Factors Associated with Food Addiction in University Students

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Abstract

This study aimed to determine the prevalence of food addiction among university students and to identify the factors that influence this addiction, focusing on demographic, health-related, and psychological characteristics. The study sample comprised 150 undergraduate students from a university in C city, and data were collected using a structured questionnaire from October 1 to November 30, 2023. They were analyzed using IBM SPSS/WIN 29.0, descriptive statistics, cross-tabulation, t-test, and binomial logistic regression analysis. The mean score of food addiction among university students was 1.50±2.32, and 49 (32.7%) respondents were food addicts, of which 33 (15.4%) were moderately or severely addicted to food. After adjusting for significant univariate variables, food addiction in university students was influenced by obesity (p =.010), Disease (p=.037), high levels of perceived stress (p=.018), and depression (p<.001). To prevent food addiction among university students and to modify their behavior, both university students themselves and healthcare managers should be aware of the risk of food addiction among university students. A comprehensive assessment of health problems and psychological burdens and a multidisciplinary approach are necessary to tackle food addiction. Therefore, it is essential to integrate healthcare and psychological factors into education on healthy eating habits in food poisoning prevention programs for university students.

Keywords: *University Students, Obesity, Depression, Perceived Stress, Food Addiction*

1. INTRODUCTION

Food addiction is a chronic, relapsing condition caused by the interaction between a number of complex variables that can lead to an increased desire for certain foods to achieve a state of pleasure, energy, or arousal or to alleviate negative emotions or physical conditions (1,2). Typically characterized by the uncontrolled consumption of high-fat and high-sugar foods that markedly activate the human dopamine reward system, food addiction has been shown to lead to irregular eating behaviors such as binge eating, late-night eating, and snacking (3, 4). It has recently emerged as an important health issue, as persistent food addiction has been reported to lead to weight gain and other negative health consequences such as obesity and chronic diseases (2, 4, 30, 31).

The prevalence of food addiction tends to be higher in younger adults than in middle-aged and older adults (5). This is especially true during young adulthood, the transition from adolescence to adulthood, when lifelong lifestyle habits are being established, and college can lead to changes in eating and lifestyle habits (4, 6, 30-35). Compared to older adults, adults in their 20s and 30s consume more calorie-dense but nutrient-poor foods such as red meat, processed foods, soda, and sweets (4). In addition, one study of college students' dietary behaviors found that 9 out of 10 students skipped meals and ate breakfast only 3.6 times per week. More students reported sitting for six or more hours or having trouble sleeping (6, 7). In other words, young adults are more autonomous in their decision-making about food choices than they were in their families, making food choices based primarily on the taste and enjoyment of food, putting them at risk for poor nutrition (8). As these dietary and lifestyle factors have been reported to lead to food addiction, special attention and caution are required for college students.

The factors that influence food addiction in college students are firstly demographic characteristics, which have been reported to be related to age, sex, and household (5, 9, 10). Studies in younger and older adults found higher rates of food addiction in younger adults compared to older adults (5, 11, 30, 31). In contrast, studies in college students did not show a difference in food addiction (12), which may be due to neurodegenerative changes in older adults that decrease dopamine release, resulting in lower rates of food addiction (13). Females have been reported to have higher rates of food addiction compared to males (9), and increased visceral fat area, especially in younger females, is thought to be associated with a higher risk of food addiction (14). Food addiction increases body mass index, which needs to be confirmed as it has been reported that living in a single-person household is associated with a greater risk of food addiction and increased risk of obesity (10). Next, among the factors that influence food addiction, health-related characteristics have been reported to be associated with exercise, current alcohol and tobacco use, obesity, medical conditions, prescription medication use, and sleep duration (6, 9, 13). Among health-related characteristics, obesity, including body mass index, has been reported to be associated with food addiction in most studies (8, 10) but not in others, indicating inconsistency among studies (12). Those with a body mass index of 25 kg/m2 or higher are more likely to have difficulty regulating their food intake, overeat, binge eat, and control their food consumption (15, 16). It should be noted that some associations are unrelated when the number or percentage of obese subjects is low (12). Finally, in terms of psychological characteristics, perceived stress and depression were associated with food addiction (17, 18). Perceived stress and depression have been shown to increase the psychological burden, which may predispose to food addiction (17,18, 30, 31, 37), and it has been shown that college students experience stress due to presentations, exams, assignments, and labs related to their studies (6, 12). Psychologically negative emotions such as depression and stress have been reported to lead to binge eating, increasing the risk of food addiction (16).

