Junk Food Consumption Pattern among Undergraduate Students in Urban Regions of Nepal

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Abstract

Junk food consumption is a serious problem among the urban youth. Various researches show that it is bad for health from both public health and food security and nutrition perspectives. This study examined the junk food consumption patterns among undergraduate students in Kathmandu, Nepal. It aimed to explore the preferences, consumption frequency, and the socio-demographic factors shaping the junk food consumption pattern. Theory of planned behaviors (TPB) was employed to analyze the junk food consumption pattern by hypothesizing that individual behavior is influenced by attitudes, subjective norms, and perceived behavioral control. A cross-sectional survey was conducted in two purposively selected private colleges of Kathmandu. Two hundred and five students were chosen as sample using stratified random sampling to ensure proportional representation by college and faculty. The results of ordinal logistic regression showed that the goodness-of-fit suggested a reasonable model fit (Deviance χ^2 (563) = 408.309, p = 1.000). The dependent variable was junk food consumption frequency. Statistically significant predictors of higher consumption frequency were religion (Hinduism and Buddhism, p < .05) and convenience factors (easy availability, p = .006; instant consumption, p = .004), while variables such as sex, age, and faculty were not statistically significant. The study found that religion and convenience-based influences increase junk food consumption more than demographic factors which supports the TPB. The study offers valuable insights for policymakers, community leaders, and other stakeholders involved in food security initiatives, emphasizing a holistic approach to regulating junk food availability and promoting healthier diets.

Keywords: *junk food, consumption pattern, youths, ordinal logistic regression, Kathmandu*

Introduction

Background of the Study

The increasing consumption of junk food among youths, particularly in urban areas, has emerged as a critical global public health as well as socio-cultural concern. Junk food, characterized by its high caloric content, along with high levels of fats, sugars, and sodium but offers minimal essential nutrients. Junk food lacks legal definition (Snowdon, 2019), it is, in general, defined as highly processed, energy-dense foods with low nutrient content but high in fats, sugars, and salts (Milani et al., 2017). The consumption of such food has been linked to serious health risks, including obesity, cardiovascular diseases, and type 2 diabetes (Arya & Mishra, 2013; Didarloo et al., 2022). In 2022, the global sales of fast-food including junk food reached $731.65 billion that shares larger portion of leading consumption in the USA, the UK, France and China with the largest urban populations (World Population Review, 2024).

The food choice and the consumption patterns of junk food have broader socio-economic implications, particularly in rapidly urbanizing regions of developing countries. Factors such as economic accessibility, cultural shifts, and the pressures of urban living contribute to these patterns, highlighting the need for a comprehensive understanding of the socio-economic determinants of dietary behavior (Turrell & Kavanagh, 2005; Hovhannisyan & Devadoss, 2020).

Urbanization, in particular, has played a crucial role in altering dietary habits, with the increased demand for convenience foods being a significant outcome of rising disposable incomes and changing lifestyles (Hovhannisyan & Devadoss, 2020). Furthermore, socio-economic gap worsens nutritional inequalities especially in urban setting by restricting access to nutritious food in lower income families (Pakravan-Charvadeh et al., 2022). People are forced to purchase processed and cheaper foods because they have less money and job security. In addition, a lack of social networks, unequal access to resources and opportunities and lower educational levels reduces awareness of healthy food and nutrition and negatively affect household well-being. With a focus on the socio-economic and demographic factors that affect food consumption behavior of undergraduate students in Nepal, the study aims to explore the pattern of junk food consumption.

Statement of the Problem

Despite increasing awareness of the adverse health effects associated with junk food consumption among educated youths, its prevalence remains significant, particularly

in urban areas of developing countries. In urban areas of Nepal such as Kathmandu, undergraduate students face multiple pressures including demanding academic schedules, part-time jobs, and financial constraints. The students migrated from rural areas require them to manage studies and living expenses independently. Limited campus dining options and widespread availability of fast food further encourage reliance on convenient and processed foods (Stuckler & Nestle, 2012). Additionally, a complex interplay of factors including economic affordability, peer influence, and the rapid urbanization of developing nations, has contributed to a notable rise in junk food consumption (Pahari & Baral, 2020). These socio-economic factors are of particular concern as they not only increase consumption but also deepen inequalities, limiting access to healthier food alternatives, especially among lower-income students (Turrell & Kavanagh, 2005).

The health implications of these dietary behaviors are extensive, with negative impacts on nutritional well-being and broader public health outcomes, which, in turn, pose significant challenges to sustainable development (Pakravan-Charvadeh et al., 2022; Pandey et al., 2020). Understanding the consumption patterns of junk food is therefore critical, both from a policy and theoretical perspective, in developing countries such as Nepal. From a theoretical standpoint, examining these consumption patterns provides insights into how dietary behaviors are evolving in response to modernization and globalization, and aids in predicting long-term health and social outcomes. Contextualizing the study within specific socio-economic settings can also contribute to the development of theoretical models related to food safety and security. From a policy perspective, this study is essential for formulating effective strategies to enhance access to affordable, healthy foods and to regulate the marketing and promotion of junk food. Understanding these patterns could also assist in the development of targeted public health interventions aimed at reducing junk food consumption and promoting healthier dietary practices among urban youth in developing countries.

Objectives

The main objective of the study was to identify junk food preferences and consumption patterns among undergraduate college students in Kathmandu, Nepal. Specifically, the study aimed to explore the types of mostly consumed junk foods, the frequency of consumption, places of consumption and purchase and the socio-demographic factors that influence these consumption behaviors. For this study, junk food is highly processed, energy-dense foods that are high in sugar, salt, and unhealthy fats but low in essential nutrients (Stuckler &Nestle, 2012; Monteiro et al., 2018). The

socio-demographic factors include gender, age, religion and faculty of the students. In addition, the study intended to examine how consumption patterns influenced by these factors in urban setting.

