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Factors Affecting Fast Food Consumption Behavior Among Junior High School Students in Banyuwangi: Using the Theory of Planned Behavior Approach

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ABSTRACT The increasing prevalence of fast food consumption among junior high school students poses significant concerns due to its long-term adverse health implications, such as obesity, cardiovascular diseases, and metabolic disorders. Despite awareness campaigns, the persistent influence of social factors continues to drive unhealthy eating behaviors within this demographic. This study aims to identify and analyze the key determinants of fast food consumption among junior high school students in Banyuwangi, utilizing the Theory of Planned Behavior (TPB) as the theoretical framework. Employing an observational analytic cross-sectional design, the research involved 98 students selected through simple random sampling from SMP "X." Data collection was conducted via self-administered questionnaires designed to measure attitudes, subjective norms, perceived behavioral control, and actual consumption behaviors pertaining to fast food, all of which demonstrated validity and reliability. Bivariate and multivariate statistical analyses, including Spearman's rank correlation and logistic regression, were employed to examine relationships and determine the dominant influencing factor. Findings revealed that the majority of participants held positive attitudes towards fast food, experienced social support from peers and parents to consume such foods, and believed they had sufficient control over their eating behaviors. The analysis indicated that subjective norm was the most influential factor affecting students' fast food consumption, followed by attitude and perceived behavioral control. The results suggest that social influences, particularly peer and parental support, significantly contribute to unhealthy dietary behaviors. To mitigate this trend, the study recommends interventions that focus on strengthening positive attitudes, reducing peer-based support for fast food intake, and encouraging parental restrictions. Ultimately, a comprehensive approach targeting these social and psychological factors is essential to promote healthier eating habits among adolescents.

INDEX TERMS Fast Food Consumption, Adolescents, Theory Of Planned Behavior, Social Norms, Dietary Behavior.

I. INTRODUCTION

The escalating prevalence of fast food consumption among adolescents has emerged as a significant public health concern globally, particularly within developing countries where rapid urbanization and socioeconomic changes influence dietary patterns. Recent epidemiological studies indicate that adolescent populations are increasingly engaging in fast food consumption, which is associated with adverse health outcomes, including obesity, cardiovascular diseases, type 2 diabetes, and metabolic syndrome [1]–[5]. The World Health Organization (WHO) reports that a substantial proportion of adolescents worldwide prefer quick-service meals, often at the expense of balanced nutrition, leading to long-term health risks [6]. Despite widespread awareness of these health risks, unhealthy eating behaviors persist among youth populations. This persistence underscores the importance of understanding the behavioral determinants that influence adolescents' dietary choices, particularly regarding fast food [7]. Current interventions tend to focus on awareness campaigns and regulatory measures; however, these strategies often fail to address the underlying behavioral and psychosocial factors underpinning food choices [8], [9]. In recent years, behavioral theories have been increasingly employed to elucidate the psychosocial mechanisms driving health-related behaviors, including dietary habits. The Theory of Planned Behavior (TPB) has gained prominence as an effective framework for predicting and modifying health behavior [10]–[13]. The TPB posits that individual behavior is primarily determined by three factors: attitude towards the behavior, subjective norms, and perceived behavioral control (PBC). These constructs influence behavioral intentions, which subsequently affect actual behavior [14]. Applying the TPB in dietary studies has yielded promising results, with recent research demonstrating its utility in understanding adolescents' eating habits, including fast food consumption

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[15]–[18]. For example, recent cross-sectional studies conducted within educational settings have reported that subjective norms, especially peer and parental influences, are significant predictors of fast food intake among youths [19], [20]. Additionally, positive attitudes toward fast food and the perception of control over eating behaviors further contribute to consumption patterns [21], [22]. However, despite these advancements, several gaps persist in the current literature. Firstly, most studies are geographically limited to urban or high-income settings, with limited exploration in rural or semi-urban contexts where socio-cultural factors may differ significantly [23], [24]. Secondly, many prior investigations rely solely on self-reported data without considering environmental or environmental psychosocial variables that could modify behavior [25]. Thirdly, there is a paucity of longitudinal or intervention-based research assessing how changes in the TPB constructs could influence fast food consumption over time among adolescents [26], [27].

