In previous research, perceptions and attitudes of the millennial generation toward functional food purchasing decisions have been examined. The research found that the millennial generation is interested in and inclined to consume functional foods (Nusraningrum et al., 2021). Reference groups were considered as social factors that influence a person's behavior. Reference groups directly or indirectly influence consumer behavior. Qazzafi (2020) concluded that consumer purchasing behavior is influenced by individual factors (age, occupation, and lifestyle), psychological factors, social factors, and economic factors. Reference groups can influence a person's behavior when consuming a product and are often used as guidelines for consumer behavior. The individuals included in the reference groups can be friends, family members, or idolized individuals.

Motivation is one of internal factors. Strong drive, commonly known as motivation, is required from within and outside consumers to consume a product. Motivation is essential in a person's consumption behavior because it drives someone to purchase. Research conducted by Baker et al. (2022) demonstrated that the motivation to consume functional foods is related to the drive for healthy living. This encouragement results from a person's desire because of an unmet personal need. Previous research has found that consumer motivation influences purchasing behavior (Miau, 2017). This reinforces the idea that motivation or the drive in a person can influence consumer behavior, including the consumption of functional food.

The motivation and impact of reference groups on consumer behavior in functional food consumption will significantly affect healthy food consumption levels. Peers and parents have been shown to influence healthy food consumption (Gariato et al.,

2022; Putri et al., 2020). In addition, food selection motives are related to the attitudes and behaviors of functional food consumption (Vorage et al., 2022). Previous research on functional foods has predominantly focused on analyzing specific food types and contents, such as Omega-3 eggs by Mulatsih et al. (2023) and tempeh by Permatasari et al. (2023). Nusraningrum et al. (2021) used perception, attitude, and decision-making variables in the purchasing of functional food products. The results of this study indicate that consumer perceptions influence a person's decision to buy functional food Nusraningrum et al. (2021). In addition, Amalia et al. (2024) found determinant factors that influence functional food consumption, such as demographic aspects, food selection reasons, life situations, economic factors, health perceptions, sensory and psychological characteristics, and lifestyle. The novelty in this study is the existence of gender factors, motivation variables, and reference groups as factors influencing functional food consumption behavior in college students. Based on this background, the study aimed to analyze the impact of internal factors (student characteristics and motivation) and external factors (reference groups) on functional food consumption.

2. Literature Review

2.1 Consumer Behaviour

Sudirman et al. (2020) define consumer behavior as the behavior shown by consumers when assessing, searching, using, buying, evaluating, and spending products to fulfill their needs and desires. Furthermore, Pirlympou (2017) explains that consumer behavior is related to why, when, where, and how individual consumers buy, choose, and use goods or services to meet their needs. It encompasses the full range of cognitive and psychological processes, behaviors, motivations, beliefs, emotions, and values linked to product acquisition, use, and disposal (Ruvio & Lacobucci, 2023). Ruvio and Lacobucci (2023) classify the factors influencing consumer behavior into internal (motivation, perceptions, attitudes, and beliefs) and external factors (including the consumers' sociocultural environment, family, friends, reference groups, and their online and offline interactions). These factors collectively contribute to the complexity of consumer behavior. Sima et al. (2020) mention several determinants of consumer behavior in the era of Industrial Revolution 4.0: information, the Internet of Things, e-distribution, e-commerce, digitization, technology, artificial intelligence, e-shopping behavioral intentions, and data mining.

2.2 The Effect of Gender on Functional Food Consumption Behavior

Aulia and Yuliati (2018) found that gender influences students' food choices. Grzymińska (2020) found that gender influences eating behavior and food selection. Similar findings suggest differences in food consumption behaviors (healthy/unhealthy) between men and women (Lee & Allen, 2021). Similarly, Kürkçü and Dedeoğlu (2022) found a significant difference in the functional food consumption between men and women.

