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Explanation of factors affecting food choice among Iranian young adults (18 to 24 years old): a qualitative study

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Abstract

Background The young adult period, encompassing the ages of 18 to 24, is characterized by a rapid increase in weight, particularly among individuals born in recent decades, during which environments have become saturated with inexpensive, palatable, and processed foods. While physiological, environmental, and social factors significantly impact health conditions, decisions such as food selection, also play a critical role over time. Understanding food choices is crucial for developing effective health promotion efforts aimed at addressing the root causes of disease and mortality. The aim of this study is to explain the factors affecting the food choices of Iranian youth.

Methods The study population comprised young individuals from Mashhad, and interviews continued until data saturation was reached to capture exhaustive insights on the phenomenon. This qualitative study employed semi-structured in-person interviews for data collection, alongside content analysis using an inductive approach based on the methodologies developed by Granheim and Lundman. Data analysis followed a systematic procedure involving transcription, re-reading, categorization of meaning units, coding, and theme extraction, leading to the identification of new concepts. Data were analyzed using MAXQDA 2020 software.

Results The results indicated that factors influencing young people's food choices were categorized into three overarching themes: Self-concepts: Personal reflections on food behaviors, Abundance of inventory and manifestation of food quality, and the module of the surrounding social environment. The first theme encompasses categories reflecting various influences on individual-centric food choices. The second theme highlights characteristics of the food itself. Lastly, the third theme focuses on the social and environmental impacts of food selection.

Conclusion This research explains the multifaceted factors affecting the food choices of young individuals, emphasizing the roles of individual characteristics, social environments, and dietary potential. It underscores the need for targeted interventions that address the diverse influences on dietary behaviors to promote healthier eating among youth.

Keywords Young adult, Qualitative research, Diet, Food choice, Eating behavior

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Introduction

Young adulthood, spanning from 18 to 24 years of age, represents the late adolescent phase where individuals transition from childhood and adolescent-focused structures to those designed for adults [1, 2]. This stage serves as a pivotal moment for shaping future eating choices [3–5], as individuals are exposed to environments such as college campuses and fast-food outlets, which are abundant in inexpensive, flavorful, and ultra-processed foods include sugary snacks, soft drinks, and pre-packaged meals [5, 6]. While various factors such as physiology, environment, and social influences impact the development of health conditions, individual preferences like food choices play a crucial role in shaping long-term health outcomes [7]. The Socio-Ecological Model posits that individuals' behaviors, including dietary choices, are shaped by the interplay of personal, social, and environmental factors, underscoring the complexity of their decision-making processes [8]. In essence, the dietary choices formed during youth lay the groundwork for a healthy lifestyle; however, young adults exhibit varying eating behaviors and are influenced by diverse factors when making food choices [9].

The global rise in overweight/obesity and abdominal obesity rates is a concerning trend observed in both developed and developing nations, resulting in a higher occurrence of non-communicable diseases. This pattern is mirrored in Iran, where the standardized mean body mass index (BMI) and rates of overweight/obesity and abdominal obesity among adults have obviously risen over the past decade, primarily due to acquired incorrect food choices [10–12]. Unhealthy eating habits during the early stages of adulthood are identified as contributing factors that may negatively impact weight status later in adult life [13]. Meanwhile, individuals who are overweight are at an increased risk of facing challenges such as reduced self-esteem, depressive symptoms, dissatisfaction with their bodies, societal stigmatization, and exclusion [14].

In a comparable study, the elements of a sustainable diet were assessed as pivotal factors shaping the dietary preferences of Iranian adults aged 30 to 65 [15]. Although this research focused on the adult population in Iran, it has not been expanded to include younger age groups. Prior studies in Iran have primarily targeted specific segments of the population, such as men aged 18 to 65 [16], or have delved into particular dimensions, including psychosocial influences on food choices [17], specific food groups like fruits and vegetables [18], or snacking patterns [19]. While no study specifically aimed at this objective has been conducted in Iran, there have been similar studies conducted globally. For instance, a prospective study in the United States emphasized that key factors affecting food selection include cost, daily life pressures,

time constraints, and considerations related to health and aesthetics. Students who prioritized health-related aesthetic factors, such as the impact on well-being, physical appearance, freshness, quality, and seasonal availability, were found to consume more fruits, vegetables, and fiber, while consuming fewer sweets [20]. Additionally, a qualitative study in the United States highlighted the use of social media platforms like Pinterest and Instagram for meal planning and food choices, alongside considerations such as price, health benefits, convenience, and taste [21]. Other studies have predominantly focused on food quality or choice preferences within specific demographic groups [22–24].