Methodology

This study employed a quantitative research design to examine the junk food preferences and consumption patterns among undergraduate students at Kathmandu, Nepal. A cross-sectional survey was conducted using a structured questionnaire at two purposively selected private colleges in Kathmandu, namely; K & K International College and Triton International College. The sample size of 205 students was determined by using Cochran's formula for a finite population of 435 students with a 95% confidence level and a 5% margin of error (Cochran, 1977). Stratified sampling was used to ensure proportional representation by both colleges and faculty of study: Management and Humanities. From K & K International College, 97 respondents were represented whereas remaining 108 respondents were from Triton International College. Based on the population distribution, 132 students were sampled from the Management faculty and remaining 73 from the Humanities. Additional stratification by demographic variables, such as gender, sex, age and faculty, was also considered to enhance the study's representativeness and reliability in analyzing junk food consumption patterns as well. The study was grounded in a positivist epistemology, which assumes that objective and measurable knowledge about junk food consumption patterns can be obtained through systematic data collection. Ontologically, the study followed a realist perspective, viewing students' behaviors and consumption patterns as observable and quantifiable phenomena influenced by socio-economic factors. The data were analyzed at univariate, bivariate and multivariate levels.

Study Limitations

The study focused mainly on private colleges in Kathmandu while junk food consumption patterns may differ in public colleges due to varying socio-economic and institutional contexts. Additionally, as Kathmandu is the most urbanized area, the results may not reflect consumption patterns in other regions with different socio-economic and cultural influences. It focused on only two faculties; management and humanities as well as undergraduate students can also limits the applicability of the findings to other academic disciplines, age groups, or educational levels.

Theoretical Orientation

This study was grounded in the Theory of planned behaviors (TPB), which argues

that individual behavior is influenced by attitudes, subjective norms, and perceived behavioral control (Ajzen, 1991). In this context, age, religion, faculty and sex-based attitudes and norms were considered as major variables (Turrell and Kavanagh, 2005) linking with the TPB. Its framework facilitates the analysis of how socio-economic factors and cultural norms influence junk food consumption behaviors among undergraduate students (Didarloo et al., 2022). By emphasizing socio-economic influences, the study aimed to highlight the broader developmental implications of junk food consumption patterns in urbanizing regions of developing countries (Pakravan-Charvadeh et al., 2022; Hovhannisyan & Devadoss, 2020).

Results and Discussion

Descriptive Results and Analysis

The study examined the socio-demographic characteristics of undergraduate students to understand the factors influencing junk food consumption patterns. The findings are summarized in Table 1.

Table 1: *Socio-Demographic Characteristics of the Respondents (n=205)*

Socio-Demographic Characteristics	f	%	Mean	SD
Sex				
Male	137	66.8		
Female	68	33.2		
Age (in year)				
Below 21	67	32.7		
22-24	117	57.1		
25 and above	21	10.2		
Religion			22.6	2.8
Hinduism	143	69.8		
Buddhism	46	22.4		
Kirant	11	5.4		
Christianity	5	2.4		
Faculty				
Management	132	64.4		
Humanities	73	54.6		

Note: SD = Standard Deviation

Nearly 67 percent (66.8%) of the respondents were male where more than half (57.1%) were within the 22-24 age group. Religion wise, dominant respondents were from Hinduism (69.8%). Among the respondents, more than half (64.4%) were represented

the management faculty and remaining 45.6 percent were from the humanities faculty. This descriptive information provided a critical context for understanding the factors influencing junk food consumption patterns among undergraduate students and enabled a comprehensive analysis of how socio-cultural and academic backgrounds shape differences in junk food preferences and consumption behaviors.

Types of Mostly Consumed Junk Food

Dietary habits of undergraduate students are significantly influenced by factors such as convenience, affordability and social norms (Stuckler & Nestle, 2012). Junk food consumption, in particular, has become a prevalent trend among young adults largely due to its accessibility. To understand this habit, the study examined the types of mostly consumed junk foods among the undergraduate students in Kathmandu.

Table 2: *Types of Junk Food Mostly Consumed (n = 205)*

Type of Junk Food	f	% of total responses (n=277)	% of total respondents (n=205)
Chips & Cheese Ball	50	18.1	24.4
Candy & Chocolate	40	14.4	19.5
Noodles	82	29.6	40.0
Soft and Energy Drinks	52	18.8	25.4
Cookies & Biscuits	22	7.9	10.7
Ice Cream	26	9.4	12.7
Titaura	20	7.2	9.8

As shown in Table 2, types of junk food mostly consumed by the respondents varied significantly. Noodles were the most frequently consumed, selected by 40.0% of the participants and representing 29.6% of total responses. This is followed by Soft & Energy Drinks (25.4%) and Chips & Cheese Ball (24.4%), indicating a preference for convenient, ready-to-eat foods among students. Candy & Chocolate accounted for 19.5% of responses, while Ice Cream, Cookies & Biscuits and Titaura were consumed by 12.7%, 10.7% and 9.8% of respondents, respectively. The higher consumption of noodles and energy drinks likely reflects positive attitudes towards convenience and social acceptability of these items, reinforced by norms in academic environment. Students often experience tight schedules, higher study pressure and peer influences making them quick and easily accessible food choices more appealing. Additionally, the widespread availability and affordability of junk foods enhance

perceived behavioral means control by allowing students to purchase and consume them with minimal effort or constraint.

Frequency of Junk Food Consumption

Since noodle is the most consumed junk food among the undergraduate students in this study, the frequency of junk food consumption is essential to explore. The frequency was measured in Likert scale which is presented in Table 3.