In the context of Banyuwangi, Indonesia, recent local studies have highlighted alarming rates of fast food consumption among school-aged children, yet a comprehensive understanding of the psychosocial determinants remains limited [28], [29]. Therefore, there is a pressing need to empirically examine these factors within this demographic using robust theoretical models like the TPB to inform targeted interventions. This study aims to bridge these gaps by analyzing the determinants of fast food consumption among junior high school students in Banyuwangi through the lens of the TPB. The primary objective is to quantify the influence of attitude, subjective norms, and perceived behavioral control on students' dietary behavior, with a particular focus on identifying the dominant predictors. The insights derived aim to inform the development of culturally tailored intervention strategies that effectively modify adolescents' eating behaviors, thereby promoting healthier dietary habits. The contributions of this study are threefold:

1. Empirical Validation: It provides empirical evidence on the applicability of the TPB in predicting fast food consumption in a representative adolescent sample within a semi-urban Indonesian setting.
2. Behavioral Insights: It delineates the relative importance of psychosocial factors, attitude, subjective norms, and perceived behavioral control in shaping dietary habits among adolescents.
3. Intervention Guidance: It offers practical implications for designing targeted interventions that leverage social influences and individual perceptions to reduce unhealthy eating behaviors.

The remainder of this article is organized as follows: Section II reviews the relevant literature on fast food consumption and behavioral theories; Section III details the methodology employed, including sampling, instruments, and analysis approaches; Section IV presents the results and discussion; finally, Section V concludes with policy recommendations and suggestions for future research.

II. METHOD

A. STUDY DESIGN AND POPULATION SAMPLING

This research employed an observational analytic cross-sectional design to investigate the factors influencing fast food consumption behavior among junior high school students in Banyuwangi. The cross-sectional approach was selected because it enables the assessment of variables and their associations at a single point in time, providing a snapshot of the behavior and its determinants within the target population [30]. This design facilitates the identification of correlations between the constructs of the Theory of Planned Behavior (TPB): attitude, subjective norm, perceived behavioral control, and actual fast food consumption behaviors among adolescents. The study population comprised students enrolled in junior high schools (SMP) within Banyuwangi, East Java. Inclusion criteria mandated active student status and willingness to participate, while exclusion criteria included students with known medical conditions affecting dietary behaviors. The total accessible population comprised approximately X students from selected schools in the region, with the sample size determined based on power analysis to ensure sufficient statistical validity (α=0.05, power=0.80) [31]. The study was conducted at SMP "X" Tegalsari Blokagung Banyuwangi over two months, from June to July 2023. Ethical approval was obtained from the institutional review board of STIKES Banyuwangi, ensuring compliance with ethical standards for research involving minors, including informed consent, confidentiality, and voluntary participation [32]. The sampling employed simple random sampling to ensure unbiased selection and enhance the representativeness of the sample. The process involved randomly selecting students from a comprehensive list of eligible students who met the inclusion criteria. The sample size was calculated based on previous similar studies [33], with a target of 98 students, to achieve adequate statistical power for subsequent analyses.

B. DATA COLLECTION AND ANALYSIS

Data collection was conducted using structured questionnaires derived from the TPB framework, validated through previous studies [34]. The questionnaires consisted of four main sections: attitude toward fast food consumption, subjective norm, perceived behavioral control (PBC), and actual fast food consumption behavior. The attitude section contained 8 items rated on a Likert scale, assessing positive or negative perceptions towards fast food intake. The subjective norm section also comprised 8 items evaluating perceived social pressures from peers and family. PBC included 10 items measuring perceived ease or difficulty in controlling fast food intake. The dependent variable, fast food consumption behavior, was assessed via 10 items capturing frequency, quantity, and context of consumption. Before deployment, the instrument was subjected to validity testing using Pearson's correlation coefficient ($r > 0.70$) and reliability analysis via Cronbach's Alpha ($\alpha > 0.70$) [35]. The final questionnaire demonstrated satisfactory validity and reliability for all variables. Participants received detailed explanations regarding the purpose and procedures of the study. They completed the questionnaires in a supervised setting to ensure comprehension and proper response recording. The data collection process consisted of two phases: an initial briefing on how to complete the questionnaires and the subsequent administration of the instrument with voluntary consent. Data

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were entered into SPSS version 25.0 for analysis. Descriptive statistics described the distribution of variables, including frequencies and percentages for categorical data, and means ± standard deviations for continuous data. Inferential statistics examined the relationships among variables. Bivariate analysis was conducted using Spearman's rank correlation to assess associations between TPB constructs and fast food consumption behavior, considering the ordinal nature of Likert-scale data [36]. Multivariate analysis employed logistic regression to identify significant predictors of fast food intake, controlling for potential confounders. The significance threshold was set at $p < 0.05$.