However, these globally studies differ significantly in terms of cultural, economic, and dietary contexts. Given the absence of prior research examining the determinants of dietary choices among Iranian youth, the present qualitative study aims to address this gap. Considering that many individuals in this age group are concerned about their health and the risk of weight gain, enhancing understanding in this area could provide a foundation for initiatives and interventions designed to improve the nutritional behavior and overall health of young adults.

Method

Study population and study design

This was a qualitative approach for data collection through face-to-face interviews utilizing semi-structured questions as a research guide. This methodology facilitated a comprehensive and deep exploration of the study population. A purposeful sampling method was utilized to select participants residing in various areas within Mashhad. This study was conducted in 2023 and 2024. Participants were required to meet specific criteria: residents of Mashhad between the ages of 18 and 24, representing a diverse range of socio-economic factors such as education level, marital status, gender, employment status, and family size (more details are provided in Table 1). These young people were purposefully selected with maximum diversity in socio-cultural and demographic characteristics from different areas of Mashhad in northeastern Iran to ensure that the data collected represented a wide range of the city's population. In qualitative research, saturation is reached when no new codes emerge from the data [25]. In this study, after interviewing 15 participants, no new codes or findings were discovered, suggesting that data saturation had been achieved. To confirm these results and ensure a comprehensive sampling process, three additional participants were interviewed, bringing the total number of participants to 18. This study was approved by the Ethics Committee of Mashhad University of Medical Sciences, Mashhad, Iran (IR.MUMS.MEDICAL.REC.1402.305),

Table 1 Participants' characteristics in this study

Characteristics	n	%
Gender		
Female	11	61.1
Male	7	38.8
Age (years)		
18–20	4	22.2
21,22	5	27.7
23,24	9	50
Education		
High School Education	2	11.1
Student	9	50
Undergraduate	7	38.8
Marital status		
Single	15	83.3
Married	1	5.5
Divorced	2	11.1
Employment status		
Unemployed	10	55.5
Temporary worker	2	11.1
Employed	6	33.3
Health status		
Anemia	1	5.5
Gastropathy	2	11.1
Migraine	1	5.5
Depression	1	5.5
Without disease(s)	13	72.2
Economic status)Poor, Average, Good)		
Poor	4	22.2
Average	6	33.3
Good	8	44.4
Mother's Education status		
Diploma	7	38.8
Post-Diploma	1	5.5
Bachelor's degree	5	27.7
Master's degree	3	16.6
PhD	2	11.1
Father's Education status		
Diploma	7	38.8
Post-Diploma	0	0
Bachelor's degree	6	33.3
Master's degree	3	16.6
PhD	2	11.1
Birth Order of Child		
Only child	2	11.1
First	6	33.3
Second	5	27.7
Third	5	27.7
Household size		
Two people	2	11.1
Three people	1	5.5
Four people	4	22.2
Five people	11	61.1

following the Helsinki Declaration. Prior to the interview, all participants provided written informed consent.

Instrument

Upon preparation for data collection, an appropriate interview guide was designed to align with the objectives of this study. This guide consisted of questions with prompts intended to elicit responses from participants, fostering a detailed perspective to be expressed during the interview. A semi-structured research guide was formulated, including both general and specific questions, to ensure adherence to the study's objectives. Serving as a tool to direct discussions and enhance the uniformity of data acquisition, the research guide was formulated based on the study's parameters, relevant literature [23, 26, 27], and the researcher's expertise. Questions ranged from general to specific, ensuring comprehensive coverage. Refer to Table 2 for a list of primary questions outlined in the research guide. We conducted a pilot test through role-playing between team members (SRS as the interviewer and MM as the interviewee) to ensure the questions yielded meaningful data.