Table 3: *Frequency of Junk Food Consumption (n = 205)*

Frequency of consumption	f	%
Always	19	9.3
Frequently	31	15.1
Sometimes	109	53.2
Rarely	46	22.4

Over 68.3% of respondents reported consuming junk food either frequently or sometimes, reflecting unescapable engagement with unhealthy eating habits. This pattern indicates the positive attitudes towards junk food, driven by factors such as taste and convenience, which are central to Ajzen's Theory of planned behaviors (1991). The ease of access to junk food, especially in urban and campus environments, contributes to strong perceived behavioral control, where students feel they can easily obtain these foods with minimal effort (Freedman, 2010). The normalization of junk food consumption in student culture, reinforced by subjective norms, likely further exacerbates this behavior (Larson & Story, 2009). In contrary, only 22.4% of respondents indicated they rarely consume junk food, suggesting a few students adopt more health-conscious behaviors. However, the prevailing influence of the food environment, where unhealthy options are readily available and marketed, plays a crucial role in shaping these dietary habits (Story et al., 2008).

Urbanization has significantly influenced food demand, shifting dietary patterns towards processed and energy dense foods (Hovhannisyan & Devadoss, 2020). In Nepal, higher level students frequently consume junk food due to its convenience and appealing taste (Subedi et at., 2020) while in Pokhara Valley, peer pressure, advertisements and the presence of fast food outlets further encourage junk food consumption (Bohara et al., 2021). Additionally, a study in Egypt found that frequent junk food intake is associated with higher levels of stress, anxiety, and depression, suggesting a psychological link to dietary choices (Abdelrahman & El Said, 2023).

These findings highlight the need for intervention strategies such as nutrition awareness programs, regulations on fast food marketing and improved access to healthier food options in schools and universities to mitigate the rising trend of junk food consumption and its long-term health implications.

Junk Food Consumption Reasons

The study revealed the reasons as key motivations behind students' junk food consumption (Table 4). Understanding these factors can help guide the development of nutrition education programs, policy regulations on food marketing and strategies to promote affordable health food options for students.

Table 4: *Reasons for Consuming Junk Food (n = 205)*

Reasons	f	%
Instantly Consumed	37	18.6
Tasty	91	45.7
Temptation	38	19.1
Cheaper Price	6	3.5
Easy Availability	32	16.1

The reasons for consuming junk food among respondents was also varied significantly (Table 4). Taste was the major reason (44.4%) followed by Temptation (18.5%) and Instantly Consumed (18.0%), reflecting the influence of convenience in students' food choices. Easy availability was a reason for consumption among 15.6% of respondents, highlighting how the accessibility of junk food facilitates consumption, particularly in busy environments. Interestingly, cheaper price was not main reason (3.4%) of respondents which indicates that price is not a significant determinant of junk food consumption in this population. This finding contrasts with common assumptions that affordability is a primary driver of unhealthy eating. The data suggest that factors like taste, temptation, and convenience are far more influential than cost, aligning with Ajzen's (1991) Theory of planned behaviors, which claims that attitudes (e.g., taste preference) and perceived behavioral control such as availability strongly influence decision-making. These results suggest that students' consumption patterns are shaped more by immediate fulfillment and convenience than by financial considerations.

However, several studies argued that junk food consumption among students is influenced by a range of personal, social and economic factors. One of the studies

(Subedi et al., 2020) claims that preference for processed and fast food is often linked to convenience, affordability, taste and accessibility. Studies suggest that taste is a primary motivator for junk food consumption, with students often opting for processed snacks and fast food due to their enhanced flavor profiles, created through additives and high salt, sugar, and fat content (Bohara et al., 2021). Temptation, driven by cravings, peer influence and aggressive advertising further encourages consumption (Abdelrahman & EI Said, 2023) while economic factors such as cheaper prices also contribute to students' food choices as cost-effective options are often preferred over healthier but more expensive alternatives (Bohara et al., 2021).

Junk Food Consumption Places

The junk food consumption is important for analysis of students' dietary behavior. It can reflect accessibility, social influences, convenience and environmental factors that shape food choices. For instance, high junk food consumption in college canteens, fast food outlets and street vendors suggests that institutional and urban food environments significantly influence students' consumption habits (Hovhannisyan & Devados, 2020). The study findings related to junk food consumption places are presented in Table 5.

Table 5: *Places of Junk Food Consumption (n = 205)*

Places	f	%
College	23	11.2
Entertainment venues (Cinema Hall, Playground, Concert)	31	15.1
House	57	27.8
During travel	90	43.9
Others	4	2.0

The places of junk food consumption among respondents also varied significantly (Table 5), where majority of respondents consume junk food during travel (43.9%). It also reflects how accessible and convenient junk food is while traveling. The larger share of household consumption (27.8%) also further indicates how the home environment contributes to junk food consumption. Entertainment venues, such as cinema halls and playgrounds, accounted for 15.1% of consumption, reinforcing the social acceptability and subjective norms around junk food consumption in recreational environments. This is closely tied to the idea that eating junk food is

socially acceptable and expected in these contexts, where individuals often shape their behaviors on peers and environmental signals, as suggested by the Theory of planned behaviors. Interestingly, at college, 11.2% of respondents consume junk food also show that how students at college enjoy junk food in need have quick and readily available food options. These consumption patterns reflect the interplay of attitudes, subjective norms, and perceived behavioral control, all key components of the Theory of planned behaviors. The frequent consumption of junk food during travel and at home suggests that convenience, social norms, and the availability of junk food in these environments play pivotal roles in shaping behavior. In these settings, individuals may feel a strong sense of behavioral control due to the ease of access and social reinforcement of these choices, thereby normalizing junk food consumption.

Junk Food Purchased Places

Junk food purchased places can impact on consumption patterns of individuals such as availability and accessibility of junk food in university, nearby outlets and supermarkets (Li et al., 2022). Studies suggest that fast food restaurants nearby university is strongly associated with increased junk food consumption as students tend to opt for convenient and readily options rather than healthier alternatives (Davis & Carpenter, 2009). In this study, local stores, online delivery, shopping malls and college canteen were main places (Table 6).

