

# The Mediating Effect of Food Craving and Watching Mukbang on the Relationship between Loneliness and Bulimic Tendencies among University Students

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This study aimed to investigate the impact of loneliness on bulimic tendencies among university students and to examine the mediating role of food craving and watching mukbang. A sample of 467 students, comprising 189 males and 278 females from universities in Korea, participated in the study. Data were collected using self-report questionnaires that measured loneliness, food craving, mukbang-watching frequency, and bulimic tendencies. The findings reveal a significant mediating effect of food craving and watching mukbang on the relationship between university students' loneliness and bulimic tendencies. This study explored youth loneliness and mukbang, which have recently become issues, from a psychological perspective. The findings of this study enhance understanding of the emotional difficulties faced by university students in social relationships, and furthermore, illuminate the negative effects and risks associated with the consumption of mukbang content. A key contribution of this study is providing foundational data for the need for psychological interventions for youth, such as counseling and treatment. Additionally, the study provides a new perspective on the prevention and treatment of bulimic tendencies.

**Keywords:** loneliness, food craving, watching mukbang, bulimic tendencies

## Introduction

In modern South Korean society, a slim body type is considered a beauty standard. This ideal induces excessive anxiety about one's body shape, ultimately making individuals sensitive to weight changes and fostering maladaptive eating behaviors. According to health statistics from the Health Insurance Review and Assessment Service (2023), hospital visits due to bulimia increased by

7.2% from 2018 to 2022. Among these cases, individuals in their 20s constituted 38.8% of all patients, indicating a significant prevalence of bulimia among young adults. Bulimia nervosa, classified as one of the eating disorders in DSM-5, is characterized by three key features: repeated binge eating, compensatory behaviors to prevent weight gain and excessive influence of weight and body shape on self-assessment (American Psychiatric Association, 2013). This condition typically manifests in young adulthood (APA, 2013), a period that encompasses the university years.


The university years, usually occurring in the 20s, represent late adolescence and the transitional phase into adulthood. This period necessitates the formation of social relationships through interactions with others in new environments and diverse relationships to establish an individual identity as part of developmental tasks. However, as modern society becomes more individualistic, community culture is progressively diminishing. Furthermore, the prolonged isolation resulting from the COVID-19 pandemic has

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further limited opportunities for social interaction. As a result, university students in their young adulthood are experiencing increasing feelings of isolation and loneliness. The Korea Youth Policy Institute has revealed that an increasing number of young individuals are experiencing both internal isolation, defined as loneliness, and external isolation, which disconnects them from social networks (Yoo et al., 2021).

Loneliness, characterized as a personal psychological state wherein individuals feel disconnected and estranged from others in their interpersonal relationships, represents a universal phenomenon experienced by all humans (Yeo, 2016). Loneliness is deemed particularly detrimental among negative emotion, as it induces psychological distress in affected individuals. Negative emotions have been linked to binge eating (Stice & Agras, 1999), with loneliness being considered a significant contributing factor. Previous research has demonstrated a positive correlation between loneliness and bulimia nervosa, suggesting that loneliness can trigger the disorder (Southward et al., 2014; Rotenberg & Sangha, 2015). Additionally, stress stemming from relational deficiencies also contributes to binge eating behaviors (Heatherton & Baumeister, 1991), highlighting the detrimental impact of loneliness on mental health.

Food craving has been identified in several previous studies as an additional factor that mediates the relationship between negative emotions and binge eating behavior. Food craving is defined as an intense urge to consume specific foods (Weingarten & Elston, 1990). It is commonplace among adults and can also occur when they are bored, lonely, irritated, or depressed (Lafay et al., 2001). Furthermore, it is one of the factors that induces the binge eating cycle in bulimia patients (Waters et al., 2001). Previous studies have demonstrated the role of negative emotions and food cravings in influencing binge eating, indicating that food cravings are often precipitated by negative emotions, which in turn can trigger binge eating episodes (Hill et al., 1991; Waters et al., 2001). Additionally, according to Hilde Bruch (1961), inadequate parental responsiveness to children's needs can lead to confusion regarding the recognition of inner needs, potentially mistaking emotional deficits as biological hunger. Drawing from this theoretical framework, it is anticipated that university students experiencing loneliness may misinterpret emotional deficiencies as hun-

ger cues, thereby inducing food cravings.