Data collection

The data-gathering process involved individual face-to-face interviews with participants, characterized as in-depth interviews. Interviews lasted 45 to 90 min and were conducted by the first researcher (MM) in a place according to the agreement with the participant. In order to identify people related to the purpose of the study, targeted sampling was done. In purposive sampling, people who had information about the relevant goal of the research or experienced the desired phenomenon, or had a specific view about it were selected [28]. An introductory session was conducted with participants before the interviews began, outlining the guarantee of confidentiality for all personal information. After obtaining the consent of the participants, a demographic the questionnaire was completed including marital status, individual and family education levels, employment status, medical history, economic status, as well as household type and size. They were informed that the audio file of each in-depth interview session would be recorded for analysis. Assurance was provided regarding the confidential handling of all information shared. The data collection phase was conducted in the years 2023 and 2024.

Data analysis

In order to analyze the data, all audio recordings were transcribed verbatim by MM to ensure a systematic analysis of each session. Following each interview, the recorded file was implemented and imported into MAX-QDA software version 2020. The content analysis was done with an inductive approach called conventional

Table 2 Research guide: overview of questions

Order of questions	Primary Questions
0	Greetings, I am a graduate student specializing in community nutrition. Thank you for agreeing to participate in this discussion. Our conversation will predominantly focus on the food choice you follow and the various influences that impact your food selections. There are no correct or incorrect responses to the inquiries, as we simply seek to gather insights from your personal experiences. Please be assured that all information shared during this conversation is confidential, and your identity and other private details will remain undisclosed. To commence, tell us more about yourself so that we can get to know each other:
1	Tell me what foods do you eat in a typical day from when you wake up in the morning to when you go to sleep at night? Probing question: Where do you eat every meal? What criteria do you have for your food choices?
2	How do you define good food? Probing question: How do you assess the nutritional value of food items?
3	What foods do you like to eat the most? Probing question: How do you choose them?
4	What factors in your life affect your food choices? Probing question: How do they make this impact? What people influence your food decisions? How do they have this effect?
5	Tell me about the experience of going to a cafe/restaurant for a day? When you go to a restaurant/cafe, what makes you choose a particular item/drink from among the options on the menu? When you go to a restaurant/cafe, what causes you to avoid a particular item/drink from among the options on the menu?
6	How are your food choices different when you are with your friends or with your family?
7	How do your emotions affect your food choices?
8	What else affects your food choices that we haven't talked about?

content analysis and with the Graneheim and Lundman method [29]. Accordingly, in the first step, the interviews were immediately transcribed after each interview. In the second step, the entire text of each interview was reread several times to gain a general sense and understanding of the content of the interviews. In the third step, meaning units and condensed meaning units were determined by breaking down the interview text. In the fourth step, codes were labeled based on semantic differences and similarities in condensed meaning units. In the next step, codes were organized based on conceptual differences and similarities into subcategories and then more comprehensive categories. Finally, in the final step, the theme hidden in the data, which included categories, was extracted [29].

Reflexivity, data validity, and trustworthiness

In order to ensure the validity of the data, the researcher dedicated sufficient time to the process of interviewing, coding, and evaluating the concepts. Participants were given the chance to review the transcripts for accuracy, a practice known as respondent validation, and no concerns were raised by any of the participants. Additionally, detailed field notes, nonverbal cues from the participants, and memos were meticulously documented throughout the interviews.

Participants were selected with a focus on maximizing diversity in terms of their residence, occupation, and educational background to enhance the credibility and reproducibility of the data. The researcher made a

deliberate effort to set aside any preconceived notions to avoid biasing the process of interviewing, conceptualization, and interpreting the data to ensure confirmability. Interviews were conducted, converted to text, and coded by the first author [MM], with all interviewers and researchers sharing an Iranian background and familiarity with the cultural context. Interviews, along with all coding to ensure reliability, were collectively reviewed by the entire research team. In other words, to ensure the robustness of our coding process, we employed a collaborative approach where multiple researchers [MM, ZN, MMT] reviewed the codes independently. Discrepancies in coding were discussed in team meetings, and consensus was reached to enhance the reliability of the coding framework. To bolster the transferability of the data, participant characteristics, data collection methods, interpretations, and conceptualizations were clarified, along with some quotes from the participants have been inserted.

