

The Role of Procrastination Between Personality Traits and Addictive Mukbang Watching Among Emerging Adults

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Abstract

The role of personality traits in the development of addictive use of different online activities has been extensively demonstrated in the previous studies. One new type of online activity is the watching of mukbang (the South Korean term for “eating broadcasts”). However, very little is known about addictive mukbang watching (AMW) and its relationship to personality constructs. The present study investigated the direct and indirect associations of Big Five personality traits (i.e., extroversion, neuroticism, agreeableness, openness, conscientiousness) and dark personality traits (i.e., narcissism, Machiavellianism, psychopathy, sadism, spitefulness) with AMW via procrastination. An online survey that comprised items assessing the aforementioned variables was completed by 222 university students who had watched mukbang at least once in the previous week. Path analysis indicated that extroversion was indirectly negatively associated with AMW via procrastination. Furthermore, conscientiousness, sadism, and procrastination were directly positively associated with higher AMW. Findings suggest that individuals may develop and maintain uncontrolled mukbang watching in order to procrastinate and personality traits may play a contributing role in this association.

Keywords

mukbang, Big Five personality traits, dark personality traits, dark triad, sadism, procrastination

Introduction

“Mukbang Addiction”

Originating in South Korea, the term “mukbang” is a combination of the South Korean words “eating” (“meokneun”) and “broadcast” (“bangsong”; Kircaburun et al., 2020). Mukbang videos typically include a solo eater, known as the broadcast jockey (BJ) who consumes a large quantity of food during the broadcast whilst communicating with the watching viewers (Strand & Gustafsson, 2020). This communication can be interactive and in real time (Afreecatv), or via more linear communication channels such as YouTube (Kang et al., 2020). Mukbang gained popularity in South Korea in the late 2000s (Choe, 2019) but has grown considerably in worldwide popularity since 2014 (Donnar, 2017).

The initial popularity of mukbang in South Korea has been attributed to the Korean custom of shared eating and community during mealtimes (Kang et al., 2020). Watching mukbang is the technological equivalent of experiencing such communality and closeness during eating (Choe, 2019). Research has supported this premise of communality via mukbang videos, with viewers reporting that watching mukbang alleviates feelings of loneliness and facilitates feelings of emotional connection (Choe, 2019).

The popularity of mukbang has also been attributed to “provocative” content, including overeating, eating spicy/irritating food, and eating a large amount of food during a specific time limit (Kang et al., 2020). In another recent attempt to understand motivations of watching mukbang, Pereira et al. (2019) found that for both Caucasian and Asian viewers, the attractiveness of the host and socially normative ideas (i.e., ideas about what members of a specific social group ought to believe in and do) both positively influenced attitudes toward mukbang watching, and positive attitudes toward mukbang significantly predicted watching mukbang videos. In a scoping review of both peer-reviewed papers and newspaper articles, watching mukbang was attributed to social, sexual, entertainment, and eating motivations (Kircaburun, Harris, et al., 2021). Clearly, there are a variety

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of motivations and reasons why individuals (within cultures and cross-culturally) watch mukbang.

More recently, researchers have highlighted the potential addictiveness of watching mukbang (e.g., Kircaburun, Stavropoulos, et al., 2021; Kircaburun, Yurdagül, et al., 2021), and problematic (the term “problematic” is often used in the literature to account for addiction, but overcomes the emotive qualities associated with the term [Caplan, 2002; Thatcher et al., 2008]) mukbang watching has been positively associated with internet addiction (Kircaburun, Yurdagül, et al., 2021). Kircaburun, Yurdagül, et al. (2021) utilized the compensatory internet use model to explain problematic (i.e., addictive) mukbang watching (Kardefelt-Winther, 2014), where online behaviors may act as a compensation for unattained offline needs. An individual’s gratification of specific needs, such as alleviating loneliness, facilitating emotional connection, and attaining social norms via watching mukbang could potentially develop into an addiction (Kircaburun, Stavropoulos, et al., 2021; Kircaburun, Yurdagül, et al., 2021). To date, and in comparison to research exploring other online addictions (i.e., gaming, gambling, social media), there is a paucity of research exploring predictors of addictive mukbang watching (Kircaburun et al., 2020). A recent study explored psychosocial correlates of AMW and found that loneliness but not depression was positively related to elevated AMW among emerging adults (Kircaburun, Balta, et al., 2021). Given that personality has previously been demonstrated to be a strong predictor of addictive online behavior (Kayış et al., 2016; Young & Rodgers, 1998), in the present study, the role of personality (more specifically, the Big Five personality traits and dark personality traits) are hypothesized as being predictors of AMW.