Watching mukbang content can be considered as another factor influencing bulimic tendencies. 'Mukbang' is a short form in Korean for 'eating broadcast', which originated in 2009 when a broadcaster was shown eating food on Afreeca TV, a popular personal broadcasting site (Jang & Kim, 2016). Through mukbang, individuals observe others consuming usually large amounts of food. In Korean society, eating is not merely the act of consuming food; it is also an important social and communal activity. In Korean culture, food holds material value for physical health and contributes to mental well-being through shared emotional experiences (Jeong, 2015). In other words, food serves as a medium not only for obtaining necessary nutrients but also for facilitating emotional exchanges and social connections, transcending its physiological role. Consequently, food significantly influences daily life and culture. However, as the proportion of single-person households in Korea increased from 27.2% to 34.5% between 2015 and 2022 (Korean Statistical Information Service, 2023), traditional communal family dining has rapidly declined. In addition, many people spend their mealtimes watching media. As a result, university students, who are likely to experience loneliness due to the changing dining culture of modern society, are expected to watch more mukbang. This expectation is supported by a study examining mukbang viewing habits among adults in South Korea, which revealed that individuals in their 20s and 30s, especially those living in single-person households, devote significant time to watching mukbang (Nam & Jung, 2021). In South Korea, a significant number of viewers reportedly watch mukbangs as a coping mechanism for loneliness (Woo, 2018). Additionally, viewers watch mukbangs to satisfy their cravings for food (Anjani et al., 2020). Since food is a fundamental human need, interest in food is a significant variable in the motivation to engage with food-related content (Park, 2020). Individuals are likely to watch mukbangs to satisfy both their emotional needs (e.g., loneliness) and appetite (e.g., food cravings) (Jang & Kim, 2016).

However, mukbang, centered around food consumption, can influence viewers' food choices and intake, potentially leading to obesity (Nam & Jung, 2021). Moreover, the satisfaction derived from watching mukbang can stimulate a desire to eat and promote eating behavior, so there is a risk that viewers may engage in vicarious eating (Yoo et al., 2021). Experimental studies have shown

that watching food advertisements on TV leads to increased food intake, even among people with normal BMI indices (Harris et al., 2009), and that exposure to certain foods activates mental representations of those foods, resulting in an increase in the intake of related foods (Bodenlos & Wormuth, 2013). Despite its recent surge in popularity, research on mukbang, particularly from a psychological perspective, remains limited in Korea. There is insufficient scientific and empirical exploration of the relationship between mukbang and eating behaviors. Therefore, this study, will verify how loneliness experienced by current university students affects risk of bulimic tendencies and whether food craving and watching mukbang have mediating effects. Exploring the psychological perspective of mukbang and bulimic tendencies will prevent psychological risks that adults may experience and broaden academic insights into these phenomena.

## Methods

### Participants and Procedure

This study was conducted on male and female university students enrolled in universities located across South Korea (IRB-202301-006). Research subjects were recruited by posting links to the Google Form online questionnaire on Naver cafes and university online communities. Participants were provided with explanations about the purpose of the study, and consent was obtained from them before their participation. Of the 490 questionnaires collected, 467 datasets were utilized for statistical analysis after excluding responses from students on leave of absence, who were not subjects of the study, and those deemed insincere. Among the total 467 participants, 189 were male (40.5%), and 278 were female (59.5%). Regarding academic year, the second-year was the most common with 181 participants (38.8%), followed by 152 third-year students (32.5%), 80 fourth-year students (17.1%), and 54 first-year students (11.6%). Regarding living arrangements, 341 participants (73%) reported living alone, while 126 (27%) reported living with others. In terms of their consumption of mukbang content, 422 participants (90.4%) reported watching it, while 45 (9.6%) reported not watching it, indicating a significant proportion of the study subjects engaged with mukbang content. According to the BULIT-R scale, a measure of bulimic symptoms adapted by Yoon (1996),

individuals scoring 88 points or higher tend to exhibit a propensity for binge eating, while scores of 121 points or higher should be considered for the diagnosis and treatment of bulimia nervosa. In this study, 235 participants (53.5%) scored 88 or higher, and 17 participants (3.6%) scored 121 or higher.

### Measures

#### Emotional/Social aspects of Loneliness and Isolation (ESLI)

To measure isolation, the Emotional and Social Isolation Scale, developed by Vincenzi and Grabosky (1987) and adapted and validated by Kwon (1997) was used. This scale is divided into four subcategories and includes a total of 30 questions. Each question is rated on a 4-point Likert scale and the higher the total score, the higher the level of emotional/social isolation and emotional/social loneliness. The overall Cronbach's  $\alpha$  value of the scale adapted by Kwon (1997) was .94. In this study, the Cronbach's  $\alpha$  value for all questions was .97, with subscale values as follows: emotional isolation .86, social isolation .88, emotional loneliness .93, and social loneliness .91.