Table 6: *Places of Junk Food Purchased (n = 205)*

Junk food purchasing places	f	% of the responses (n=248)	% of the respondents (n=205)
Local stores	171	69.0	83.4
Online delivery	11	4.4	5.4
Shopping malls	38	15.3	18.5
College canteen	28	11.3	13.7

As shown in Table 6, local stores are the primary source of junk food purchases (83.4%). It alsoshowed the role of accessibility and availability of junk food in students' purchasing behavior. Local stores, typically near campuses and residences, facilitate frequent, impulsive purchases, driven by the need for easily available options. This behavior is consistent with Ajzen's Theory of planned behaviors (1991), which posits that attitudes toward convenience, combined with high perceived behavioral control, significantly influence behavior. Moreover, the findings align with Larson

and Story (2009), who noted that low-cost, high-availability food environments are strongly associated with poor dietary behaviors among young adults.

In contrary, online delivery (5.4%) reflects low perceived behavioral control due to higher barriers, such as delivery costs and wait times (Ajzen, 1991). This contrasts with the growing reliance on delivery services in other demographic groups, suggesting that students prioritize immediacy over variety or convenience from online platforms (Dunn et al., 2021). While shopping malls accounted for 18.5% of respondents, their role likely reflects more occasional, leisure-driven purchases rather than routine behavior, as seen in similar studies on food consumption in recreational settings (Vepsalainen et al., 2018). Additionally, college canteens (13.7%) were a less frequent source of junk food, indicating students may perceive canteens as offering fewer desirable options or lacking convenience compared to off-campus alternatives, further supporting findings that food environments on campuses often do not meet student preferences (Freedman, 2010). The results underline the importance of convenience, cost, and accessibility in shaping students' purchasing decisions, emphasizing the need to address environmental and behavioral factors to promote healthier choices.

Bivariate Results and Analysis
Sex and Junk Food Consumption Pattern

Understanding the factors influencing junk food consumption is very important, as frequent intake of junk food is associated with various health risks, including obesity, diabetes, and cardiovascular diseases (WHO, 2020). Previous studies have suggested potential differences in dietary patterns based on sex (Wardle et al., 2004); however, it remains unclear if sex significantly influences junk food consumption frequency particularly. This study investigated the association between sex and the junk food consumption frequency among the respondents using chi-square test (Table 7).

Table 7: *Chi-square Results Association between Sex and Junk Food Consumption Pattern (n=205)*

Test	Value	df	Asymptotic significance (2 sided)
Pearson Chi-Square	6.055	3	0.109
Likelihood Ratio	5.906	3	0.116
Linear-by-Linear Association	1.111	1	0.292

In this study, bivariate results of sex and frequency of junk food consumption found that there is no statistically significant association between them (Pearson Chi-Square=

6.055; p= 0.109). This showed that males and females do not differ significantly in their junk food consumption patterns. Therefore, gender does not appear to be a key factor influencing junk food consumption frequency. In this context, the absence of significant sex-based differences may indicate that attitudes and perceptions about junk food consumption are more influenced by broader factors like health beliefs, peer influence, availability of junk food and environmental availability rather than biological sex alone. Like Theory of Planned Behavoiour, both males and females may have similar intentions or motivations to consume junk food, driven by these shared factors, which could explain the lack of significant sex-based differences in consumption frequency (Ajzen, 1991).

Age and Frequency of Junk Food Consumption

Age is one of the influencing demographic factors in dietary behavior especially regarding the consumption of junk food. Younger individuals particularly adolescents and young adults are more prone to junk food consumption compared to older populations (CDC, 2020). This trend raised a significant public health concern due to association between junk food consumption intakes and increased risk of type 2 diabetes, cardiovascular diseases and obesity (Micha et al., 2017; WHO, 2020). While studying the relationship between age groups of respondents with their junk food consumption frequency, younger age groups (below 21 and 22-24) is higher (Table 8).

Table 8: *Age Groups * Junk Food Consumption Frequency by Respondents *Cross tabulation*

Age groups	Frequency of Junk Food Consumption by Respondents				Total
	Rarely	**Sometimes**	**Frequently**	**Always**	
Below 21	14 (20.9%)	36 (53.7%)	8 (11.9%)	8 (11.9%)	67
22-24	28 (23.9%)	64 (54.7%)	9 (7.7%)	9 (7.7%)	117
25 and above	4 (19.0%)	9 (42.9%)	2 (9.5%)	2 (9.5%)	21
Total	46 (22.4%)	109 (53.2%)	31 (15.1%)	19 (9.3%)	205

The results showed that the highest proportion (53.2%) of respondents across all age groups reported consuming junk food 'sometimes' particularly by 22-24 age groups of the students followed by 'rarely' (22.4%) . Furthermore, a chi-square test was conducted to examine the association between these two variables (Table 9).

Table 9: *Chi-square Results Association between Age Groups and Junk Food Consumption Pattern*

Tests	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	4.402[a]	6	.622
Likelihood Ratio	3.897	6	.691
Linear-by-Linear Association	.000	1	.983
N of Valid Cases	205		

Note: a 3 cells (25.0%) have expected count less than 5. The minimum expected count is 1.95.*

The results showed no statistically significant relationship between them (Pearson Chi-Square = 4.402; p=0.622). Additionally, the Linear-by-Linear Association test yielded a p-value of 0.983, further confirming the absence of a consistent trend in consumption as age increases. Although 25% of the cells had expected counts less than 5, this slight violation does not significantly affect the conclusion that age does not significantly influence junk food consumption frequency.

In relation to the Theory of Planned Behaviour (TPB), lack of a significant relationship between age and consumption frequency supports the theory, as it implies that age alone may not strongly influence junk food consumption patterns. Instead, personal attitudes and external influences likely play a more critical role in shaping these behaviors across different age groups.

Sex and Mostly Consumed Junk Food

The study additionally examined the relationship between sex and most consumed junk food (Table 10) which showed that males consume junk food in larger numbers across all categories compared to females.