H1: Gender has a significant effect on functional food consumption behavior

2.3 The Effect of Pocket Money on Functional Food Consumption Behavior

The pocket money received in a day can affect price preferences when buying food (Ramadhani et al., 2022). Afina and Retnaningsih (2018) also found the influence of student pocket money on the frequency of functional food consumption. Hansmann

et al. (2020) stated that finance is an essential predictor for consumers when consuming food (organic/non-organic).

H2: Pocket money has a significant effect on functional food consumption behavior

2.4 The Effect of Motivation on Functional Food Consumption Behavior

Charumathi and Varadaraj (2019) explain that motivation can encourage consumers to carry out activities to achieve goals, either to meet their needs or for satisfaction or pleasure. Alongside meeting other needs, consumers consider product values and functions as triggers for purchases, especially in satisfying emotional needs through product selection (Charumathi & Varadaraj, 2019). Topolska et al. (2021) found that health benefits and motivation influenced functional food consumption. Furthermore, Vorage et al. (2020) found that demographic characteristics and food-choice motivations influence people's attitudes and consumption of functional foods. Food selection motives, such as weight control, natural content, and health motivation, significantly influence positive attitudes toward functional foods (Vorage et al., 2020; Plasek et al., 2021). In addition, factors such as health awareness, health concerns, and health motivation also influence purchase intentions for functional foods (Plasek et al., 2021; Szakos et al., 2022).

H3: Motivation has a significant effect on functional food consumption behavior

2.5 The Effect of Reference Group on Functional Food Consumption Behavior

Reference groups play a crucial role in guiding purchasing decisions. Members of these groups significantly influence the behavior, values, and attitudes of others (Mishra & Vijay, 2023). Aluwan and Rahmah (2021) mentioned that digital celebrities are one of the references consumers use when buying products. Communication through advertisements in various media often uses certain people who are considered reference groups. Soh et al. (2017) argue that friends and family can influence a person's consumption behavior. Topolska et al. (2021) mentioned that family members' health problems affect their interest in functional product consumption. This indirectly explains the family's relationship with a person's functional food consumption behavior. Through a literature analysis, Baker et al. (2022) found the influence of family size on functional food consumption. Additionally, teenagers tend to choose food because of peer influence and follow trends to avoid being left behind by their environment (Nu'riza & Amin, 2018). Aulia and Yuliati (2018) stated that students tend to be exposed to information through social media, which also affects their food choices.

H4: Reference group has a significant effect on food consumption behavior

3. Conceptual Framework

Functional foods are trending as consumers increasingly consider the health impact of their food choices. Shipman (2020) found that millennials are particularly concerned with health factors and habitually check the nutritional value of their food. Similarly, Nielsen (2015) reported that 33% of millennials consider healthy food claims important and are willing to pay more for premium functional foods. These studies indicate a growing awareness of health maintenance and improvement through functional food consumption.

Topolska et al. (2021) identified health benefits and motivation as the primary factors influencing functional food acceptance. Additionally, gender, age, socio-demographic factors, and nutritional knowledge play a role in functional food consumption.

Motivation is crucial in consumption behavior, driving individuals to purchase functional foods. Baker et al. (2022) argue that internal motivations, such as health concerns, are significant drivers of functional food consumption. Other studies have also found that motivation influences decision-making (Putri & Simanjuntak, 2020) and interest (Solikhah et al., 2016). Salsabilla (2021) confirmed the significant effect of motivation on consumption decisions. Environmental factors, such as the influence of reference groups (friends, family, or idols), also play a role. Budanti et al. (2017) found that the social environment affects consumption behavior, supported by Munasiroh et al. (2019), who noted the impact of social support. Ridhayani and Johan (2020) further identified a significant relationship between reference groups and consumption behavior, along with individual characteristics and financial literacy.

Student demographic factors, such as gender and monthly pocket money, influence functional food consumption. Hanum (2017) found that income significantly affects students' consumption levels, with higher pocket money encouraging the purchase of pricier functional foods. Research by Suhartini et al. (2020) supports this, noting that consumers of healthy products often have higher education and income levels. Additionally, gender plays a role in functional food consumption, with Ratih et al. (2022) finding differences in healthy food purchases between men and women. Ridhayani and Johan (2020) also observed significant differences in purchasing behavior between genders.