#### State General Food Craving Questionnaire (G-FCQ-S)

The developed by Nijs et al. (2007) and adapted by Sun and Lee (2021) was used. It includes a total of 15 questions and consists of a total of 5 sub-factors. Each question is evaluated on a 5-point Likert scale from 'not at all' (1 point) to 'very much' (5 points) according to the degree to which it matches the individual's current state, and the higher the total score, the higher the level of food appetite. Cronbach's  $\alpha$  value of the scale adapted in the Sun and Lee (2021) study was .92, and the Cronbach's  $\alpha$  value of all items in this study was .92. The internal consistency of each sub-scale was as follows: desire to eat .65, anticipation of positive reinforcement .51, anticipation of relief from negative states and feelings as a result of eating .84, obsessive preoccupation .85, and craving as a physiological state .84.

#### Watching Mukbang

In this study, the watching mukbang variable was analyzed by measuring the frequency of mukbang viewing based on participants' self-reported weekly experience. The frequency of watching mukbang consisted of two questions. For weekdays, participants

indicated the number of days they watched mukbang during the past week, ranging from 'none' to '5 days,' in response to the question, 'Approximately how many days did you watch mukbang on weekdays over the past week?' Similarly, for weekends, participants selected the number of days they watched mukbang, ranging from 'none' to '2 days (both Saturday and Sunday).' Upon quantifying the weekday and weekend viewing frequencies, the average weekly frequency of watching mukbang was measured by adding them.

#### Bulimia Test–Revised (BULIT–R)

The BULIT-R, originally developed by Smith and Thelen (1984) based on the DSM-III diagnostic criteria, was revised by Thelen et al. (1991) based on the DSM-III-R, and the scale adapted by Yoon (1996) was used. It comprises 36 questions, includes 28 questions that measure binge eating behavior and 8 questions that measure weight control behavior. Each item on the scale is rated on a 5-point Likert scale, and the higher the total score, the more likely it is to repeat the binge eating behavior and the reward behavior of weight control. In the study of Yoon (1996), Cronbach's  $\alpha$  value in period 1 was .93 and in period 2 was .83. Cronbach's  $\alpha$  value in this study was .96.

#### Data Analysis

The data for this study were analyzed using SPSS 29.0 and the SPSS

PROCESS Macro 4.2. Frequency and descriptive statistical analyses were performed to identify participants' demographic characteristics and variable statistics. The reliability of the measurement tools was assessed using Cronbach's  $\alpha$  coefficient. In addition, Pearson's correlation analysis was conducted to determine the relationships between variables. Finally, in order to confirm the sequential mediating effect of food craving and watching mukbang in the effect of loneliness on bulimic tendency, the direct effect and the indirect effect of parameters were analyzed using SPSS PROCESS Macro's model 6. Additionally, we examined the sequential mediating effect by differentiating between weekend and weekday frequencies of watching mukbang. Gender, grade and cohabitation status were included as covariates. The statistical significance of the mediating effect was verified by setting the number of bootstrapping samples 10,000 times and a confidence level of 95%.

## Results

### Descriptive Statistics

The descriptive statistics for the main variables are presented in Table 1. The mean scores of the main variables were 30.54 for loneliness ( $SD = 21.30$ ), 46.98 for food craving ( $SD = 12.22$ ), 3.19 for weekly watching mukbang ( $SD = 1.71$ ), 2.07 for weekday watching mukbang ( $SD = 1.30$ ), 1.13 for weekend watching mukbang ( $SD = .60$ ), and 81.47 for bulimic tendency ( $SD = 28.63$ ). The skewness

**Table 1.** Descriptive Statistics and Correlations Analysis

	1	2	3	4	5	6	7	8	9
1. Gender	-								
2. Cohabitation	-.13**	-							
3. Grade	-.06	.04	-						
4. Loneliness	-.03	-.03	.12**	-					
5. Food craving	.07	-.10*	.15***	.48***	-				
6. Weekly WM	-.01	-.06	.02	.29***	.29***	-			
7. Weekday WM	-.02	-.06	.07	.29***	.31***	.95***	-		
8. Weekend WM	.01	-.03	-.07	.20***	.16***	.79***	.58***	-	
9. Bulimic tendency	-.01	-.09	.17***	.60***	.58***	.40***	.43***	.22***	-
Mean	-	-	-	30.54	46.98	3.19	2.07	1.13	81.47
SD	-	-	-	21.30	12.22	1.71	1.30	.60	28.63
Skewness	-	-	-	.20	-.47	-.02	.30	-.60	-.22
Kurtosis	-	-	-	-1.00	-.05	-.20	-.40	-.33	-1.33

Gender: Male = 0, Female = 1; Cohabitation: Living together = 0, Alone = 1; WM = watching mukbang.

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

and kurtosis values of all variables satisfied the criteria for normal distribution.

**Correlations Analysis**

The results of the correlation analysis among all variables, including the control variables (gender, grade and cohabitation), are presented in Table 1. All variables of loneliness, food craving, watching mukbang (weekly, weekday and weekend), and bulimic tendency showed strong positive correlations ( $p < .001$ ).