Table 10: *Sex of the respondents *Most Consumed Junk Food by Respondents* Cross tabulation*

Sex	Most Consumed Junk Food by Respondents					Total
	Candy & Chocolate	Chips & Cheese Ball	Cookies & Biscuits	Noodles	Soft & Energy Drinks	
Male	28	25	12	56	12	133
Female	12	25	4	30	1	72
Total	40	50	16	86	13	205

The study also revealed that both sex groups most frequently consumed junk food was noodles (males=56; females=30). Chips and Cheese Ball were the second most popular for both sexes, however, males have a higher preference for Candy and Chocolate and males also consume more Cookies and Biscuits and Soft and Energy Drinks than females. While noodles are the most common choice for both sexes, males appear to consume more across all categories. Additionally, in order to examine the relationship between these two variables, chi-square test was conducted (Table 11).

Table 11: *Chi-square Results Association between Sex and Mostly Consumed Junk Food*

Tests	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	10.332[a]	4	.035
Likelihood Ratio	11.295	4	.023

Note: a* 1 cells (10.0%) have expected count less than 5. The minimum expected count is 4.57.

The chi-square test demonstrated a statistically significant relationship between sex and the most consumed junk food (Pearson Chi-Square = 10.332, p = 0.035). This suggests that males and females have distinct preferences in the types of junk food they consume, with the differences unlikely to be due to random chance. Gender differences in junk food consumption could be shaped by social norms and expectations about dietary preferences or attitudes toward certain food types which are consistent with TPB's focus on social and personal determinants of behavior.

Faculty and Mostly Consumed Junk Food

The study further explored the relationship between faculty of the study of the students and their mostly consumed junk food consumption frequency (Table 12).

Table 12: *Faculty of the respondents * Most Consumed Junk Food by Respondents* Cross tabulation*

Faculty of the respondents	Most Consumed Junk Food by Respondents					Total
	Candy & Chocolate	Chips & Cheese Ball	Cookies & Biscuits	Noodles	Soft & Energy Drinks	
Management	26	32	8	57	9	132
Humanities	14	18	8	29	4	73
Total	**40**	**50**	**16**	**86**	**13**	**205**

The analysis of relationship between faculty of the respondents and their most consumed junk food shows distinct consumption patterns between Management and Humanities students. In both faculties, noodles are the most consumed junk food, however, Management students demonstrate a higher consumption of Chips and Cheese Ball and Candy and Chocolate. It indicates that Management students may have a stronger preference for snack-based junk food, while Humanities students show a more balanced distribution across categories, with lower consumption in each. These differences might reflect the distinct social environments or lifestyle demands of each faculty. According to TPB, external factors such as the availability of fast food, peer behaviors, or academic pressures could influence food choices, explaining the variation in junk food preferences between these faculties. However, the chi-square test results showed no statistically significant association between them (Pearson Chi-Square =1.721, df=4, p=0.787) (Table 13). In similar vein, the Likelihood Ratio supported this finding with non-significant p-value (0.797), further confirming the lack of significant association indicating that the observed differences in junk food preferences between Management and Humanities students are likely due to random variation and not meaningful faculty-related differences. It indicated that other socio-cultural factors can be more influential determinants of students' junk food consumption preferences rather than the faculty they studied.

Table 13: *Chi-Square Results Association between Faculty and Mostly Consumed Junk Food*

Tests	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1.721[a]	4	.787
Likelihood Ratio	1.664	4	.797

Note: a* 1 cells (10.0%) have expected count less than 5. The minimum expected count is 4.63.

Place of Junk Food Consumption and Purchase

The study additionally investigated whether place of junk food purchase and junk food consumption places are interrelated. Evidence suggests that while junk food is frequently purchased from fast food restaurants or outlets, a considerable proportion of consumers choose to consume these foods at home rather than at the place of purchase (Thornton et al., 2009). However, this study showed distinct pattern of relationship between place of junk food purchase and place of consumption among the students (Table 14).

Table 14: *Place of Junk Food Purchase * Place of Junk Food Consumption* Cross tabulation*

Place of Junk Food Purchase	Place of Junk Food Consumption					Total
	College	**Travel**	**Entertainment venues**	**House**	**Others**	
College Canteen	2 (7.1%)	14 (50.0%)	2 (7.1%)	10 (35.7%)	0 (0.0%)	28
Local Stores	18 (14.1%)	56 (43.7%)	23 (18.0%)	27 (21.1%)	4 (3.1%)	128
Online Delivery	1 (9.1%)	7 (63.6%)	0 (0.0%)	2 (18.2%)	1 (9.1%)	11
Shopping Mall	3 (7.9%)	15 (39.5%)	6 (15.8%)	14 (36.8%)	0 (0.0%)	38
Total	**24 (11.7%)**	**92 (44.9%)**	**31 (15.1%)**	**53 (25.9%)**	**5 (2.4%)**	**205**

The study revealed that majority of the respondents (62.4%) purchased junk food from the local stores primarily consuming it during travel (43.7%) or at home (21.1%). College canteens, though less frequently used (13.7%), showed a relatively balanced pattern of consumption between travel (50.0%) and home (35.7%). Online delivery services, while used minimally (5.4%), predominantly corresponded with consumption during travel (63.6%), suggesting convenience as a key driver. Lastly, junk food purchased from shopping malls (18.5%) was commonly consumed during travel (39.5%) or at home (36.8%), highlighting diverse consumption scenarios. Overall, travel emerged as the predominant location for consuming junk food, regardless of purchase location, reinforcing findings from previous studies emphasizing convenience and mobility as significant determinants of consumption patterns (Thornton et al., 2009).

However, the chi-square test showed no statistically significant relationship between the place of purchase and consumption (p = 0.267) (Table 15). The absence of a direct link between purchase and consumption place indicated that decisions around where to eat junk food are more situational and driven by external factors like travel needs or availability rather than being directly tied to where the food was bought. This finding is aligned with TPB's emphasis on the influence of external and personal control factors in shaping behavior.