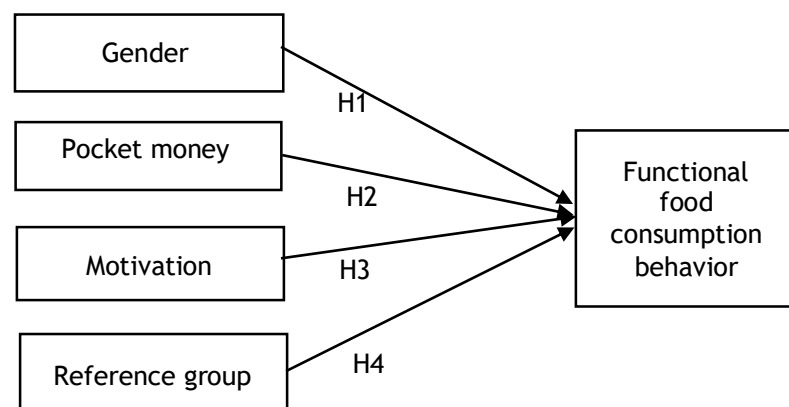


Figure 1. Research framework student's characteristic, motivation, and reference group on functional food consumption behavior

Based on the results of previous research, this study proposes hypotheses:

H1: Gender has a significant effect on functional food consumption behavior

H2: Pocket money has a significant effect on functional food consumption behavior

H3: Motivation has a significant effect on functional food consumption behavior

H4: Reference group has a significant effect on food consumption behavior

4. Methods

4.1 Research Design

This cross-sectional study was conducted at Bogor Agricultural University, IPB Dramaga Campus. The location was chosen purposefully due to the campus's extensive research on agriculture and functional foods.

4.2 Sampling

The study population consisted of 10,659 regular undergraduate students (S1) at IPB from semesters two through six. The sample selection used simple randomization, and the minimum sample size was determined using the Slovin formula.

$$n = \frac{N}{(1 + Ne^2)} = \frac{10\,659}{(1 + (10\,659)(0.07)^2)} = 200.2$$

Note:

n = number of samples taken

N = total population

e = allowance/inaccuracy due to tolerable sampling error or significant level (0.07). The Slovin formula calculation showed that 200 students should be taken as the minimum sample size. As many as 300 students were randomly selected, and only 204 were available as respondents.

4.3 Measurement

This study included independent variables (gender, student pocket money, motivation, and reference group) and dependent variables (consumption frequency and number of types consumed).

Table 1. Operational definition, indicators, and scale of variables

| Variables | Operational Definition | Indicators | Scale |
|--------------------------|---|--|--|
| Motivation (Doshi, 2008) | Motivation is the drive in a person to buy functional food products | 1) Consuming functional foods can improve my health. 2) For me, functional food is the safest to consume. 3) I consume functional food because it is easier to reach than conventional food. 4) I consume functional food because it has more nutritional content. 5) I consume functional food because I want to maintain my ideal body weight. 6) I consume functional food because it tastes delicious | 1=strongly disagree, 2=disagree, 3=moderate, 4=agree, 5=strongly agree |

Table 1. Operational definition, indicators, and scale of variables (Continue)