**Mediational Analysis**

The results of the mediation analysis among variables, after controlling for gender, grade, cohabitation are presented in Table 2. Firstly, loneliness positively predicted food craving ( $B = .27, t = 11.61, p < .001$ ). Subsequently, loneliness positively predicted weekly watching mukbang ( $B = .02, t = 3.85, p < .01$ ), and food craving similarly ex-

hibited a positive prediction for the weekly watching mukbang ( $B = .03, t = 3.98, p < .01$ ). Finally, loneliness ( $B = .50, t = 9.69, p < .001$ ), food craving ( $B = .78, t = 8.66, p < .001$ ), and weekly watching mukbang ( $B = 3.29, t = 5.66, p < .001$ ) all demonstrated a positive prediction for bulimic tendency.

Additionally, a mediating effect analysis was conducted by categorizing weekly mukbang watching patterns into weekdays and weekends. The results of this analysis, after controlling for gender, grade, cohabitation are presented in Table 3 and Figure 1. Loneliness ( $B = .01, t = 3.53, p < .01$ ) and food craving ( $B = .02, t = 4.48, p < .001$ ) predicted weekday watching mukbang. In contrast, loneliness ( $B = .005, t = 3.29, p < .01$ ) predicted weekend watching mukbang, while food cravings ( $B = .004, t = 1.70, p = .09$ ) did not predict weekend watching of mukbang. Both weekday watching mukbang ( $B = 4.86, t = 6.32, p < .001$ ) and weekend watching mukbang ( $B = 4.17, t = 2.54, p < .05$ ) positively predicted bulimic tendencies.

**Table 2.** In the Relationship between Loneliness and Bulimic Tendency the Mediating Effect of Food Craving and Weekly Watching Mukbang

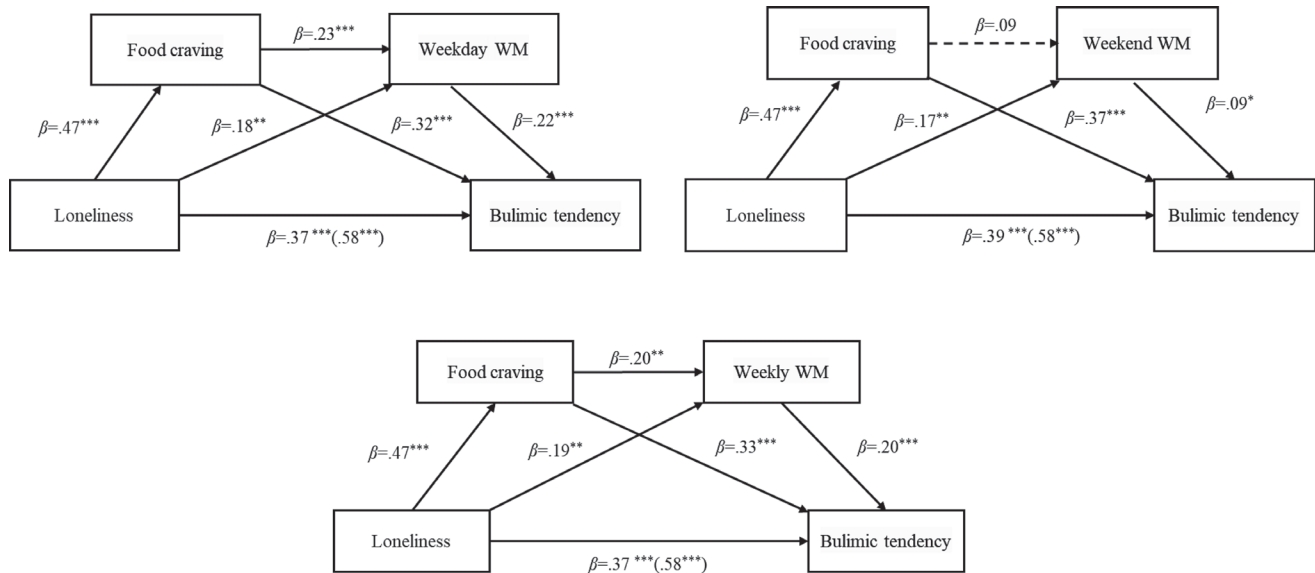
Independent variable	Dependent variable	B	SE	$\beta$	t	LL	UL	F(p)	R <sup>2</sup>
Loneliness	Bulimic tendency	.78	.05	.58	15.64***	.68	.88	67.82***	.370
Loneliness	Food craving	.27	.02	.47	11.61***	.22	.32	39.65***	.256
Loneliness	Weekly WM	.02	.004	.19	3.85**	.01	.02	12.11***	.16
Food craving		.03	.007	.20	3.98**	.01	.04		
Loneliness	Bulimic tendency	.50	.05	.37	9.69***	.40	.60	79.17***	.508
Food craving		.78	.09	.33	8.66***	.60	.96		
Weekly WM		3.29	.58	.20	5.66***	2.15	4.43		

Gender, grade, cohabitation status were included as covariates in the analysis. WM = watching mukbang; LL = Lower Limit; UL = Upper Limit. \*\* $p < .01$ , \*\*\* $p < .001$ .