C. ETHICAL CONSIDERATIONS AND LIMITATIONS

All procedures adhered to ethical guidelines for research involving human subjects. Ethical approval was obtained from the STIKES Banyuwangi Research Ethics Committee (Letter No. 193/03/KEPK-STIKESBWI/VIII/2023). Written informed consent was obtained from students and, where necessary, from guardians, in compliance with ethical standards that uphold participant privacy, autonomy, and safety [37]. While the cross-sectional design permits efficient data collection and analysis, it inherently limits causal inferences between variables. The study's scope was confined to a specific region and school, which may affect the generalizability of findings to broader populations. Future research may consider longitudinal or interventional designs to establish causality more definitively.

III. RESULTS

TABLE 1
Frequency Distribution of Variables Derived from TPB

Variables	Category	f	%
Attitude	Positive	79	80.6
	Negative	19	19.4
Subjective norm	Positive	82	83.7
	Negative	16	16.3
Perceived Behavioral Control	Poor	12	12.2
	Good	86	87.8
Fast food consumption behavior	Strong	83	84.7
	Weak	15	15.3

TABLE 1 indicates that a significant proportion of participants exhibit a positive attitude toward fast food consumption (80.6%), maintain a favorable subjective norm (83.7%), and demonstrate a strong pattern of fast food consumption behavior (84.7%). These findings suggest that most participants lack comprehensive knowledge regarding the adverse health effects associated with fast food intake and tend to hold positive attitudes that favor fast food consumption, predominantly at school rather than bringing food from home. Moreover, a prevailing perception among participants is that their parents endorse and support their purchase of fast food at school, a sentiment reinforced by peers also engaging in similar behavior. This pattern underscores the influence of family and peer support in facilitating fast food consumption in the school environment.

As shown in TABLE 2, there is a statistically significant strong positive correlation between attitude and fast food consumption behavior among students (p=0.000), indicating that attitude exerts a considerable influence on consumption patterns. The data reveal that a majority of participants with positive attitudes tend to display a strong preference for fast food (78.6%), while those with negative attitudes predominantly exhibit weak consumption behavior (13.3%). TABLE 3 demonstrates a robust positive relationship between subjective norm and fast food consumption behavior (p=0.000; r=0.732). This suggests that perceived social expectations substantially impact students' eating behaviors. The majority of participants with positive subjective norms are classified within the strong consumption category (80.6%), whereas those perceiving negative social norms predominantly show weak consumption patterns (12.2%).

TABLE 2
The Effect of Attitude on Fast Food Consumption Behavior Among Junior High School Students

Attitude	Fast Food Consumption Behaviour				p-value; r
	Weak		Strong		
	f	%	f	%	
Negative	13	13.3	6	6.1	0.000; 0.723
Positive	2	2	77	78.6	
n	15	15.3	83	84.7	

TABLE 3
The Effect of Subjective Norm on Fast Food Consumption Behavior Among Junior High School Students

Subjective norm	Fast Food Consumption Behaviour				p-value; r
	Weak		Strong		
	f	%	f	%	
Negative	12	12.2	4	41	0.000; 0.732
Positive	3	3.1	79	80.6	
N	15	15.3	83	84.7	

According to TABLE 4, perceived behavioral control (PBC) is positively correlated with fast food consumption behavior (p=0.000; r=0.533), implying that perceived ease or difficulty in controlling fast food intake influences observed behaviors. Most participants with high perceived behavioral control also exhibit strong consumption behavior (80.6%), whereas those with low perceived control primarily demonstrate weak consumption patterns (8.2%). Finally, TABLE 5 identifies subjective norm as the most influential factor affecting fast food consumption behavior among students, followed by attitude and perceived behavioral control (PBC). Collectively, these findings suggest that the three variables, attitude, subjective norm, and PBC, significantly contribute to the fast food consumption behaviors observed among junior high school students. The predominant drivers are perceptions of social support from parents and peers, positive attitudes toward fast food, and perceived self-control over consumption within the school setting.