| Variables | Operational Definition | Indicators | Scale |
|---|---|--|---|
| Motivation (Doshi, 2008) | Motivation is the drive in a person to buy functional food products | 7) I consume functional food because of its attractive appearance 8) I consume functional food because functional food is currently popular. 9) I consume functional food because the price is low 10) I consume functional food because I am curious about its benefits. | 1=strongly disagree, 2=disagree, 3=moderate, 4=agree, 5=strongly agree |
| Reference group (Budisantoso, 2006) | Reference Groups are individuals who influence respondents in making functional food purchases | Who encourages/motivates you to eat functional foods? - Family - Friends - Neighbors - Idols - Lecturer - Advertisements on television - Advertisements in print media - Ads on social media - Radio advertisement - Internet | 1=yes, 2=no |
| Functional food consumption behavior (Food & Drug Administration, 2011) | Functional food consumption behavior is the frequency and number of functional foods students consume | 1) Processed fruit products 2) Processed products that contain carbohydrates. 3) Dairy products 4) Processed meat products 5) Processed fish products 6) Snack bars 7) Processed products the 8) Processed products that contain fiber 9) Herbal processed beverage products 10) Isotonic drinks 11) Mention others if not mentioned above | - consumption amount (ml/gram) - consumption amount (times/day) - consumption amount (times/week) - consumption amount (times/month) |

4.4 Data Collection

The data for this study comprised primary and secondary sources. Primary data, including student characteristics such as pocket money and gender, were obtained through self-administered questionnaires completed by the students. Secondary

data on active students in semesters two through six were obtained from the Directorate of Administration and Undergraduate Education at IPB.

4.5 Data Analysis

Variables were assigned scores based on the measurement scale used to assess consumption frequency and type. Participants completed a questionnaire to obtain frequency scores, which included daily, weekly, and monthly consumption questions for ten functional foods. The number of functional food types consumed was determined by the total number each participant reported. Consumption frequency and type are presented as ratios without conversion into index scores. The motivation variable was converted into an index score using an interval scale and categorized into three groups.

This study utilized both descriptive and inferential data analysis methods. Descriptive analysis determined the mean, standard deviation, minimum value, and maximum value of various student characteristics, such as motivation, reference group, frequency of consumption, and the number of functional foods consumed. A Chi-Square test examined the relationship between gender and the frequency and number of types of functional foods consumed. To estimate the factors influencing the frequency and number of types of functional foods consumed, a multiple linear regression test was conducted using variables such as motivation, reference group, gender, and pocket money. Before the regression test, the data had to meet specific conditions, including normality, heteroscedasticity, autocorrelation, and multicollinearity. The normality test results confirmed that the data were normally distributed.

5. Findings

5.1 Student Characteristics

The students in this study were 17 to 21 years old, with an average age of 19.4 years. More than half of the respondents (51.5%) were female, reflecting IPB University's higher proportion of female students (61% female; 39% male). Monthly pocket money ranged from IDR300,000 to IDR3,500,000, with an average of IDR976,000. These funds came from various sources, including parental support, scholarships, and independent business ventures. Notably, 56.4% of the students had a medium pocket money level.

5.2 Functional Food Motivation

In this study, motivation refers to the encouragement for a person to buy functional food products. The findings showed that the primary reason students consume functional foods is their health benefits. This aligns with the research by Huang et al. (2019) and Jung et al. (2020), which found a significant relationship between functional food purchase intentions and health awareness. Motivation in this study was categorized into three levels: low (≤ 61.0), moderate (62.0-76.0), and high (≥ 77.0). Table 2 indicates that 78.4% of IPB students had low motivation, while only 1.9% had high motivation to consume functional foods.

Table 2. Distribution of students based on motivation category towards functional food

| Category | Frequency (n) | Percentage (%) |
|----------------------|---------------|----------------|
| Low (≤ 61.0) | 160 | 78.4 |
| Medium (62.0-76.0) | 40 | 19.6 |
| High (≥ 77.0) | 4 | 1.9 |
| Total | 204 | 100 |

5.3 Reference Group

This study found that reference groups influence respondents' functional food purchases, with interpersonal groups having the most significant impact on IPB students. Interpersonal groups, often encountered face-to-face, are widely chosen as references. Previous research supports the role of social factors in encouraging functional food consumption. Barauskaite et al. (2018) stated that consumers buying functional food products signal their concern for health. Nystrand and Olsen (2020) found that social pressure, through descriptive and injunctive norms, significantly influences consumers' purchases of functional foods. Interpersonal groups, due to their frequent face-to-face interactions, are considered primary reference groups. Table 3 shows the percentages of other reference groups.