**Table 3.** In the Relationship between Loneliness and Bulimic Tendency the Mediating Effect of Food Craving and Weekday/Weekend Watching Mukbang

Independent variable	Dependent variable	B	SE	$\beta$	t	LL	UL	F(p)	R <sup>2</sup>
Loneliness	Weekday WM	.01	.003	.18	3.53**	.004	.02	13.22***	.125
Food craving		.02	.005	.23	4.48***	.01	.03		
Loneliness	Weekend WM	.005	.002	.17	3.29**	.002	.008	5.52***	.057
Food craving		.004	.003	.09	1.70	-.0004	.010		
Loneliness	Bulimic tendency	.50	.05	.37	9.78***	.40	.59	81.70***	.516
Food craving		.76	.09	.32	8.43***	.58	.94		
Weekday WM		4.86	.77	.22	6.32***	3.35	6.37		
Loneliness	Bulimic tendency	.53	.05	.39	10.10***	.42	.63	71.07***	.481
Food craving		.86	.09	.37	9.536***	.68	1.04		
Weekend WM		4.17	1.64	.09	2.54*	.94	7.39		

Gender, grade, cohabitation status were included as covariates in the analysis. WM = watching mukbang; LL = Lower Limit; UL = Upper Limit. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .



**Figure 1.** In the relationship between loneliness and bulimic tendency, the mediating effect of food craving and weekly (weekday, weekend) watching mukbang. WM = watching mukbang; Gender, grade, cohabitation status were included as covariates in the analysis. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

**Table 4.** Verification of Mediation Effects

Path	B	Boot SE	95% CI	
			LL	UL
Total effect	.78	.05	.68	.88
Direct effect	.50	.05	.40	.60
Total indirect effect (Weekly)	.29	.03	.22	.35
X→M1→Y	.21	.03	.15	.27
X→M2(Weekly)→Y	.05	.02	.02	.09
X→M1→M2(Weekly)→Y	.03	.01	.01	.04
Total indirect effect (Weekday)	.29	.03	.22	.35
X→M1→Y	.20	.03	.15	.26
X→M2(Weekday)→Y	.05	.02	.02	.09
X→M1→M2(Weekday)→Y	.03	.01	.01	.05
Total indirect effect (Weekend)	.26	.03	.19	.32
X→M1→Y	.23	.03	.17	.30
X→M2(Weekend)→Y	.02	.01	.003	.04
X→M1→M2(Weekend)→Y	.005	.004	-.001	.01

X = Loneliness; M1 = Food craving; M2 = Watching mukbang; Y = Bulimic tendency; LL = Lower Limit; UL = Upper Limit.

Table 4 shows the results of verifying the significance of the sequential mediating effect between variables. The total effect size ( $B = .78$ , 95% CI = [.68, .88]) and direct effect size ( $B = .50$ , 95% CI = [.40, .60]) in the relationship between loneliness and bulimic tendency was found to be statistically significant. The indirect effect of loneliness on the bulimic tendency through food craving

( $B = .21$ , 95% CI = [.15, .27]) was statistically significant. The indirect effect of loneliness influencing bulimic tendency through weekly watching mukbang ( $B = .05$ , 95% CI = [.02, .09]) was also statistically significant. The mediating effect of loneliness on bulimic tendency by mediating food craving and weekly watching mukbang in turn ( $B = .03$ , 95% CI = [.01, .04]) was also statistically significant, and it was found that there was a mediating effect. Furthermore, the indirect effects of loneliness on the bulimic tendency through food cravings and weekday watching mukbang were statistically significant ( $B = .03$ , 95% CI = [.01, .05]). In contrast, the indirect effect through weekend watching mukbang was not significant ( $B = .005$ , 95% CI = [-.001, .01]). The analysis revealed that the influence of the pattern of watching mukbang on weekdays and weekends differed in the mediating model.