Previous studies on food addiction centered on college students have been focused on the U.S., Brazil, Malaysia, and other countries, mainly in the U.S. (4, 6, 11) emphasizing the seriousness of food addiction in college students and the importance of prevention and identifying the incidence of food addiction and related factors on a large scale, while only one study in Korea has examined the incidence of food addiction and its association with psychological factors (12). In addition, most of the studies that have investigated the influencing factors of food addiction have mostly focused on identifying the association with some variables such as depression, stress, and lifestyle (16, 17, 18-35, 37), which limits the overall understanding of the influencing factors of food addiction in Korean college students. Therefore, this study identifies the extent of food addiction among college students and the factors influencing food addiction among college students, including demographic, health-related, and psychological characteristics. This will provide a basis for developing food addiction prevention and behavior modification programs for college students and contribute to developing healthy eating and lifestyle habits for college students to improve their health.

The aim of this study is to determine the extent of food addiction among college students and to identify factors that influence food addiction, focusing on demographic, health-related, and psychological characteristics. First, to identify college students' demographic, health-related, and psychological characteristics. Second, to identify the extent of food addiction among college students. Third, to identify differences in food addiction among college students' demographic, health-related, and psychological characteristics. Fourth, to identify factors that influence food addiction among college students.

2. MATERIALS AND METHODS

2.1. Study Setting

This study is a cross-sectional descriptive survey to determine the extent of food addiction among college students and to identify the demographic, health-related, and psychological characteristics that influence food addiction (Figure 1).

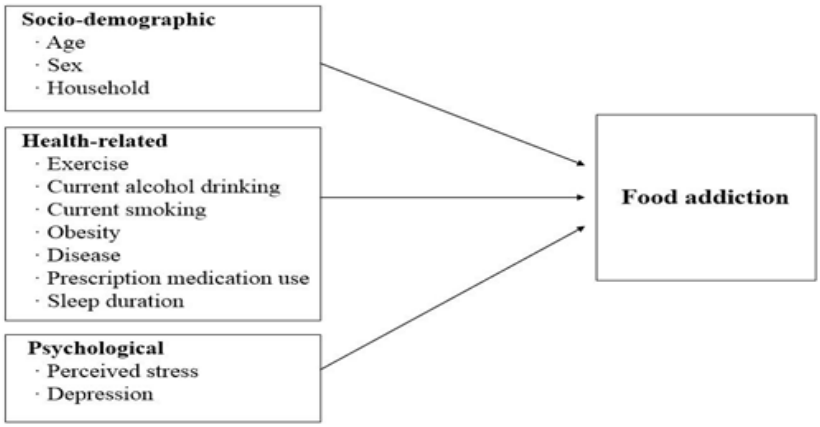

Figure 1. The conceptual model

2.2. Participants

The participants' socio-demographic characteristics, such as age, sex, and household, were examined. Age was categorized into 18-20 and 21-30 based on the college student's date of birth, and the household was categorized into single-person households living alone and multi-person households with two or more people, such as friends or family. Health-related characteristics consisted of exercise, current alcohol drinking, current smoking, obesity, medical conditions, medications, and sleep duration. Current alcohol drinking and smoking were categorized as present or absent, and obesity was categorized based on a body mass index of 25.0 kg/m2 as suggested by the Korean Obesity Society, which is calculated by dividing body weight by the square of height (19). Disease and prescription medication use were divided into those diagnosed or prescribed by a doctor and those who did not, and sleep duration was categorized as above or below the recommended 7 hours of sleep for adults recommended by the American Academy of Sleep Medicine and the Sleep Research Society (20).