Table 3. Distribution of students based on reference group selection

| Reference group | Frequency (n) | Percentage (%) |
|---|---------------|----------------|
| Interpersonal (friends, family, neighbors, lecturers) | 195 | 95.6 |
| Social media (ads, internet, Instagram, etc.) | 162 | 79.1 |
| Media (print media ads, radio ads, TV, artists) | 152 | 74.5 |

5.4 Functional Food Consumption Behavior

This research examined the frequency and quantity of functional food consumption among students. Students reported consuming functional foods between 8 and 96 times per month, with an average of 47 times per month. Previous studies have found that individuals aged 25 years and younger (Çakiroğlu & Uçar, 2018) and those with higher education levels (Szakály et al., 2019) are more interested in consuming functional foods. Most half respondents (46.1%) fell into the moderate consumption category, as shown in Table 4. Additionally, students reported consuming between 2 and 9 different types of functional foods, averaging seven types. Most students (86.3%) consumed more than seven types of functional foods from various categories, indicating a strong interest in trying new foods.

Table 4. Distribution of students based on frequency and number of types of functional food consumed

| Consumption behavior | Frequency (n) | Percentage (%) |
|----------------------------|---------------|----------------|
| Frequency of consumption | | |
| Low (<31 times/month) | 54 | 26.5 |
| Medium (31-60 times/month) | 94 | 46.0 |
| High (>60 times/month) | 56 | 27.5 |
| Number of types consumed | | |
| Low (0-3 types) | 4 | 2.0 |
| Medium (4-6 types) | 20 | 11.7 |
| Many (7-10 types) | 180 | 86.3 |

The study revealed that students favored wheat bread and fiber-rich biscuits as their top functional food choices, with a consumption rate of 92.6%. Following closely were vitamin-enriched fruit and vegetable juices (91.2%), processed soy products (85.3%), and isotonic drinks (82.5%). The affordability and taste of processed wheat products were cited as the main reasons for their popularity. Fruit and vegetable juices with added vitamins ranked second among the most consumed functional foods. Additionally, tempeh, some traditional Indonesian food rich in soy isoflavones that can reduce the risk of coronary heart disease (CHD), was the most popular processed soybean product.

5.5 Factors Affecting Functional Food Consumption Behavior

The normality test was conducted before the regression analysis. The results showed that the data followed the diagonal line on the normal probability plot, indicating that the data were normally distributed and that the normality test was met. The heteroscedasticity test showed that the points on the scatterplot were evenly distributed above and below the Y-axis, indicating that there was no heteroscedasticity in the variables. The Durbin-Watson value was greater than the upper limit (dU) and less than (4-dU), confirming the absence of autocorrelation. The multicollinearity test results showed that the tolerance value was above 0.1 and the Variance Inflation Factor (VIF) was below 10, indicating no multicollinearity between variables. This comprehensive testing process ensures the reliability of the results.

The linear regression analysis revealed that student traits such as gender, pocket money, motivation, and reference groups influenced the frequency of functional food consumption. This finding is supported by an F-count of 2.788 (Table 5). However, the adjusted R-squared value of 0.068 suggests that only 6.8% of the variance in consumer behavior can be explained by these variables, indicating that other factors like attitudes and knowledge might be more influential (Table 5). The study also found that gender, pocket money, motivation, and reference groups did not significantly affect the number of different types of functional foods consumed (F=2.472) (Table 5).