Result

Socio-demographic characteristics of the participant

A total of 18 participants, consisting of 11 females and 7 males, engaged in in-depth face-to-face interviews. The ages of the interviewees ranged from 18 to 24 years. All participants were purposefully selected. Participants had diverse educational backgrounds, including diplomas, currently enrolled students, and college graduates. 8 people declared their economic situation as good, 6 as average, and 4 as poor. One individual was married, and

Table 3 Summary of themes

Main themes	Subthemes	Sub-subthemes
Self-concepts: Personal reflections on food behaviors	Integration of lifestyle with daily routines	Occupation Workout plan Academic navigation Time-Related eating patterns
	Psychological triggers	Emotions Habits Manifestation of the body in the health chain
	Cognitive influences on food choices	Food beliefs, attitudes, and knowledge Food learning patterns Coexistence of preference and experience
	Budgeting and economic balance of resources	Price competition and budget analysis Cost-benefit analysis
Abundance of inventory and manifestation of food quality	Food Identity	Harmony of flavors Aroma and smell Aesthetic appeal of food Freshness of food items Texture and structure of food
		Satiety Health benefits of foods Energy and calories Food safety and health standards
		Food creation Packaging and transport
The module of the surrounding social environment	Influence of significant others	Collaborative preferences of peers and friends Collective opinions and preferences of the family Nutritionists and dietetics Club coaches
		Living environment Availability of food resources Geography of food origins Dining environment
		Display of advertising content Digital culture and virtual environment Credibility and reputation of the food company

two were divorced, while the remainder were single and resided with their families. Employment status was varied, with 33.33% employed, 11.11% holding temporary positions, and 55.55% not employed. Household sizes ranged from two to five individuals. Additionally, the participants exhibited varied levels of health and parental education, as detailed in Table 1.

Semi-structured interviews

During the interviews, three main sets of themes emerged: (i) Self-concepts: Personal reflections on food behaviors, (ii) Abundance of inventory and manifestation of food quality, and (iii) The module of the surrounding social environment. Table 3 provides a summary of the main theme, sub-theme, and sub-sub-themes.

Self-concepts: personal reflections on food behaviors

This theme refers to individual influences on food choices and includes several subtheme, each of which plays an important role in shaping young adult's nutritional choices, including the following:

Integration of lifestyle with daily routines This sub-theme referred to how employment, academic navigation, workout plan and time schedule affect the eating habits of young people. Inflexible work schedules have prompted many individuals to alter their dietary habits, resulting in poor eating practices such as skipping meals and snacks, and substituting low-nutritional foods for main meal.

“Sometimes when my work takes longer and I don't get home for lunch, I usually skip lunch until I get

home at night; I don't eat anything else unless I really feel weak and grab a cake." (23-year-old girl).

During education, especially at the university level, young people were influenced by the curriculum and dormitory life. Study hours, academic pressures, influenced their food choices and led to a tendency towards prepared or low-cost foods.

"When I'm at university, I have classes all morning and sometimes into the afternoon, so I hardly have time to eat anything special. I usually grab a meal from the dining hall, which is also cheap, or eat what my mom makes for dinner." (20-year-old girl).

Almost all individuals who incorporated exercise into their daily routines reported that it was essential to consume more protein-rich meals post-exercise to facilitate muscle development. They also indicated a shift towards healthier food choices, resulting in a reduction in carbohydrate and fat consumption to decrease body fat levels.

"I just want to pack on muscle and lose some fat, so I need to eat in a way that doesn't burn off muscle since I'm pretty active. It's really important that I get the protein I need. Oh, and I hardly ever eat sugar or sweets." (21-year-old boy).

Meal timing throughout the day indicated specific food items were predominantly consumed at certain times, such as sweet foods in the morning, often motivated by a desire to maintain glucose in the blood. Also, the sleep-wake cycle revealed that participants frequently skipped breakfast or snacks when waking up late.

"I eat sweet stuff like chocolate first thing in the morning." (23-year-old boy).

Psychological triggers In response to the question regarding the influence of emotions on food preferences, our participants expressed diverse perspectives. For instance, when experiencing sadness, the majority reported a tendency to either refrain from eating or opt for lighter meals and beverages. Nonetheless, some individuals noted an increase in their food intake during such emotional states. However, it is essential to emphasize that individual variability and adaptive emotional regulation strategies differ among individuals, and these findings cannot be generalized to everyone.

"When I'm feeling down, I can't eat anything; my appetite just disappears, so I usually just go for a drink instead." (24-year-old girl).