2.3.2. Psychological Characteristics

The psychological characteristics were examined in terms of perceived stress and depression. Perceived stress was categorized into 'none' for never, 'low' for sometimes or occasionally, and 'high' for often or always, based on a single question, 'To what extent do you feel stressed in your daily life?' Depression was measured using the Korean version of the Patient Health Questionnaire-9 (PHQ-9) tool developed by Kroenke et al. (21) and modified and supplemented by Park et al. (22). The tool has a score range of 0 to 27 based on the number of days of experiencing the nine symptoms in the past two weeks, with 'none' scored as 0, '2-3 days or more' scored as 1, '7 days or more' scored as 2, and 'almost every day' scored as 3, with a score of 4 or less indicating normal and 5 or more indicating depression. When the Korean version of the PHQ-9 was developed, Cronbach's α was .81, and in this study, Cronbach's α was .82 (22).

2.3.3. Food Addiction

Food addiction was assessed using the Korean version of the Yale Food Addiction Scale 2.0 (YFAS 2.0) developed by Gearhardt et al. (23) and adapted by Shin et al. (24). This tool consists of 35 questions to diagnose 11 symptoms and clinical signs related to food addiction in the past year. Each item is scored on a scale from 0 for 'never' to 8 for 'every day,' the score for each item is categorized into diagnosis and non-diagnosis based on a threshold. Food addiction is considered to be food addiction if the threshold for each diagnostic criterion is exceeded. Food addiction is considered to be 'none' if one or fewer of the 11 related symptoms are present. There are no clinical symptoms, and 'food addiction' if two or more of the 11 related symptoms are present and there are clinical symptoms. The Kuder-Richardson 20 was .98 when the Korean version of the Yale Food Addiction Scale 2.0 was developed, and the Kuder-Richardson 20 in this study was .92 (24).

2.3. Measures

2.3.1. Socio-demographic and health-related characteristics

The participants' socio-demographic characteristics, such as age, sex, and household, were examined. Age was

categorized into 18-20 and 21-30 based on the college student's date of birth, and the household was categorized into single-person households living alone and multi-person households with two or more people, such as friends or family. Health-related characteristics consisted of exercise, current alcohol drinking, current smoking, obesity, medical conditions, medications, and sleep duration. Current alcohol drinking and smoking were categorized as present or absent, and obesity was categorized based on a body mass index of 25.0 kg/m^2 as suggested by the Korean Obesity Society, which is calculated by dividing body weight by the square of height (19). Disease and prescription medication use were divided into those diagnosed or prescribed by a doctor and those who did not, and sleep duration was categorized as above or below the recommended 7 hours of sleep for adults recommended by the American Academy of Sleep Medicine and the Sleep Research Society (20).

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2.4. Procedure

This study was approved by the institution's Institutional Review Board, to which the principal investigator belongs (IRB No. 1041479-HR-202304-001), for ethical consideration of human participants. From October 1 to November 30, 2023, participants were recruited from college students at a university in City C, Korea, using a recruitment guide on the website and on the bulletin boards on campus. Participants were recruited from college students who voluntarily agreed to the study after reading the recruitment guide and contacting or visiting us at the designated place and time to participate. Before participating in the study, the background, purpose, methods, and procedures of the study, personal information, and confidentiality were fully explained to the subjects, and a written consent form was obtained from those who voluntarily agreed to participate. After receiving the consent form, the subjects were instructed to fill out a structured questionnaire consisting of questions about demographic characteristics, health-related characteristics, psychological characteristics, and food addiction, which took about 20 minutes, and a small gift was provided upon completion. The data were collected anonymously. The data were collected anonymously, and the collected data were statistically processed and analyzed.

2.5. Measures

The collected data were analyzed using the IBM SPSS/WIN 29.0 program.
First, the subjects' demographic, health-related, and psychological characteristics were calculated as absolute numbers and percentages, as well as mean and standard deviation.