Table 15: *Chi-Square Results Association between Place of Junk Food Purchased and Junk Food Consumed Place*

Tests	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	14.542[a]	12	.267
Likelihood Ratio	17.017	12	.149

a. 11 cells (55.0%) have expected count less than 5. The minimum expected count is .27.

Multivariate Results and Analysis

The results of the ordinal logistic regression demonstrated a good fit, with a significant improvement over the intercept-only model, $\chi^2(22) = 63.290$, $p < .001$. It indicated that the predictor variables significantly contribute to explaining the variability in junk food consumption frequency across four categories: Frequency 1 (Rarely), Frequency 2 (Sometimes), Frequency 3 (Often), and Frequency 4 (Always). The dependent variable was the frequency of junk food consumption whereas predictors were age, sex, religion, faculty, place of junk food consumption, place of junk food purchase and mostly consumed junk foods. The pseudo-R-squares (Cox & Snell = .266, Nagelkerke = .293, McFadden = .131) suggest that the model explains a moderate portion of the variance in junk food consumption frequency.

The goodness-of-fit statistics provided mixed results. The Pearson Chi-Square test was significant, $\chi^2(563) = 675.034$, $p = .001$, indicating that the model does not perfectly fit the data. A significant Pearson Chi-Square suggests some inconsistencies between the observed and predicted frequencies. However, the Deviance statistic, which is often more reliable in ordinal regression, was non-significant, $\chi^2(563) = 408.309$, $p = 1.000$, suggesting that the model does not differ significantly from the saturated model and therefore provides a reasonably good fit. Overall, the goodness-of-fit measures indicate that the model adequately represents the data, despite not being a perfect fit.

Religion emerged as a significant predictor. Respondents from Religion 1 (Hinduism) (B = 2.671, $p = .026$) and Religion 2 (Buddhism) (B = 3.305, $p = .007$) were significantly more likely to report higher frequencies of junk food consumption compared to Religion 4 (Christianity), which served as the reference group. In contrast, Religion 3 (Kirat) was not a significant predictor ($p = .171$). These results suggest that cultural or religious influences may play a role in shaping dietary behaviors, reflecting different attitudes toward food consumption across religious groups.

The reasons for junk food consumption also significantly impacted consumption frequency. Respondents who consumed junk food due to easy availability (B = -1.407, $p = .006$) and instant consumption (B = -1.447, $p = .004$) were less likely to report higher consumption frequencies across the four categories. This indicates that individuals who prioritize convenience tend to consume junk food less frequently, possibly because they value efficiency over indulgence. These findings are aligned with the Theory of planned behaviors (TPB), which highlights the importance

of attitudes and perceived behavioral control in shaping behavior. The negative relationship between convenience-based consumption and frequency suggests that perceived control (such as easy access or instant consumption) may limit frequent junk food intake.

In contrast, demographic factors such as sex (coded as Male = 1 and Female = 2) and age (coded as 'Below 21' = 1, '22-24' = 2, and '25 and above' = 3) did not significantly predict junk food consumption frequency, with all p-values exceeding .05. This indicates that there are no meaningful differences in junk food consumption patterns based on these demographic characteristics. Similarly, faculty (coded as Management = 1 and Humanities = 2) did not significantly influence junk food consumption (p = .645). Furthermore, other factors, including the most consumed junk food categories (such as Candy and Chocolate, Chips and Cheese Ball, Cookies and Biscuits, and Noodles), the place of junk food purchase (e.g., College Canteen, Local Stores, Online Delivery), and the place of consumption (e.g., College, During Travel, Entertainment Venues, Home), were not significant predictors, as all p-values exceeded .05.

In conclusion, this analysis supports the Theory of planned behaviors (TPB) by highlighting the importance of individual attitudes and perceived control in determining junk food consumption patterns. Specifically, religion and reasons for consumption (especially convenience) emerged as significant predictors, whereas demographic factors such as sex, age, and faculty were not significant. These findings suggest that personal motivations and situational factors play a more critical role in shaping dietary habits than inherent demographic differences. The four-category dependent variable (Rarely, Sometimes, Often, Always) effectively captures the nuanced relationship between personal motivations and consumption frequency.

Table 16: *Ordinal Logistic Regression Predicting Frequency of Junk Food Consumption*

Predictor	Estimate (B)	Std. Error (SE)	Wald χ^2	p-value	95% Confidence Interval (CI) for B
Thresholds					
Frequency 1 (Rarely)	1.545	1.772	0.760	.383	[-1.929, 5.019]
Frequency 2(Sometimes)	4.576	1.792	6.521	.011*	[1.064, 8.089]
Frequency 3 (Often)	5.906	1.803	10.726	.001**	[2.372, 9.441]
Predictors					
Sex (Male)	-0.271	0.314	0.745	.388	[-0.888, 0.345]

Predictor	Estimate (B)	Std. Error (SE)	Wald χ²	p-value	95% Confidence Interval (CI) for B
Age					
Below 21	-0.644	0.528	1.487	.223	[-1.678, 0.391]
22-24	-0.663	0.500	1.756	.185	[-1.643, 0.318]
Religion					
Religion 1 (Hinduism)	2.671	1.202	4.938	.026*	[0.315, 5.026]
Religion 2 (Buddhism)	3.305	1.227	7.254	.007**	[0.900, 5.710]
Religion 3 (Kirant)	1.857	1.358	1.871	.171	[-0.804, 4.519]
Faculty					
Management	-0.144	0.313	0.213	.645	[-0.757, 0.468]
Most Consumed Junk Food					
Candy and Chocolate	0.593	0.673	0.777	.378	[-0.726, 1.911]
Chips and Cheese Ball	0.451	0.660	0.467	.494	[-0.843, 1.745]
Cookies and Biscuits	0.536	0.771	0.483	.487	[-0.976, 2.048]
Noodles	0.635	0.627	1.026	.311	[-0.594, 1.864]
Place of Junk Food Consumption					
College	1.805	1.050	2.957	.086	[-0.252, 3.862]
During Travel	0.543	0.980	0.306	.580	[-1.379, 2.464]
Entertainment Venues	1.062	1.037	1.050	.306	[-0.970, 3.095]
Home	1.754	1.009	3.021	.082	[-0.224, 3.731]
Place of Junk Food Purchase					
College Canteen	0.824	0.516	2.556	.110	[-0.186, 1.835]
Local Stores	0.139	0.380	0.134	.714	[-0.606, 0.885]
Online Delivery	0.504	0.715	0.498	.480	[-0.897, 1.906]
Reasons for Consumption					
Cheaper Price	-1.565	0.957	2.673	.102	[-3.441, 0.311]
Easy Availability	-1.407	0.513	7.517	.006**	[-2.412, -0.401]
Instantly Consumed	-1.447	0.504	8.231	.004**	[-2.436, -0.459]
Tasty	-0.089	0.399	0.050	.823	[-0.872, 0.694]