"I've noticed that I'm sensitive; when I'm super upset, I eating more." (23-year-old boy).

Conversely, when participants felt happiness, they cared more about their health, often favoring nutritious options and indulging in their preferred foods during these moments.

"When I'm in a good mood, I focus more on my health and eat more fruits." (23-year-old girl).

Furthermore, in instances of anger, participants mentioned that they consumed food indiscriminately, regardless of its type.

"When I'm angry, I don't really care about what I choose; I just want to eat something." (19-year-old girl).

Desire to move the mouth was frequently existed among the participants. This behavior had evolved into a form of entertainment, with individuals expressing enjoyment in consuming foods that facilitated this action, such as dried fruit, chips, and puffs.

"Eating chips or puffs are like a fun game; it feels like it never stops, and your mouth just keeps going." (20-year-old girl).

Health-related stimuli have also altered food selection. Body image concerns and the fear of judgment have led many young individuals to attempt weight modification through dietary restrictions, particularly by decreasing their food intake. Additionally, young people have become increasingly conscious of nutrition's impact on skin health, opting to avoid foods like sauce and chocolate that may exacerbate acne.

"I was really overweight, and it made me to be judged. I wanted to eat less of what I usually had" (19-year-old boy).

Health issues such as anemia and migraines have influenced food choices among this demographic. Menstruation has also prompted a shift in dietary preferences towards herbal teas while steering clear of caffeine and cold foods.

"To help with my anemia, I eat a lot of green veggies and try to include lentils." (24-year-old boy).

Cognitive influences on food choices The beliefs, attitudes, and knowledge regarding nutrition significantly influenced individual choices. Young individuals who had

greater knowledge and awareness of food and its benefits tended to make healthier choices.

"I go for nuts because I think they have healthier fats." (24-year-old girl).

Learning patterns also transformed the decision-making process regarding food choices. Most of the information was obtained from school lessons or explored by the youth independently.

"I found a health magazine in our blood, and it had a chart showing the benefits of different vegetables. Most of them were high in fiber. Also I learned a lot in school." (20-year-old girl).

The selection of food was closely associated with individuals' prior experiences. Adolescents predominantly tended to select foods that are familiar to them, particularly those that evoke previous positive encounters. Additionally, it was observed that young people's food preferences varied with the seasons, demonstrating a tendency to favor warmer dishes during colder months and colder options in warmer weather.

"Once my friend and I had hot chocolate in the subway; it was great. I'm not sure if I wanted to relive that sensation or not, but I ended up ordering hot chocolate once more." (19-year-old girl).

Budgeting and economic balance of resources Price competition and cost management significantly influence the dietary choices of young individuals. Analyzing income and expenditures, along with evaluating the cost-benefit aspects of food selection, can facilitate more budget-friendly decisions. One participant illustrated this by stating:

"I keep an eye on my income and expenses; I have a set amount to spend on each month, so I select foods that offer good quality for their price." (21-year-old boy).

Abundance of inventory and manifestation of food quality

This theme primarily addresses the intrinsic characteristics of food and their influence on dietary choices, encompassing several key aspects:

Food identity Various attributes of food, including taste, aroma, visual appeal, freshness, and texture, significantly affect the food selections of young individuals. They often gravitate towards visually appealing items, possess a desirable texture, and offer a pleasant taste. The absence of these qualities can deter their choices.

"The color and shine are really important to me; the taste and freshness matter a lot too." (24-year-old girl).

"I can't stand it when something hard gets stuck in my teeth; I prefer food that's soft and easy to swallow. The smell is also very important to me, which is why I avoid animal oils completely." (24-year-old girl).

Consideration of benefits and food value This aspect relates to young people's awareness of the satiety, health benefits, and energy that different foods provide. They often focus their selections based on these values.

"When I'm active during the day, I prefer to eat something filling." (23-year-old girl).

"I used to snack a lot on chips and sweets, but now I want to eat healthier and pay attention to calories. Recently, I've been opting for milk and fruit as my snacks instead." (24-year-old girl).

Furthermore, there is a growing awareness among some young individuals regarding nutritional values and food safety, leading to healthier and more informed choices.

"When shopping, I always check the back label for details on fats and salt content. For instance, when I want to buy biscuits, I always choose the healthier options that have better nutritional ratings." (24-year-old boy).