Second, descriptive statistical analysis calculated food addictions as frequencies and percentages.
Third, differences in food addictions according to socio-demographic, health-related, and psychological characteristics were analyzed using chi-square and t-tests.
Finally, the influencing factors of food addiction were analyzed using binomial logistic regression analysis, focusing on the statistically significant variables in univariate analysis.

3. RESULTS

3.1. Socio-demographic, health-related, and psychological characteristics of the participants

Overall, the socio-demographic characteristics of the 150 participants in the study showed an average age of 21.4 years, with a low of 18 and a high of 30, with 56 (37.3%) aged 20 or younger and 94 (62.7%) aged 21 or older. In terms of sex, 57 (38.0%) were male, 93 (62.0%) were female, and 130 (86.7%) were living in multi-person households. In terms of health-related characteristics, 122 (81.3%) of the participants engaged in exercise, including walking, 117 (79.0%) were current alcohol drinkers, 31 (20.7%) were current smokers, and 21 (14.0%) were obese. Currently, 18 (12.0%) and 12 (8.0%) of participants had a physician-diagnosed disease or were using prescribed medication, respectively, and 96 (64.0%) were sleeping less than 7 hours per day. In terms of psychological characteristics, 67 (44.7%) participants had no perceived stress, 43 (28.7%) participants were depressed (Table 1).

Table 1. Socio-demographic, health-related, and psychological characteristics of the participants

Characteristics,	Categories	N (%)	M±SD
Socio-demographic			
Age(year)	18-20	56(37.3)	
	21-30	94(62.7)	21.42±1.67
Sex	Male	57(38.0)	
	Female	93(62.0)	
Households	Single person	20(13.3)	
	Multi-person	130(86.7)	
Health-related			
Exercise	No	28(18.7)	
	Yes	122(81.3)	
Current alcohol drinking	No	33(22.0)	
	Yes	117(78.0)	
Current smoking	No	119(79.3)	
	Yes	31(20.7)	
Obesity	No	129(86.0)	
	Yes	21(14.0)	
Disease	No	132(88.0)	
	Yes	18(12.0)	
Prescription medication use	No	138(92.0)	
	Yes	12(8.0)	
Sleep duration (hour/day)	<7	96(64.0)	
	≥7	54(36.0)	
Psychological			
Perceived stress	None	67(44.7)	
	Low	54(36.0)	
	High	29(19.3)	

Depression	None	107(71.3)	
	Yes	43(28.7)	3.68±3.90

3.2. Food addiction of participants

The mean score of food addiction in this study was 1.50±2.32, and 49 (32.7%) subjects had food addiction. Specifically, 26 (17.3%) were mildly food addicted, 12 (8.1%) were moderately food addicted, and 11 (7.3%) were severely food addicted. Among the 11 symptoms associated with food addiction, 44 (29.3%) of the participants had 'Withdrawal' symptoms, followed by 33 (22.0%) with 'Substance consumption' symptoms. On the other hand, the lowest number of participants with 'Knowledge consequences' was 5 (3.3%), followed by 'Failure to fulfill role' with 10 (6.7%). In addition, 11 (7.3%) participants had symptoms that caused clinically significant impairment or distress, which is an important criterion, along with 11 food poisoning-related symptoms (Table 2).

Table 2. Food addiction of the participants

Food addiction (n=49)	**N (%)**
Symptoms	
1. Substance consumption	33(22.0)
2. Persistent desire	15(10.0)
3. Time expenditure	31(20.7)
4. Activity reduction	14(9.3)
5. Knowledge consequences	5(3.3)
6. Tolerance	12(8.0)
7. Withdrawal	44(29.3)
8. Social problems	27(18.0)
9. Failure to fulfill the role	10(6.7)
10. Hazardous situations	12(8.0)
11. Craving	22(14.7)
Significant impairment	11(7.3)
Level	
mild (2-3)	26(17.3)
moderate(4-5)	12(8.1)
Severe(≥6)	11(7.3)