Note: *= $p < .05$, **= *$p < .01$*. Reference categories are set to zero.

Conclusion

This study provides crucial insights into junk food consumption from a food and nutrition security perspective in the context of urban areas of developing countries like Nepal. The finding highlighted the significant influence of religion can drive dietary

preferences, potentially complicating efforts to improve food and nutrition security. Cultural and religious influences are significant determinants of food choices in various global contexts as well (Popkin, 2014; Wardle et al., 2004). This study further indicated that role of convenience, easy availability and immediate consumption significantly drive junk food intake in urban areas echoing emphasizing the influence of urban food environments on dietary choices (Micha et al., 2017). For instance, 53.2% of respondents reported consuming junk food 'sometimes', highlighting its regular inclusion in diets across all age groups. Furthermore, Table 13 illustrates that a majority (62.4%) of respondents purchased junk food from local stores, frequently consuming it during travel (43.7%) or at home (21.1%), emphasizing the environmental ease of access. This pattern of junk food consumption is aligned closely with the Theory of Planned Behaviour which argues attitudes, subjective norms and perceived behaviour as essential predictors of dietary behavior (Ajzen, 1991). The increased accessibility and widespread acceptance of junk food reinforce positive attitudes towards unhealthy eating practices.

Importantly, the study explored that consumption patterns are not primarily driven by traditional demographic determinants such as sex, age or faculty the students they study, but rather by immediate environmental accessibility and socio-cultural attitudes such as religious practices. Specifically, chi-square analyses demonstrated no significant associations between these demographic variables and junk food consumption frequency or preferences such as between sex and junk food consumption (Pearson Chi-Square = 6.055, p = 0.109) and between faculty specialization and junk food preferences (Pearson Chi-Square = 1.721, p = 0.787).This finding challenges the traditional public health approach of targeting interventions based on age or gender. From a food security standpoint, these findings demand addressing the socio-cultural acceptance of unhealthy dietary practices is also essential. First, policies must focus on restricting the easy access to unhealthy food options in high-consumption environments, such as colleges and local stores by promoting healthier alternatives. Second, public health strategies should directly hit the societal beliefs that normalize junk food consumption through context specific healthy food literary campaigns in urban areas. Future research should examine the impact of socio-economic disparities and rural to urban migration on dietary behavior which may contribute in food and nutritional security knowledge and practice.

In conclusion, sustainable improvements in food and nutrition security requires multi-dimensional interventions guided by frameworks like the Theory of Planned Behaviour. Such interventions must systematically address food environment

accessibility, cultural attitudes and individual behaviors to effectively mitigate the risks associated with unhealthy dietary habits particularly in urban areas among younger populations (Popkin, 2014).

References

Abdelrahman, D., & El Said, G. R. (2023). Association between university student junk food consumption and mental health in Egypt. *Tropical Doctor, 53*(1), 62–68. https://doi.org/10.1177/02601060231151480

Ajzen, I. (1991). The theory of planned behaviors. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Arya, G., & Mishra, S. (2013). Effects of junk food and beverages on adolescent's health – A review article. *IOSR Journal of Nursing and Health Science, 1*(6), 26-32. https://doi.org/10.9790/1959-0162632

Bohara, S. S., Thapa, K., Bhatt, L. D., Dhami, S. S., & Wagle, S. (2021). *Determinants of junk food consumption among adolescents in Pokhara Valley, Nepal: A cross-sectional study*. Frontiers in Nutrition, 8, Article 644650. https://doi.org/10.3389/fnut.2021.644650

Centers for Disease Control and Prevention (CDC). (2020). Fast food consumption among adults in the United States, 2013–2016 (NCHS Data Brief, No. 322). National Center for Health Statistics. https://www.cdc.gov/nchs/products/databriefs/db322.htm

Cochran, W. G. (1977). *Sampling Techniques* (3rd ed.). John Wiley & Sons.

Davis, B., & Carpenter, C. (2009). Proximity of fast-food restaurants to schools and adolescent obesity. *American Journal of Public Health, 99*(3), 505–510. https://doi.org/10.2105/AJPH.2008.137638

Didarloo, A., Khalili, S., Aghapour, A. A., Moghaddam-Tabrizi, F., & Mousavi, S. M. (2022). Determining intention, fast food consumption and their related factors among university students by using a behavior change theory. *BMC Public Health, 22*, 314. https://doi.org/10.1186/s12889-022-12696-x

Dunn, R. A., Sharkey, J. R., & Horel, S. (2021). The effect of fast-food availability on fast-food consumption and obesity among rural residents: An analysis by race/ethnicity. *Economics & Human Biology*, *40*, 100929. https://doi.org/10.1016/j.ehb.2021.100929

Freedman, M. R. (2010). College students' eating habits and knowledge of nutritional requirements. *Journal of Nutrition Education and Behavior*, *42*(3), 205-206. https://doi.org/10.1016/j.jneb.2009.12.001

Gordon-Larsen, P., Nelson, M. C., & Popkin, B. M. (2004). Longitudinal physical activity and sedentary behavior trends: Adolescence to adulthood. *American Journal of Preventive Medicine*, *27*(4), 277-283. https://doi.org/10.1016/j.amepre.2004.07.006