Personality, Procrastination, and Online Addictions

The Big Five personality model (Costa & McCrae, 1992) has been explored in relation to various online addictions. The Big Five model comprises extroversion (i.e., warmth, assertiveness), neuroticism (i.e., anxiety, vulnerability), agreeableness (i.e., trust, altruism), openness (i.e., curious, ideas), and conscientiousness (i.e., competence, self-discipline; McCrae & Costa, 1997). A meta-analytic review of the Big Five personality traits and internet addiction found significant relationships between all traits and internet addiction. Neuroticism was positively associated with internet addiction, whereas extroversion, agreeableness, openness, and conscientiousness were all negatively associated with internet addiction (Kayış et al., 2016). The authors concluded that characteristics of trait neuroticism (more specifically, anxiety, lack of social confidence), and underdeveloped self-awareness, predispose these individuals to be more likely to develop addiction to the internet. Regarding the negative relationships between extroversion, agreeableness, openness, conscientiousness, and internet addiction, the authors

posited that characteristics associated with these traits such as assertiveness (extraversion), curiosity (openness), self-discipline (conscientiousness), and lower aggression (agreeableness) “protect” these individuals from developing internet addiction.

The Big Five personality traits have also been found to be predictive of other addictive online behaviors. For example, high neuroticism, low extroversion, and low agreeableness have been found to predict videogame addiction (Vollmer et al., 2014), and high extroversion, low conscientiousness, and low openness have been found to predict Facebook addiction (Kanat-Maymon et al., 2018). Moreover, high neuroticism has also been found to predict Facebook addiction (Tang et al., 2016), and low agreeableness is a direct predictor of Instagram addiction (Kircaburun & Griffiths, 2018a).

Research has also shown associations between dark personality traits (i.e., narcissism, Machiavellianism, psychopathy, sadism, spitefulness) and online addictions. The online environment may be particularly appealing to individuals with higher levels of these dark traits, because the online environment offers behavioral opportunities that may not be as possible in offline contexts (i.e., enhancing self-presentation, de-individualized aggression, and manipulation), and therefore may facilitate the development of addictive online behavior. Testament to the addictive potential of online environments, (i) trait psychopathy has been associated with social media addiction (Chung et al., 2019; Demircioğlu & Köse, 2018; Lee, 2019), (ii) Machiavellianism has been positively associated with internet use disorder (Sindermann et al., 2018), (iii) narcissism has been associated with Facebook addiction (Brailovskaia et al., 2020), (iv) trait sadism has been directly associated with problematic online gaming (Kircaburun et al., 2018), and (v) spitefulness has been directly associated with problematic smartphone use (Balta et al., 2019). Based on the significant associations between dark personality traits and problematic internet use, researchers have concluded that individuals with higher levels of dark personality traits may be more vulnerable to developing problematic online behaviors and addictions than those with lower levels of dark personality traits (Kircaburun & Griffiths, 2018b).

In addition to the aforementioned empirical evidence, the Interaction of Person-Affect-Cognition-Execution model (I-PACE) indicates that an individual’s development and maintenance of addictive use of online platforms can be explained by the interplay between personality characteristics, social cognitions, and cognitive and affective components (Brand et al., 2016, 2019). According to the I-PACE, individual differences including personality traits possess specific vulnerabilities for developing addictive behaviors (Brand et al., 2016). Given the theoretical rationale and substantial research evidence regarding associations between the Big Five personality traits, dark personality traits, and development of different online addictions, there is good rationale to expect these traits to relate to AMW. For instance,

personality features that facilitate greater loneliness and social isolation, including neuroticism, introversion, disagreeableness, psychopathy, sadism, and spitefulness (Buecker et al., 2020), maybe more common among those who use mukbang watching as a compensation of real-life interpersonal interaction given that individuals who watch mukbang feel less lonely and more socially connected when interacting with mukbangers and other viewers (Choe, 2019). Similarly, less conscientious individuals may engage in mukbang watching to avoid their real-life tasks and assignments given that mukbang watching has been reported to be good entertainment that may help individuals pass a lot of time (Kircaburun, Harris, et al., 2021). Some individuals report that they enjoy watching others eat a large portion of extremely hot and/or spicy foods in a short period of time simply because they enjoy the eater's suffering during the show (Kang et al., 2020). Obtaining pleasure from others' suffering is suggestive of sadistic and spiteful personality traits as well as more Machiavellianism and psychopathy (Sindermann et al., 2018). Consequently, both Big Five personality dimensions and darker aspects of personality could be associated with elevated vulnerability for developing and maintaining AMW.

Finally, in the present study, the indirect relationship of these personality traits to AMW via procrastination was explored. According to the I-PACE model (Brand et al., 2019), individuals' mental states and social cognitions can play a mediating role between their individual differences and excessive technology use. Procrastination (i.e., the delay of an intended action despite the negative consequences; Steel, 2007) has been found to be a particularly strong predictor of internet addiction (Davis et al., 2002; Geng et al., 2018; Hernández et al., 2019). Although procrastination and problematic internet use are considered to be highly inter-correlated (see Davis et al., 2002), the constructs are still considered as distinct from each other (Thatcher et al., 2008). Both academic procrastination (i.e., situational procrastination) and general/life routine procrastination (i.e., dispositional procrastination; Uzun et al., 2014) have been positively associated with internet addiction. Procrastinators may also find mukbang watching an easy way of postponing decisions and actions given that mukbang videos have been reported to be entertaining and engaging in a way that viewers sometimes forget how much time they spend watching mukbang or end up spending much more time than they initially intended for watching mukbang (Kircaburun, Harris, et al., 2021; Kircaburun et al., 2022).