## Discussion

This study examined the mediating effect of food craving and watching mukbang on the relationship between loneliness and bulimic tendencies among university students. The main findings in this study are as follow. First, as a result of conducting Pearson correlation analysis to understand the correlation between the



variables, significant positive correlations were found between all the variables. The bulimic tendencies showed the greatest correlation with loneliness, followed by food craving and watching mukbang. These findings are consistent with the results of previous studies showing a significant positive correlation between social isolation and binge eating behavior (Lee, 2022), food cravings increase when bulimia nervosa groups experience negative emotions (Laberg et al., 1991), and the existence of a positive correlation between problematic mukbang watching and eating disorders (Kircaburun et al., 2021). Second, food craving and watching mukbang sequentially mediated the relationship between loneliness and bulimic tendencies. These results are consistent with previous studies that show food craving mediates the relationship between negative emotions and binge eating (Lee & Yang, 2021). Additionally, the findings are in line with research indicating that mukbang stimulates appetite (Yoon et al., 2017) and leads to binge eating as the time of watching mukbang increases (Lee, 2019).

The implications of this study are as follows. First, this study is meaningful in that it proposes and verifies a mediating model wherein loneliness sequentially influences bulimic tendencies through food craving and watching mukbang. It explored causes of bulimic tendencies, including food craving and watching mukbang variables, which have not been studied before. Through this exploration, it identifies new variables relevant to inducing bulimic tendencies and reveals new pathways and causal relationships. Additionally, it is significant as it reminds us of the need for interest and focus on youth loneliness emerging in our society by conducting research on university students. The findings suggest that university students who enter young adulthood and begin to form social relationships with strangers in a new environment may be particularly vulnerable to experiencing loneliness within these relationships. Consequently, it was revealed that loneliness is a risk factor that can influence the development of bulimia during the university years. Furthermore, loneliness can be influenced by emotional dysregulation, which in turn affects the bulimic tendencies (Southward et al., 2014). A lack of emotional control in individuals can cause psychological distress and impulsive behavior, leading them to consume mukbang content as a maladaptive coping strategy to alleviate psychological distress (Kircaburun et al., 2024). Thus, watching mukbang may be an inappropriate behav-

ior resulting from influences of diverse problems, such as difficulties in emotional regulation, as well as attempts to alleviate loneliness. This study suggests additional risk factors associated with watching mukbang and contributes to a more accurate academic analysis of this phenomenon by investigating the mukbang from various research perspectives, beyond a simple discussion of its influence.

Notably, this study reveals that only the pathways related to the effects of food cravings on watching mukbangs and the effects of watching mukbangs on bulimic tendencies differ between weekdays and weekends, while other pathways remain relatively consistent. This suggests that university students employ different strategies to cope with food cravings during weekdays and weekends. During the week, when they may have limited time for social activities, students are more likely to watch mukbangs as a coping mechanism for managing loneliness-related food cravings. In contrast, on weekends, with more time and opportunities for social or external activities, students are less likely to rely on mukbangs. Based on these findings, this study emphasizes the need for preventive psychological interventions to help university students manage psychological distress and deficient needs through healthier coping mechanisms, rather than potentially maladaptive behaviors such as watching mukbang. In summary, this study is significant in that it comprehensively explored the psychological mechanisms that contribute to the bulimic tendencies and suggests a greater diversity of antecedent factors that affect these tendencies. The findings reveal that these tendencies stem from three main factors: a maladaptive coping mechanism for loneliness, impulsive behavior due to emotional misinterpretation, and responses to mukbangs. These insights expand our understanding of bulimia and suggest the need for more comprehensive psychological interventions among young adults.

The limitations of this study and suggestions for further research are as follows. First, since this study was conducted as an online self-report questionnaire, there is a possibility that social desirability bias and responses were reported by exaggerating or reducing them. In future research, it is necessary to employ methods such as experimental research conducted in structured environments and individual interviews to obtain clearer and more diverse responses. Second, there is a limitation in measuring vari-

ables based solely on simple items in the method of assessing watching mukbang. Therefore, future research should consider applying like Ecological Momentary Assessment (EMA) and experimental approaches to accurately measure causal relationships. Additionally, the influence of watching mukbang videos likely depends on the total time spent on video platforms like YouTube, but this study did not account for that factor, making it difficult to fully assess mukbang's specific impact. Future research should use more controlled study designs to address this limitation. Furthermore, a more diverse range of academic studies are needed to understand why mukbang originated in Korea and gained rapid popularity, considering Korean cultural characteristics.

### Author contributions statement

JHY, graduate student at Hanyang University, collected and analyzed data, and led manuscript preparation. KHS, professor at Hanyang University, served as supervised the research process. All authors provided critical feedback, participated in revision of the manuscript, and approved the final submission.