Hovhannisyan, V., & Devadoss, S. (2020). *Effects of urbanization on food demand in China*. Empirical Economics, 58(2), 699–721. https://doi.org/10.1007/s00181-018-1526-4

Larson, N. I., & Story, M. T. (2009). Food environments and dietary behaviors among young adults: A review of the literature. *Journal of Adolescent Health*, *45*(1), 97-107. https://doi.org/10.1016/j.jadohealth.2009.03.009

Li, X., Braakhuis, A., & Roy, R. (2022). How does the university food environment impact student dietary behaviors? A systematic review. *Frontiers in Nutrition*, 9, Article 840818. https://doi.org/10.3389/fnut.2022.840818

Micha, R., Peñalvo, J. L., Cudhea, F., Imamura, F., Rehm, C. D., & Mozaffarian, D. (2017). Association between dietary factors and mortality from heart disease, stroke, and type 2 diabetes in the United States. *JAMA, 317*(9), 912–924. https://doi.org/10.1001/jama.2017.0947

Milani, G. P., Silano, M., Pietrobelli, A., &Agostoni, C. (2017). *Junk food concept: Seconds out*. International Journal of Obesity. DOI: 10.1038/ijo.2017.18.

Monteiro, C. A., Cannon, G., Levy, R. B., Moubarac, J.-C., Louzada, M. L. C., Rauber, F., Khandpur, N., Cediel, G., Neri, D., Martinez-Steele, E., Baraldi, L. G., & Jaime, P. C. (2019). Ultra-processed foods: What they are and how to identify them. *Public Health Nutrition, 22*(5), 936–941. https://doi.org/10.1017/S1368980018003762

Pahari, S., & Baral, N. (2020). Perception and factors influencing junk food consumption among school children of Pokhara. *Journal of Health and Allied Sciences, 10*(2), 68-72. https://doi.org/10.37107/jhas.140

Pakravan-Charvadeh, M. R., Flora, C. B., &Emrouznejad, A. (2022). Impact of socio-economic factors on nutrition efficiency: An application of data envelopment analysis. *Frontiers in Nutrition, 9*, 859789. https://doi.org/10.3389/fnut.2022.859789

Pandey, B., Reba, M., Joshi, P. K., & Seto, K. C. (2020). Urbanization and food consumption in India. *Scientific Reports, 10*(1), 17241. https://doi.org/10.1038/s41598-020-73313-8

Popkin, B. M. (2014). Nutrition, agriculture, and the global food system in low and middle-income countries. *Food Policy*, *47*, 91–96. https://doi.org/10.1016/j.foodpol.2014.05.001

Purushothaman, S., Reddy, C., Chaly, P. E., &Priyadarshni, I. (2015). Predilection for junk food consumption among 15-year-old schoolchildren in North Chennai, India. *Medical Journal of Islamic World Academy of Sciences, 23*(4), 125-130.

Seo, H. S., Lee, S. K., & Nam, S. (2011). Factors influencing fast food consumption behaviors of middle-school students in Seoul: An application of theory of planned behaviorss. *Nutrition Research and Practice, 5*(2), 169-174. https://doi.org/10.4162/nrp.2011.5.2.169

Snowdon, C. (2019). *What is Junk Food?* Institute of Economic Affairs. SSRN. https://ssrn.com/abstract=3853098.

Story, M., Kaphingst, K. M., Robinson-O'Brien, R., & Glanz, K. (2008). Creating healthy food and eating environments: Policy and environmental approaches. *Annual Review of Public Health*, *29*, 253–272. https://doi.org/10.1146/annurev.publhealth.29.020907.090926

Stuckler, D., & Nestle, M. (2012). Big food, food systems, and global health. *PLoS Medicine*, *9*(6), e1001242. https://doi.org/10.1371/journal.pmed.1001242

Subedi, S., Nayaju, S., Subedi, S., Acharya, A., & Pandey, A. (2020). *Knowledge and practice on junk food consumption among higher-level students at selected educational institutions of Kathmandu, Nepal*. International Journal of Research -GRANTHAALAYAH, 8(12), 306–314. https://doi.org/10.29121/granthaalayah.v8.i12.2020.2872

Thornton, L. E., Bentley, R. J., & Kavanagh, A. M. (2009). Fast food purchasing and access to fast food restaurants: A multilevel analysis of VicLANES. *International Journal of Behavioral Nutrition and Physical Activity, 6*(1), Article 28. https://doi.org/10.1186/1479-5868-6-28

Turrell, G., & Kavanagh, A. M. (2005). Socio-economic pathways to diet: Modelling the association between socio-economic position and food purchasing behavior. *Public Health Nutrition, 9*(3), 375–383. https://doi.org/10.1079/PHN2005850

Vepsalainen, H., Nevalainen, J., Fogelholm, M., Korkalo, L., Roos, E., & Ray, C. (2018). Like parent, like child? Dietary resemblance in families. *International Journal of Behavioral Nutrition and Physical Activity*, *15*(1), 62. https://doi.org/10.1186/s12966-018-0707-6

Wang, Y.-S. (2019). The challenges and strategies of food security under rapid urbanization in China. *Sustainability, 11*(542), 1-11. https://doi.org/10.3390/su11020542

Wardle, J., Haase, A. M., Steptoe, A., Nillapun, M., Jonwutiwes, K., & Bellisie, F. (2004). Gender differences in food choice: The contribution of health beliefs and dieting. *Annals of Behavioral Medicine, 27*(2), 107–116. https://doi.org/10.1207/s15324796abm2702_5

World Health Organization. (2020). *Healthy diet.* Retrieved from https://www.who.int/news-room/fact-sheets/detail/healthy-diet

World Population Review. (2024). *Fast food consumption by country 2024*. Retrieved from https://worldpopulationreview.com/country-rankings/fast-food-consumption-by-country