3.3. Differences in Socio-demographic, health-related, and psychological characteristics of food addiction

The comparison of socio-demographic, health-related, and psychological characteristics by food addiction status revealed statistically significant differences in obesity (x^2=4.32, p=.047), disease (x^2=10.75, p=.002), perceived stress (x^2=18.19, p<.001), and depression (x^2=24.87, p<.001). In other words, on health-related characteristics, the food addiction group was 12.5% more likely to be obese and 18.6% more likely to report having a disease compared to the non-food addiction group. For psychological characteristics, food addiction was 25.9% more likely than non-food addiction to report "high" perceived stress and 30.0% less likely to report "no" perceived stress. Food addiction was also nearly four times more likely than non-food addiction to report depression (39.3%) (Table 3).

Table3. Differences in socio-demographic, health-related, and psychological characteristics according to food addiction

Characteristics	**Categories**	**Non-addiction**	**Addiction**	**χ^2 or t**	***p***
		n (%) or M±SD	n (%) or M±SD		
Socio-demographic					

Age	18-20	39(38.6)	17(34.7)	0.22	.720
	21-30	62(61.4)	32(65.3)		
		21.42±1.65	21.43±1.73	-0.44	.965
Sex	Male	39(38.6)	18(36.7)	0.05	.859
	Female	62(61.4)	31(63.3)		
Households	Single person	12(11.9)	8(16.3)	0.56	.453
	Multi-person	89(88.1)	41(83.7)		
Health-related					
Exercise	No	18(17.8)	10(20.4)	0.15	.824
	Yes	83(82.2)	39(79.6)		
Current alcohol drinking	No	23(22.8)	10(20.4)	0.11	.835
	Yes	78(77.2)	39(79.6)		
Current smoking	No	79(78.2)	40(81.6)	0.24	.674
	Yes	22(21.8)	9(18.4)		
Obesity	No	91(90.1)	38(77.6)	4.32	.047
	Yes	10(9.9)	11(22.4)		
Disease	No	95(94.1)	37(75.5)	10.75	.002
	Yes	6(5.9)	12(24.5)		
Prescription medication use	No	95(94.1)	43(87.8)	1.78	.207
	Yes	6(5.9)	6(12.2)		
Sleep duration	<7	36(35.6)	18(36.7)	0.02	.999
	≥7	65(64.4)	31(63.3)		
Psychological					
Perceived stress	None	55(54.5)	12(24.5)	18.19	<.001
	low	35(34.7)	19(38.8)		
	High	11(10.8)	18(36.7)		
Depression	None	85(84.2)	22(44.9)	24.87	<.001
	Yes	16(15.8)	27(55.1)		
		2.41±2.51	6.31±4.85	-5.29	<.001

3.4. Factors influencing Food addiction

To identify the influencing factors of food addiction in the participants, a binomial logistic regression analysis was conducted using the variables that had statistically significant differences in the univariate analysis. The regression model was statistically significant ($\chi2=42.87$, $p<.001$), and the explanatory power was 37.4% by Nagelkerke's coefficient of determination. The classification accuracy of the regression model was 77.3%, and the goodness of fit of the model was confirmed by the Hosmer and Lemeshow test with a significance level greater than .05 ($\chi2=3.49$, $p=.625$). When the independent variables that were significant in the univariate analysis were adjusted for in the multivariate analysis, obesity ($p=.010$), disease ($p=.037$), high levels of perceived stress ($p=.018$), and depression ($p<.001$) were found to be significant in influencing food addiction. In particular, for health-related characteristics, obese individuals were 4.21 times (OR=4.21, 95% CI:1.40-12.68) more likely to be food addicted than non-obese individuals, and those with disease were 3.62 times (OR= 3.62, 95% CI:1.08-12.13) more likely to be food addicted than those without a disease. In terms of psychological characteristics, those with high perceived stress were 4.01 times (OR=4.01, 95% CI:1.27-12.59) more likely to be food addicted than those with no perceived stress, and those with depression were 5.06 times (OR=5.06, 95% CI:2.08-12.33) more likely to be food addicted than those without depression (Table 4).