Table 5. Results of regression analysis of factors influencing the behavior of functional food consumption.

| Variables | Consumption frequency | | | Number of types consumed | | |
|---------------------------|------------------------------|----------------------------|---------|------------------------------|----------------------------|--------|
| | Unstandardized coefficient B | Standardized coefficient B | Sig. | Unstandardized coefficient B | Standardized coefficient B | Sig. |
| Constant | 54.173 | | 0.120 | 6.813 | | 0.000 |
| Motivation | 0.329 | 0.207 | 0.003** | 0.011 | 0.142 | 0.047* |
| Group reference | 6.773 | 0.130 | 0.047* | 0.207 | 0.078 | 0.280 |
| Gender (0=Female; 1=Male) | 3.995 | 0.088 | 0.223 | -0.117 | -0.051 | 0.492 |
| Pocket Money | 0.005 | 0.172 | 0.036* | -0.003 | -0.015 | 0.862 |
| F | | 2.788 | | | 2.472 | |
| Adjusted R ² | | 0.068 | | | 0.014 | |
| Sig | | 0.008** | | | 0.245 | |

Notes: *significant at p<0.1; **significant at p<0.05; ***significant at p<0.01

Motivation was found to be a significant factor in functional food consumption ($\beta=0.207$), meaning that for every one-unit increase in motivation, there is a 0.207 increase in the frequency of functional food consumption. Motivation also positively affected the variety of functional foods consumed ($\beta=0.142$), with a one-unit increase in motivation leading to a 0.142 increase in the number of different functional food types consumed. Additionally, the interpersonal group had an impact on the frequency of functional food consumption ($\beta=0.130$), where a one-unit increase in interpersonal group influence results in a 0.130 increase in the frequency of consumption. Pocket money also significantly influenced the frequency of functional food consumption ($\beta=0.172$), with every ten thousand rupiahs increase in pocket money resulting in a 0.172 increase in the frequency of functional food consumption.

6. Discussion

6.1 The Effect of Gender on Functional Food Consumption Behavior

The sample for this study comprised 204 students from all faculties, with slightly more women than men. On average, students consumed functional foods 47 times per month, with a range of 8 to 96 times per month. This high consumption rate is consistent with previous research (Ong et al., 2014). Students reported consuming between two and eight types of functional foods, with an average of seven types per student. The most commonly consumed functional foods included wheat products, fruit and vegetable juices, and processed soy products. Due to high demand, Indonesia imports wheat despite its large population (Pradeksa et al., 2016). Soybeans are popular functional foods in Indonesia for their isoflavones and other nutrients that help prevent degenerative diseases (Krisnawati, 2017).

Some studies found that internal factors such as gender, socioeconomic conditions, knowledge, age, and trust in the product influence healthy food purchasing decisions (Rizkitania et al., 2022), this study found no significant gender effect on food consumption. This contrasts with Plasek et al. (2021), who found that gender, age, and education level affect judgments about functional food, with women being more open to such products due to their involvement in food purchase decisions and attention to health and nutrition. Similarly, Vorage et al. (2020) found that women are more likely to consume functional foods than men, and the presence of children in the household increases the likelihood of purchasing these products. Based on the study's findings, H1 (gender has a significant effect on functional food consumption behavior) is rejected.

6.2 The Effect of Pocket Money on Functional Food Consumption Behavior

The regression test results revealed that pocket money is positively effect on frequency of functional food consumption. This finding aligns with Florea et al. (2016), who found that higher-income individuals tend to consume more functional foods than those with lower incomes. Healthy food products are often more expensive, a point supported by Carolina et al. (2015), who highlighted the role of price in purchasing decisions. The present study found that greater pocket money levels were associated with a higher likelihood of consuming functional foods. Additionally, Verneau et al. (2019) noted that older individuals are primary consumers of functional foods. Based on these results, pocket money has a significant effect on functional food consumption behavior, and therefore, H2 (pocket money has a significant effect on functional food consumption behavior) is accepted.