### References

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (DSM-5)* (5th ed). American Psychiatric Publishing.
- Anjani, L., Mok, T., Tang, A., Oehlberg, L., & Goh, W. B. (2020). Why do people watch others eat food? An empirical study on the motivations and practices of mukbang viewers. *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems* (pp. 1-13). <https://doi.org/10.1145/3313831.3376567>
- Bruch, H. (1961). Transformation of oral impulses in eating disorders: A conceptual approach. *Psychiatric Quarterly*, 35, 458-481. <https://doi.org/10.1007/BF01573614>
- Bodenlos, J. S., & Wormuth, B. M. (2013). Watching a food-related television show and caloric intake. A laboratory study. *Appetite*, 61, 8-12. <https://doi.org/10.1016/j.appet.2012.10.027>
- Harris, J. L., Bargh, J. A., & Brownell, K. D. (2009). Priming effects of television food advertising on eating behavior. *Health Psychology*, 28, 404-413. <https://doi.org/10.1037/a0014399>
- Health Insurance Review and Assessment Service. (2023). *Statistics of diseases and medical behavior in daily life*. <https://opendata.hira.or.kr/op/opc/selectStcPblc.do?sno=14100&odPblcTpCd=&searcsr=&searchWrD=&pageIndex=1>
- Heatherton, T. F., & Baumeister, R. F. (1991). Binge eating as escape from self-awareness. *Psychological Bulletin*, 110, 86-108. <https://doi.org/10.1037/0033-2909.110.1.86>
- Hill, A. J., Weaver, C. F., & Blundell, J. E. (1991). Food craving, dietary restraint and mood. *Appetite*, 17, 187-197. [https://doi.org/10.1016/0195-6663\(91\)90021-J](https://doi.org/10.1016/0195-6663(91)90021-J)
- Jang, Y. J., & Kim, M. R. (2016). Need for interaction or pursuit of information and entertainment?: The relationship among viewing motivation, presence, parasocial interaction, and satisfaction of eating and cooking broadcasts. *Journal of Broadcasting Korea*, 30, 152-185. UCI : G704-000045.2016.30.4.002
- Jeong, H. K. (2015). The meaning and symbolism of Korean food culture. *Asia Review*, 5, 97-121. <https://doi.org/10.24987/SNUA-CAR.2015.08.5.1.97>
- Kircaburun, K., Yurdagül, C., Kuss, D., Emirtekin, E., & Griffiths, M. D. (2021). Problematic mukbang watching and its relationship to disordered eating and internet addiction: A pilot study among emerging adult mukbang watchers. *International Journal of Mental Health and Addiction*, 19, 2160-2169. <https://doi.org/10.1007/s11469-020-00309-w>
- Kircaburun, K., Harris, A., Calado, F., & Griffiths, M. D. (2024). Emotion regulation difficulties and problematic mukbang watching: The mediating role of psychological distress and impulsivity. *Psychiatry Research Communications*, 4, 100152. <https://doi.org/10.1016/j.psychom.2023.100152>
- Korean Statistical Information Service. (2023). *Census of statistics korea*. [https://kosis.kr/statHtml/statHtml.do?orgId=101&tblId=DT\\_1JC1517&checkFlag=N](https://kosis.kr/statHtml/statHtml.do?orgId=101&tblId=DT_1JC1517&checkFlag=N)
- Kwon, S. M. (1997). Solitude of college students: The development of emotional and social solitude scales. *Student Studies (Seoul National University)*, 30, 15-28.
- Lafay, L., Thomas, F., Mennen, L., Charles, M. A., Eschwege, E., & Borys, J. M. (2001). Gender differences in the relation between food cravings and mood in an adult community: Results from the fleurbaix laventie ville sante study. *International Journal of Eating Disorders*, 29, 195-204. [https://doi.org/10.1002/1098-108X\(200103\)29:2<195::AID-EAT1009>3.0.CO;2-N](https://doi.org/10.1002/1098-108X(200103)29:2<195::AID-EAT1009>3.0.CO;2-N)
- Laberg, J. C., Wilson, G. T., Eldredge, K., & Nordby, H. (1991). Effects of mood on heart rate reactivity in bulimia nervosa. *International Journal of Eating Disorders*, 10, 169-178. [https://doi.org/10.1002/1098-108X\(199103\)10:2<169::AID-EAT2260100205>3.0.CO;2-Y](https://doi.org/10.1002/1098-108X(199103)10:2<169::AID-EAT2260100205>3.0.CO;2-Y)
- Lee, D. S. (2019). *Research on the causal factor to binge eating that affects dieting deriving from one person media viewership -Focused on females between the ages of 20-30-* [Unpublished Master's thesis]. Chung-Ang University.
- Lee, K. Y., & Yang, J. W. (2021). The influence of positive affect and negative affect and food craving on binge eating in undergradu-