Table4. Factors influencing food addiction of participants

Characteristics	Categories	Crude OR		Adjusted OR	
		OR (95% CI)	p	OR (95% CI)	*p*
Health-related					
Obesity	Yes	2.63(1.03-6.72)	.043	4.21(1.40-12.68)	.010
Disease	Yes	5.14 (1.80-14.69)	002	3.62(1.08-12.13)	.037
Psychological					
Perceived Stress	low	2.49(1.08-5.75)	.033	2.29(0.91-5.77)	.080
	High	7.50(2.83-19.90)	<.001	4.01(1.27-12.59)	.018
Depression	Yes	6.52(3.00-14.17)	<.001	5.06(2.08-12.33)	<.001

4. DISCUSSION

This study attempted to identify the extent of food addiction among college university students and to identify the influencing factors on food addiction among the socio-demographic, health-related, and psychological health-related characteristics of university students so that it can be used as a basis for developing programs to prevent food addiction and to promote health by modifying behavior. In the present study, the mean score of food addiction among university students was 1.50±2.32, with 49 (32.7%) being food addicts and 33 (15.4%) being moderately or severely food addicted. The proportion of food addictions was relatively small, with 360 (21.9%) and 1,024 (19.0%), respectively, in studies of undergraduate and graduate students in the United States and Brazil using the same tool (4, 11). On the other hand, in Korea, although the tools used to measure food addiction are different, a study of college students in a single department found 49 (33.9%) food addicts, which is similar to our findings (12). These results relate to sociocultural factors, dietary habits, and lifestyle (6, 7, 38). Younger adults in the U.S. and Brazil are more likely to consume snacks and processed foods than older adults. However, younger adults in Brazil have been reported to maintain traditional dietary patterns, consuming rice and beans (5, 25). On the other hand, unlike in other countries, recent access to convenience foods and delivery services in Korea has led to a shift in dietary habits and lifestyle patterns that include skipping breakfast, snacking, and consuming ultra-processed foods high in fat and carbohydrates (26, 40). This irregular lifestyle and excessive consumption of ultra-processed foods may have contributed to the increase in food addiction.

However, 'Withdrawal' and 'Substance consumption' were the most common symptoms of food addiction. Withdrawal symptoms were reported to be experienced, especially when trying to stop eating ultra-processed foods after excessive consumption (27, 39) during their university lives. At the same time, substance consumption symptoms are closely related to overeating and are also commonly experienced by non-addicted individuals (7). Therefore, to reduce the symptoms of withdrawal and substance consumption, which are considered to be the main symptoms of food addiction in university students, various supports should be provided to reduce the intake of ultra-processed foods and form regular eating habits through individual education as well as revitalizing the operation of student cafeterias in the university.

The logistic regression analysis results showed that obesity and illness in health-related characteristics influenced food addiction in university students. In our study, the prevalence of obesity in the food addiction group was 22.4%, significantly higher than the prevalence of 9.9% in the non-food addiction group, and the odds of becoming food addicted were 4.21 times higher when obese. In studies of overweight and obese university students, the prevalence of food addiction ranged from 26.4% to 36.1%, similar to or higher than our findings (4,7). It has been reported that food addiction is more severe as body mass index increases (6, 8), and this is related to the fact that obesity is characterized by sensitivity to sounds and smells related to food, obsession with food, and cravings, leading to more overeating (28). Therefore, to prevent food addiction in obese university students, it is necessary to focus on improving eating habits to prevent overeating and binge eating by eating regular meals, including breakfast. In addition, the prevalence of diseases in the food addiction group was 24.5%, which was significantly higher than the prevalence of diseases in the non-food addiction group (5.9%), and the probability of becoming food addicted was 3.62 times higher in university students with diseases. A previous study found that participants with atopic diseases such as allergies and asthma were more likely to develop food addiction due to the psychological burden of depression and poor quality of life (29). Therefore, it is important to prioritize the assessment of food addiction in university students with atopic diseases or underlying medical conditions, providing emotional support in disease management and developing strategies to prevent food addiction.