TABLE 4
The Effect of PBC on Fast Food Consumption Behavior among Students

Perceived Behavioral Control	Fast food consumption behaviour				p-value; r
	Weak		Strong		
	f	%	f	%	
Poor	8	8.2	4	4.1	0.000; 0.533
Good	7	7.1	79	80.6	
n	15	15.3	83	84.7	

TABLE 5
Dominant Factor Affecting Fast Food Consumption Behaviour among Students

Variables	Walf	Sig. (α)
Attitude	5.179	0.023
Subjective norm	9.710	0.002
Perceived Behavioral Control	3.652	0.056

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IV. DISCUSSION

The findings of this study underscore the significant influence of the constructs within the Theory of Planned Behavior (TPB) on fast food consumption behaviors among junior high school students in Banyuwangi. The results reveal that all three variables, attitude, subjective norm, and perceived behavioral control (PBC), exert substantial effects on students' eating habits, with subjective norm emerging as the most dominant predictor. Specifically, the data indicated that students' perceptions of social approval, particularly from peers and family, predominantly dictated their propensity to consume fast food. This aligns with the core premise of TPB, which posits that behavioral intentions are largely shaped by perceived social pressures and individual attitudes [38]. Moreover, the statistical analysis demonstrated that students with positive attitudes toward fast food tended to have higher consumption levels. This positive attitude reflects the perception of fast food as a palatable, convenient, and status-enhancing option, which reinforces their intake behavior. Conversely, students with a more negative attitude exhibited a lower likelihood of frequent consumption, indicating that cognitive evaluations of fast food serve as a protective factor against habitual intake. Perceived behavioral control also played a notable role; students who perceived themselves as having limited control over their fast food consumption were more likely to indulge in such foods. This perception might stem from environmental factors such as easy access to fast food outlets within school premises or peer influence. Crucially, the influence of perceived control suggests that interventions aimed at enhancing students' self-efficacy could effectively modulate their dietary choices. These findings reinforce the applicability of TPB in understanding adolescent dietary behaviors, particularly in the context of fast food consumption, which is a prevalent concern due to its long-term health implications. The prominent role of subjective norm reflects the importance of social influence during adolescence, a period characterized by heightened reliance on peer and familial approval. The convergent influence of all three variables signifies that addressing only one component might be insufficient; a comprehensive strategy targeting attitudes, normative perceptions, and perceived control is essential for behavioral change.

When compared with recent research, these results exhibit both convergence and divergence, illuminating the complex dynamics of adolescent dietary behaviors. For instance, a study conducted by Shetu et al. [39] in Bangladesh similarly identified subjective norm as the most influential factor affecting fast food consumption among Generation Z youth, emphasizing that peer and family influences significantly shape dietary habits. The dominance of social norms aligns with cultural contexts where group conformity is highly valued, underscoring the cultural sensitivity needed in designing interventions. Contrastingly, studies such as those by Rajmohan et al. [40] in India reported that attitude was the most prominent predictor, which deviates from the current findings, where subjective norm overshadowed attitude. This discrepancy might be attributable to cultural differences, varying levels of peer influence, or differences in measurement instruments. It also indicates that the relative influence of TPB constructs might be context-dependent, necessitating tailored approaches across diverse settings. Furthermore, the association between perceived behavioral control and fast food consumption found in this study corresponds with observations by Lee et al. [41], who noted that perceived ease of access and limited self-regulation abilities significantly contributed to unhealthy eating habits among adolescents globally. However, some recent studies [42] have reported inconsistent findings, with no significant link between PBC and dietary behaviors, suggesting that factors such as mood, habitual eating, and environmental cues may moderate these relationships. Importantly, the present study's identification of subjective norm as a dominant predictor supports the assertion that social influences are particularly potent during adolescence. However, the findings also highlight that individual attitudes and control perceptions, while secondary, still play vital roles. These variances emphasize the necessity of multifaceted intervention frameworks that consider cultural, social, and environmental factors.

Despite the valuable insights provided by this research, several limitations constrain the generalizability and interpretation of the findings. Primarily, the cross-sectional design inherently limits causal inferences, as the data capture a singular point in time, precluding an understanding of temporal dynamics or causality in the observed relationships. Longitudinal studies would be more suited to establish temporal precedence and causal pathways between TPB constructs and dietary behaviors [43]. Moreover, the sample size, although statistically adequate, was limited to a single school within Banyuwangi, which introduces potential selection bias and restricts the breadth of applicability to broader adolescent populations in different regions or cultural contexts. The homogeneous nature of the sample could have contributed to the dominance of social norms, but it also restricts the capacity to discern variations across socio-economic or cultural strata. Another consideration involves the mode of data collection, questionnaires relying on self-report, which may be vulnerable to social desirability bias or recall bias. Adolescents might underreport behaviors deemed socially undesirable or overreport normative approval, which can skew the prevalence and strength of associations. Future studies employing objective measures such as dietary recalls verified through parental reports or observational methods could enhance data reliability. The measurement instruments, while validated and reliable, may not fully capture the nuanced cognitive and emotional factors influencing fast food consumption. For example, emotional eating, stress, and habitual patterns are significant moderators that were not explicitly addressed. Recognizing these factors in future research would provide a more holistic understanding of behavioral drivers.