- ate students: Moderated mediating effect of urgency. *The Journal of Learner-Centered Curriculum and Instruction*, 21, 905-917. <https://doi.org/10.22251/jlcci.2021.21.23.905>
- Lee, J. H. (2022). *The effects of social isolation on binge eating: The mediating effects of self-compassion and emotional dysregulation* [Unpublished Master's thesis]. Chung-Ang University.
- Nam, H. Y., & Jung, B. M. (2021). A comparative study of the dietary behavior of adults aged 20 and over according to the mukbang viewing time. *Korean Journal of Community Nutrition*, 26, 93-102. <https://doi.org/10.5720/kjcn.2021.26.2.93>
- Nijs, I. M., Franken, I. H., & Muris, P. (2007). The modified trait and state food-cravings questionnaires: Development and validation of a general index of food craving. *Appetite*, 49, 38-46. <https://doi.org/10.1016/j.appet.2006.11.001>
- Park, S.Y. (2020). A study on factors affecting use motivation and preference in tv food program viewing. *International Journal of Contents*, 20, 534-546. <https://doi.org/10.5392/jkca.2020.20.07.534>
- Rotenberg, K. J., & Sangha, R. (2015). The relation between bulimic symptoms and the social withdrawal syndrome during early adolescence. *Eating Behaviors*, 19, 177-180. <https://doi.org/10.1016/j.eatbeh.2015.09.008>
- Smith, M. C., & Thelen, M. H. (1984). Development and validation of a test for bulimia. *Journal of Consulting and Clinical Psychology*, 52, 863-872. <https://doi.org/10.1037/0022-006X.52.5.863>
- Southward, M. W., Christensen, K. A., Fettich, K. C., Weissman, J., Berona, J., & Chen, E. Y. (2014). Loneliness mediates the relationship between emotion dysregulation and bulimia nervosa/ binge eating disorder psychopathology in a clinical sample. *Eating and Weight Disorders-Studies on Anorexia, Bulimia and Obesity*, 19, 509-513. <https://doi.org/10.1007/s40519-013-0083-2>
- Stice, E., & Agras, W. S. (1999). Subtyping bulimic women along dietary restraint and negative affect dimensions. *Journal of Consulting and Clinical Psychology*, 67, 460-469. <https://doi.org/10.1037/0022-006X.67.4.460>
- Sun, B. R., & Lee, H. J. (2021). The effects of food craving on binge eating among college students: Focusing on the efficacy of mental imagery task. *Cognitive Behavior Therapy in Korea*, 21, 29-60. <https://doi.org/10.33703/cbtk.2021.21.1.29>
- Thelen, M. H., Farmer, J., Wonderlich, S., & Smith, M. (1991). A revision of the bulimia test: The BULIT—R. *Psychological Assessment: A Journal of Consulting and Clinical Psychology*, 3, 119-124. <https://doi.org/10.1037/1040-3590.3.1.119>
- Vincenzi, H., & Grabosky, F. (1987). Measuring the emotional/social aspects of loneliness and isolation. *Journal of Social Behavior and Personality*, 2, 257-270. <https://psycnet.apa.org/record/1988-25276-001>
- Waters, A., Hill, A., & Waller, G. (2001). Bulimics' responses to food cravings: Is binge-eating a product of hunger or emotional state? *Behaviour Research and Therapy*, 39, 877-886. [https://doi.org/10.1016/S0005-7967\(00\)00059-0](https://doi.org/10.1016/S0005-7967(00)00059-0)
- Weingarten, H. P., & Elston, D. (1990). The phenomenology of food cravings. *Appetite*, 15, 231-246. [https://doi.org/10.1016/0195-6663\(90\)90023-2](https://doi.org/10.1016/0195-6663(90)90023-2)
- Woo, S. (2018). Mukbang is changing digital communications. *Anthropology News*, 59, 90-94. <https://doi.org/10.1111/AN.1048>
- Yeo, S. K. (2016). *Differences in emotional and social loneliness according to college students' sns addiction tendencies and internet addiction* [Unpublished Master's thesis]. Dankook University.
- Yoo, M. S., Shin, D. H., & Lee, M. J. (2021). *A study on the status of youth's social isolation and support measures*. National Youth Policy Institute. <https://www.nypi.re.kr/repository/handle/2022.oak/2931>
- Yoo, S. W., Shin, K. H., & Kim, S. J. (2021). Does mukbang watching really affect obesity?: Focusing on the factors related to health and mukbang watching. *Journal of Korean Press*, 65, 205-240. <https://doi.org/10.20879/kjcs.2021.65.2.006>
- Yoon, H. Y. (1996). *The relationships among binge eating behavior, depressive symptoms, and attributional style* [Unpublished Master's thesis]. The Catholic University of Korea, Seoul, Korea.
- Yoon, S. M., Hong, J. S., Kim, M. H. (2017). A study on viewers' preference factors for food content broadcasting programs - Focus on dietary lifestyles -. *Journal of Communication Design*, 61, 168-184. UCI: I410-ECN-0102-2018-600-004222698