Intrinsic transformation in food processes This factor pertains to the convenience of food preparation, packaging, and transport. Young individuals often prefer foods that are easy and quick to prepare.

"If I want to make it myself, it has to be simple to prepare." (23-year-old girl).

"I choose foods like Lavash that can be frozen for a few days." (22-year-old boy).

In relation to the type of cooking as well, many young people expressed a preference for grilling and frying over boiling or steaming.

"I really don't like steamed food; I prefer grilled and fried options." (21-year-old boy).

Meal type The choice of food was often based on the type of meal. For instance, participants indicated a strong preference for rice dishes at lunch.

"For lunch, I really love rice; I prefer rice-based meals over other types." (24-year-old girl).

While young people may select varied foods for different meals, it was observed that fast food is frequently chosen for dinner in the evening.

"For dinner, I usually go for ready-made foods like eggs or fast food." (22-year-old boy).

The module of the surrounding social environment

Influence of significant others The phenomenon of socializing with peers was prevalent among young individuals, who often found their food choices significantly influenced by their friends' opinions. So that choosing fast food mostly happened in the presence of friends.

"When I go out with friends, I tend to look at what others are ordering at fast-food places before deciding on my own meal; I like to fit in with everyone else." (24-year-old girl).

Additionally, the interviews revealed a strong familial influence on food preferences. In many families, the primary role of the mother in cooking greatly impacted food choices, while the father's input during grocery shopping also affected the meals prepared at home.

"I use whatever food is available at home, which is bought by my father and cooked by my mother." (24-year-old girl).

The insights of club coaches and nutritionists also played a significant role in shaping the dietary habits of young people, encouraging modifications in their food selections.

"Nutrition expert told me to opt for low-fat milk." (24-year-old girl).

Influence of environmental structure on eating choices The geographical context and availability of food are vital social environmental factors that influence the dietary choices of young individuals. Living in different areas can significantly affect the types and varieties of food accessible, shaping their selections.

"The environment I grew up in and the foods I was exposed to have greatly influenced the options available to me." (20-year-old girl).

The setting in which food is consumed also impacts choices. Young people preferred grilled options when outdoors in nature and tended to choose fast food while visiting cafes. It was noted that healthier snacks, such

as fruits, were more commonly consumed at home. The surrounding environment even affected their appetite.

"It's not easy for me to get fruit at university. I also can't easily find cake at home, so when I'm at home, I usually go for fruit instead of going out to buy cake." (22-year-old boy).

Content presentation in food marketing Young individuals were notably impacted by visually appealing marketing content and online advertisements. Among various social networks, Instagram emerged as the most influential platform in shaping their food preferences, often leading to subconscious cravings. While Telegram, YouTube, Snapchat, TikTok were also mentioned, television was regarded as less impactful for this demographic. Additionally, participants indicated that they also used Google to obtain nutritional information.

"In the social media, I find that I unconsciously crave the foods I see most often, and I tend to prefer those that are heavily advertised." (23-year-old girl).

The reputation of food production companies also played a crucial role in the decision-making process. Young individuals tend to prioritize brand reliability, often gravitating towards products from well-known companies, although not everyone specified particular brands. Each participant expressed their preferred brand for certain products.

"I try to choose products from companies that are famous." (24-year-old boy).

Discussion

This research aimed to elucidate the factors influencing the food choices of young Iranians. The findings indicate that young people's dietary selections are shaped by a variety of factors, including Self-concepts: Personal reflections on food behaviors, Abundance of inventory and manifestation of food quality, and the module of the surrounding social environment. In other words, factors such as lifestyle, emotions and body image, dietary attitudes and knowledge, as well as financial capacity, can significantly influence food choices. Additionally, other elements, including food identity, nutritional benefits and values, and the preparation process, were also considered by youth in their decision-making. Furthermore, food choices were shaped through interactions with the social and cultural environment, indicating that the opinions of friends and family had a considerable impact on these selections. Media and advertisements, particularly through modern social networks, played a crucial role in shaping the food choices of young individuals. These

factors combined to create a comprehensive picture of the dietary choices of youth.