The psychological characteristics that influenced food addiction in university students were perceived stress and depression. Perceived stress was significantly higher in the food addiction group (36.7% compared to 10.8% in the non-food addiction group), and those with high levels of perceived stress were 4.01 times more likely to develop

food addiction than those without. Depression was identified as the strongest predictor, with a significantly higher prevalence of 55.1% in the food addiction group compared to 15.8% in the non-food addiction group and 5.06 times higher odds of food addiction among those who were depressed compared to those who were not. Stress and depression have been reported to be significant predictors of food addiction, both directly and indirectly. Perceived stress and depression have been positively associated with food addiction (12, 18) and it has been suggested that individuals with psychological burdens such as perceived stress and depression have lower self-control and are less able to control their impulses, which increases the likelihood of food addiction (16). In particular, it has been shown that university students often experience stress and negative emotions when confronted with many situations, such as presentations, exams, and practices (6, 30). Therefore, it is essential to include interventions that can reduce psychological burdens such as perceived stress and depression to prevent food addiction in university students.

On the other hand, when comparing the socio-demographic characteristics of the subjects in this study according to food poisoning status, there were no significant differences in age, gender, and household. This result may be because the participants in this study were, on average, 21.42 years old, concentrated in grades 1 to 4, and 62.0% were female, which is different from previous studies in which approximately 75% to 90% of the participants were female (11, 12) . Most of them lived in multi-person households where they lived with their families while commuting to school. However, this study has several limitations. First, this study was a convenience sample of students at a single university in City C, so it needs to be more generalizable. It is necessary to conduct a repeat study by subdividing the universities in each city and expanding the scale. Second, this study was conducted using only a single measure of food addiction, so it is difficult to identify the main types of food that cause food addiction or the amount of food consumed. Finally, the data collected relied on the participant's memories of their eating habits over a year, and only a structured questionnaire was used rather than measuring instruments or observation, so there is a possibility of inaccurate responses and differences in actual eating habits. Despite these limitations, this study is significant in that it identified the extent of food addiction and symptoms of food addiction in university students using the Korean version of the Food Addiction Scale, which has proven reliability and validity. Furthermore, it is significant in that it provides a basis for developing food addiction prevention and behavior modification programs for university students by identifying factors that influence food addiction, including the psychological, socio-demographic, and health-related characteristics of university students.

5. CONCLUSIONS

This study aimed to determine the prevalence of food addiction among college students and to identify the impact of socio-demographic, health-related, and psychological factors on food addiction. The results showed that approximately 3 out of 10 university students had food addiction, and 1 out of 10 had moderate or severe food addiction. The most common symptom of food addiction among the 11 symptoms of food addiction was "withdrawal", and the most common symptom was "eating more food than intended for a longer period". Health-related factors of obesity and disease and psychological factors of high levels of perceived stress and depression were identified as significant influencing factors of food addiction in university students. Based on these results, to prevent and manage food addiction in university students, it is necessary to develop specialized programs centered on healthy eating habits, lifestyle, and psychological support based on understanding health and psychological conditions. In addition, professionals in charge of health care at counseling centers or health centers in universities should pay more attention to university students with frequent visits to assess food addiction, detect it early and provide customized interventions. Third, although the Korean government and some universities are implementing meal support programs to help university students reduce their meals and adopt healthy eating habits, policy measures should be developed to prevent and manage food addiction among university students, especially those related to improving the quality of cafeteria meals and supporting meal expenses.

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Authors' contributions

All authors contributed toward data analysis, drafting, and revising the paper and agreed to be responsible for all aspects of this work.

Declaration of Conflicts of Interests
The authors declare that they have no conflict of interest.

Availability of data and materials
Not Applicable

Use of Artificial Intelligence
Not applicable

Declarations
Authors declare that all works are original and this manuscript has not been published in any other journal.

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