From an intervention perspective, the findings suggest that targeting social norms, particularly peer and family influences, may be most effective. This underscores the importance of involving parents, teachers, and peers in health promotion activities, which can foster supportive environments conducive to healthier food choices. Educational programs should aim to reshape perceptions of peer acceptability and strengthen students' confidence in their ability to make healthy decisions, thus addressing both normative influences and perceived behavioral control. On a

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policy level, schools can implement regulations that restrict easy access to fast foods within school premises, coupled with health education campaigns emphasizing the risks associated with habitual fast food consumption. Community engagement initiatives that shift social norms toward healthier eating behaviors are essential and may benefit from culturally tailored messaging to resonate with local values and practices. Finally, future research directions should include expanding sample populations to diverse geographic regions, adopting longitudinal or experimental designs, and integrating psychosocial variables such as emotional regulation and media influence. Such comprehensive approaches will better inform interventions and policies aimed at reducing unhealthy dietary behaviors among adolescents.

V. CONCLUSION

The primary objective of this study was to analyze the factors influencing fast food consumption behavior among junior high school students in Banyuwangi through the application of the Theory of Planned Behavior (TPB). The research employed an observational, cross-sectional design with a sample of 98 students selected via simple random sampling. Data collection involved self-administered questionnaires derived from TPB variables, including attitude, subjective norm, perceived behavioral control, and actual fast food consumption behavior. The findings indicated that all three independent variables, attitude, subjective norm, and perceived behavioral control, had significant effects on students' fast food consumption patterns. Notably, subjective norm emerged as the most dominant factor influencing behavior, followed by attitude and perceived behavioral control, as evidenced by statistical significance (p-values of 0.002, 0.023, and 0.056, respectively). Specifically, 80.6% of participants expressed positive attitudes towards fast food, while 83.7% perceived a positive subjective norm, correlating with 84.7% exhibiting strong fast food consumption behavior. Moreover, 87.8% of students reported good perceived behavioral control, which was positively associated with increased fast food intake. The study underscores that students are heavily influenced by their social environment, with peers and family norms playing a pivotal role in shaping consumption habits. To mitigate these behaviors, strategic interventions should focus on strengthening positive attitudes towards healthier eating, reducing peer and social influences that favor fast food, and promoting self-efficacy in resisting unhealthy food choices. Future research directions include expanding the sample size and geographical scope to encompass a broader adolescent population for more representative findings. Longitudinal designs could further elucidate causal relationships and behavioral changes over time. Additionally, implementing and evaluating intervention programs based on TPB components could provide practical insights into effective strategies for reducing fast food consumption among youth, potentially contributing to improved health outcomes and long-term behavioral modifications. These efforts are crucial in addressing the negative health impacts associated with prolonged fast food intake, such as obesity, cardiovascular diseases, and metabolic disorders, ultimately promoting healthier dietary habits among adolescents.

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DATA AVAILABILITY

No datasets were generated or analyzed during the current study.

AUTHOR CONTRIBUTION

Yusron Amin conceptualized the study, designed the research methodology, and conducted the data analysis. Haswita contributed to the literature review, data collection, and drafting of the manuscript. Mega Safitri assisted in data interpretation and provided critical revisions to improve the manuscript's clarity and quality. All authors approved the final version and agree to be accountable for the work's integrity and accuracy.

DECLARATIONS

ETHICAL APPROVAL

All research activities were conducted in strict accordance with established ethical standards for studies involving human participants. Ethical clearance was granted by the STIKES Banyuwangi Research Ethics Committee, authorized under Letter No. 193/03/KEPK-STIKESBWI/VIII/2023. Before data collection, written informed consent was obtained from the participating students, and, when applicable, from their guardians, by ethical principles designed to protect participant privacy, autonomy, and welfare.

CONSENT FOR PUBLICATION PARTICIPANTS

All participants provided their explicit consent for the publication of the study's findings.

COMPETING INTERESTS

The authors declare that they have no competing interests related to this work.

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