In contemporary society, both young boys and girls demonstrate a prioritization of income as a key focus, a finding that aligns with earlier research [30]. Our study further reveals that these individuals tend to prioritize their levels of busyness over their dietary selections. Given that this stage of life is recognized as a critical transition into adulthood, characterized by an increasing desire for independence [1, 21], the demands of extended working hours and timelessness often lead them to either forgo meals or delay consumption. This behavior indicates a worrying tendency to undervalue the significance of health during this formative period. Nearly all young individuals, regardless of their employment status, emphasized the significance of food prices in their decision-making processes. This observation aligns with findings from prior research, which identified price as a critical determinant in food selection [31, 32].

Conversely, engagement in gym activities and sports was prevalent among this age group, highlighting the importance of body image and the associated benefits of enhanced self-confidence [14, 33]. Such participation was linked to healthier lifestyles and improved decision-making regarding food choices, a trend also observed in a study conducted in Turkey [34]. Additionally, their involvement in these environments provided opportunities to connect with professionals or trainers who could guide their choices. Consequently, fostering participation in such settings may have an indirect positive impact on their dietary decisions.

Young individuals acknowledged that their student life significantly influenced their dietary choices. They pointed out a lack of availability of healthy snack options at university, necessitating reliance on junk food instead. This observation is consistent with findings from another study, underscoring the critical need for strategic planning to mitigate such behaviors within the current community [35]. In this context, a systematic review has identified potentially useful interventions in higher education environments for young adults, including the use of shelf labels with short and engaging messages such as “Fueling Your Life” for healthy food shelves, incorporating energy information for foods in university cafeteria menus, Reducing the share of unhealthy food options on campus, and utilizing price incentives to lower the cost of healthy food, can be implemented [36]. Moreover, frequently waking up late in the morning and consequently lacking time often resulted in the omission of breakfast. In this context, another study highlights the importance of consuming breakfast, demonstrating that eating breakfast has a significant inverse relationship with the likelihood of overweight and obesity among students [37].

In contemporary society, behaviors such as binge eating or emotional eating have become prevalent, typically as responses to daily stressors [38]. Consistent with the findings of Evers et al. [39], our participants reported that positive emotions often led to increased food intake. However, some also acknowledged that negative emotional states could likewise trigger heightened consumption, a phenomenon supported by the meta-analysis conducted by Cardi et al. [40]. Nevertheless, it is important to note that due to individual variability and adaptive emotional regulation strategies, these findings may not be generalizable to all individuals. Interestingly, the inclination to move the mouth emerged as a noteworthy influencing factor in young people’s food choices. Andes [41] posited in his book that the preference for crunchy snacks may serve as a mechanism for stress relief or the promotion of relaxation. This behavior could potentially reflect an effort to evoke positive emotions, as the auditory crunchiness and distinctive taste of such snacks engage multiple senses, while the resistance to biting may paradoxically encourage more individuals to partake.

Additionally, considerations of skin and body health were identified as significant factors in the food choices of young people. The developmental stage at which they find themselves necessitated more informed dietary selections aimed at achieving healthier skin [42]. The youth reported deriving their knowledge from educational materials or spontaneous experiences, highlighting the importance of these factors in cultivating proper eating habits [43, 44]. Prior research has indicated that most emerging adults are less successful than other age groups in adhering to established dietary recommendations [45, 46]. Thus, understanding the beliefs, attitudes, and knowledge of this demographic is crucial for formulating more effective dietary recommendations [47].

The potential characteristics of food, such as the positive and negative influences of flavors, aromas, textures, and freshness, as well as considerations regarding utility and health impacts, played a direct and significant role in food selection. Some of these attributes such as taste, nutrition/health value, and aroma have been highlighted in previous studies [48–50]. An interesting point was that young people preferred food items in smaller sizes such as small cakes, and the reason for this was that they would run out if consumed at that time.

Additionally, the participants indicated that a shift in food choice occurs when the perceived need for benefits outweighs the momentary enjoyment of eating, a concept also discussed in Kanark’s book [51]. While the enjoyment of food is crucial, neglecting this aspect may hinder consumer motivation to purchase and consume nutritious options persistently [52]. Furthermore, convenience in preparation and usability emerged as influential factors in food selection, as articulated by many participants. In

this context, Raimundo [53], emphasized that convenience foods minimize the time and effort—both physical and mental—involved in meal planning, preparation, and cleanup. Contini et al. [54], further noted that changing eating habits due to stressful lifestyles, evolving attitudes toward traditional cooking, and the easy accessibility of convenience foods strongly correlate with their consumption.