6.3 The Effect of Students Motivation on Functional Food Consumption Behavior

The study results showed that the highest motivation score (3.6) for consuming functional food products was "good for health." This reflects increasing consumer awareness of health benefits, consistent with Topolska et al. (2021), who noted that family health concerns drive interest in functional foods. The correlation test results also indicated that motivation was positively associated with the frequency of functional food consumption and had a significant effect on consumption behavior. Thus, H3 (motivation has a significant effect on functional food consumption behavior) is accepted. Furthermore, motivation significantly influenced the number of functional foods consumed. For instance, the main motivation for consuming functional foods is their health benefits, in line with Nusraningrum et al. (2021), who identified understanding these benefits as a key factor in fostering positive consumer attitudes toward functional foods. Additionally, functional food consumption is shaped by health benefits, motivation, demographic characteristics, and food choice factors (Topolska et al., 2021; Vorage et al., 2020).

6.4 The Effect of Student's Reference Group on Functional Food Consumption Behavior

Reference groups play a crucial role in providing information about functional food products. These groups can include friends, relatives, parents, or other individuals with whom students interact directly. In this study, students selected one to three types of reference groups, with interpersonal groups being the most frequently chosen (95.68%). Interpersonal groups are considered primary reference groups due to their direct, face-to-face interactions. This finding aligns with Septiani et al. (2022), who found that family has the strongest relationship with eating behavior. Additionally, school environmental factors can also influence eating behavior (Wiradijaya et al., 2020).

Muna and Mardiana (2019) found that family and peer support significantly impact food consumption patterns. However, this study found that interpersonal reference groups did not significantly affect functional food consumption behavior, contrary to the findings of Kabeakan and Putra (2019), who found no significant impact of reference groups on the purchase of brown rice as a functional food. Based on these results, H4 (reference group has a significant effect on food consumption behavior) is rejected.

6.5 Managerial Implication

Functional food consumption can serve as a preventive measure for maintaining health in the community, with various local ingredients available in Indonesia. This study found that pocket money, motivation, and interpersonal groups significantly influenced the frequency of functional food consumption among university students. These findings suggest that the government could promote functional food consumption by regulating prices in the market. Additionally, since students' motivation to consume functional foods was found to be low, universities and food producers should collaborate on socialization and educational efforts to raise awareness and expand information about the benefits of functional foods.

6.6 Theoretical Contribution

Consumer behavior theory underpins this study, which explores how individuals assess, search for, use, buy, evaluate, and spend on products to meet their needs and desires (Sudirman et al., 2020). Research indicates that consumer behavior is shaped

by cultural, social, and personal factors (Hanum & Hidayat, 2017; Tonda et al., 2022). This study focuses on consumer behavior in the context of functional food consumption. Specifically, it examines how internal factors like motivation and social factors such as reference groups influence students' consumption of functional foods. The study's results indicate that pocket money and internal motivation influence functional food consumption behavior in college students. Adha (2022) supports this result, stating that consumer behavior in today's digital era is more influenced by psychological factors such as perception, motivation, learning, and beliefs.

6.7 Limitations

This study has several limitations. Firstly, it relied on a recall method for determining consumption frequency, which may be less precise than more direct recording methods. Additionally, the study focused only on ten of the fifteen functional food types approved by the Indonesian Food and Drug Administration. Since the sample consisted exclusively of university students, there was a lack of diversity in demographic characteristics such as age and education level. Consequently, the only demographic factors considered were gender and pocket money.

7. Conclusions

Based on research results, the top motivation for consuming functional food was to improve health, and the most preferred reference group among students was the interpersonal group. The regression analysis revealed that pocket money significantly influenced consumption behavior, while the interpersonal reference group affected the frequency of functional food consumption. The motivation has positively influenced the frequency and variety of functional food consumption. However, the study found that the reference group overall did not significantly impact functional food consumption behavior.

8. Recommendation

The author recommends that the government should take proactive measures to encourage students to adopt functional foods. One recommendation is for food manufacturers to clearly indicate whether products contain functional foods, helping consumers make informed decisions. Currently, many functional food products lack such labeling. To promote greater uptake of functional foods, the author suggests that consumers gradually adopt healthy eating habits and use media resources wisely. Additionally, future research should include a more diverse range of participants to enhance the study's findings. Other variables related to digital technology, such as digital promotion and marketing, must be developed for future research.

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