In our study, family dynamics, particularly the roles of parents and then siblings, significantly influenced food choices as prominent role models. This finding aligns with the research conducted by Niapan et al. [55], which underscored the effect of family functioning and parental feeding styles on dietary decisions. Furthermore, incorporating tailored family meal interventions that increase youth involvement can enhance engagement and effectiveness in family settings [56]. In another study, interventions that had features such as greater parental involvement and restructuring the home environment were considered effective [57]. Additionally, we discovered that families engaged in medical professions tended to possess greater nutritional knowledge, which they effectively communicated to their children. This finding suggests that parents can also be targeted in nutritional recommendations, a notion echoed in Chewing et al.'s research [58].

Moreover, the influence of peers and friends was noted, especially in steering participants toward fast food consumption, consistent with findings from similar studies [59, 60]. Another investigation highlighted that engaging in unhealthy eating behaviors with friends fosters interpersonal closeness, revealing a psychosocial dynamic that may undermine individual and public health initiatives [61].

Mason et al. [62] posited that, despite the apparent simplicity of food choice, it is intricately linked to the characteristics and norms of the social environment, as well as the dynamics of the physical setting. In our analysis, young individuals expressed that the eating environment significantly impacted their food choices. Further exploration through interviews with young individuals revealed that urban living has significantly increased the availability of processed foods. The study conducted by Castro et al. [63], confirmed that the surrounding grocery retail environments significantly influence customers' food choices and play a decisive role in the selection of healthy or unhealthy food options. Another study indicated that proximity to grocery stores is a phenomenon utilized to operationalize access to food [64].

Participants in this study frequently turned to digital platforms, such as Instagram, Telegram, YouTube, Snapchat, and TikTok, considering them the most influential in their food-related decisions. A systematic review found that idealized representations of celebrities, peers,

food, fitness, and fashion, along with comparisons of online appearances, could heighten risks for this vulnerable age group [65]. However, it is important to note that the responsible utilization of these platforms can facilitate healthy food recommendations, which should be acknowledged by policymakers. Existing studies have indicated that television food advertisements significantly influence individual food choices, with effects becoming more pronounced when cognitive resources are taxed by other tasks [66]. In contrast, young participants in our study tended to underestimate the influence of television advertisements, suggesting a discrepancy between our findings and previous findings. This discrepancy may be attributed to the fact that television viewing rates have decreased in Iran [67].

Strengths and limitations

The strength of this study lies in the fact that we are examining the factors influencing food choices among young people in Iran as far as is known, trying to consider all impactful elements. A limitation of our study is that it exclusively included urban populations, specifically from Mashhad, which may restrict the generalizability of our findings to rural communities. Additionally, potential self-reporting and recall bias could affect the accuracy of the data collected, along with the influence of social desirability during interviews, which may have shaped participants' responses.

Conclusion

This research elucidates the complex interplay of factors influencing the food choices of young Iranians, revealing that individual characteristics, social environments, and dietary potential significantly shape dietary behaviors. The study highlights the necessity for targeted interventions that consider the diverse factors affecting food choices, such as busy lifestyles, social pressures, and limited access to healthy options in educational institutions. By understanding these influences, stakeholders can develop more effective strategies to encourage healthier eating behaviors among youth. Additionally, we recommend clear policy implementation steps, such as partnering with university catering services to pilot healthy snack shops within universities and fostering an environment that supports informed dietary decisions.

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Author contributions

SR.S., MM.T., Z.N., and M.M. contributed to conceptualization and design, M.M. conducted interviews, M.M., Z.N., and MM.T. contributed to data collection and interpretation, and manuscript drafting. SR.S. supervised the study, and M.M., MM.T., Z.N., E.A. and SR.S. helped to draft and edit the manuscript. All authors have approved the final version of the manuscript.

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Data availability

Data is provided within the manuscript or supplementary information files.

Declarations

Ethics approval and consent to participate

This study was approved by the Ethics Committee of Mashhad University of Medical Sciences, Mashhad, Iran (IR.MUMS.MEDICAL.REC.1402.305), following the Helsinki Declaration. Prior to the interview, all participants provided written informed consent and were made aware of how their data confidentiality would be protected. They were also assured of their right to withdraw from the study at any time.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

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