Importantly, procrastination has previously been demonstrated to (both partially and sequentially) mediate the relationship between personality traits and technology-based addictions (Wang et al., 2019). A study with 271 Dutch emerging adults found that trait procrastination was related to lack of conscientiousness, lack of extraversion, and facets of neuroticism (Schouwenburg & Lay, 1995). More specifically, less conscientious, more introverted, and more neurotic

individuals tended to demonstrate more procrastinating behavior. A model testing study with 251 Chinese university students showed that individuals who were less agreeable and more open to experience were more prone to procrastinate (Zhou, 2020).

Even though Big Five personality traits and their relationship with procrastination have been extensively studied over the years, it is only more recently that the association between dark personality traits and procrastination have been investigated. A study with 190 German university students and employees reported Dark Triad traits (i.e., narcissism, Machiavellianism, psychopathy) were positively correlated with decisional and behavioral procrastination (Müller et al., 2021). A study with 357 adults suggested that all Dark Tetrad traits (i.e., narcissism, Machiavellianism, psychopathy, sadism) were positively related to active procrastination (e.g., deliberately delaying decisions and actions; Hughes & Adhikari, 2021). Consequently, the core facets of dark personality traits have been suggested to share many features of procrastination including low self-regulation (Lyons & Rice, 2014). The present study extrapolated the aforementioned relationships, and hypothesized that procrastination may mediate the relationship between personality traits (i.e., the Big Five personality traits, dark personality traits) and online addictions, including AMW.

Aims and Hypotheses

The primary aim of the present study was to explore the direct and indirect associations of Big Five personality traits (i.e., extroversion, neuroticism, agreeableness, openness, conscientiousness) and dark personality traits (i.e., narcissism, Machiavellianism, psychopathy, sadism, spitefulness) with AMW via procrastination. Based on the aforementioned rationale, the following hypotheses are proposed: (i) Big Five personality traits (i.e., extroversion, low neuroticism, conscientiousness, low openness, agreeableness) will be negatively associated with procrastination and AMW (Kayış et al., 2016; Wang et al., 2019); (ii) dark personality traits (i.e., narcissism, Machiavellianism, psychopathy, sadism, spitefulness) will be positively associated with procrastination and AMW (Kircaburun & Griffiths, 2018b; Sindermann et al., 2018); procrastination will be positively associated with AMW (Wang et al., 2019); and (iv) procrastination will mediate the relationships of the Big Five personality traits and dark personality traits with AMW (Wang et al., 2019).

Methods

Participants, Procedure, and Ethics

The online survey was promoted in online courses of a distance learning center of Yaşar University. Informed consent was taken from all participants acknowledging that they

participated in the study voluntarily and anonymously. Participants were not compensated for their participation in the study. A total of 222 Turkish university students (69% female), aged between 19 and 35 years (mean = 21.68 years, $SD = 1.94$), were recruited for the study. In order to participate in the study, participants had to have watched mukbang in the previous week. Participants had to tick a box indicating that they had watched mukbang in the previous week in order to continue filling out the survey. Participants were asked to answer all questions in order to advance in and complete the survey. Data were not analyzed before finalizing the data collection. The data collection process was ended once an adequate sample size was reached to analyse the present research variables (i.e., 10 times the number of parameters in path analysis and confirmatory factor analysis; Kline, 2011). Yaşar University's ethical board approved the study before the recruitment of the participants, and complied with the Helsinki declaration.

Measures

Mukbang Addiction Scale (MAS): The MAS Kircaburun, Stavropoulos, et al., 2021) was used to assess addictive mukbang watching. The MAS comprises six items (e.g., “How often in the past year have you spent a lot of time thinking about mukbang or planned watching mukbang?”), rated on a five-point Likert scale ranging from “very rarely” to “very often,” that reflects six core elements of behavioral addiction (i.e., salience, mood modification, tolerance, withdrawal, conflict, relapse) outlined in the components model of addiction (Griffiths, 2005). Higher scores reflect more addictive mukbang watching. The Cronbach's alpha coefficient was excellent in the present study ($\alpha = .91$).

The Unintentional Procrastination Scale (UPS): The UPS (Ferne et al., 2017) was used to assess procrastination. The Turkish adaptation was carried out in the present study by following the standard back-translation process (Beaton et al., 2000). Confirmatory factor analysis (CFA) was applied using AMOS 23 software, which indicated mostly good fit to the data ($\chi^2 = 22.11$, $df = 9$, $p < .001$, $RMSEA = .08$ CI 90% [.04, .13], $SRMR = .03$, $CFI = .98$, $GFI = .97$). Items' standardized factor loadings ranged from .75 to .84 suggesting that all items had a significant role in the scale. The UPS comprises six items (e.g., “I really want to get things finished in time, but I rarely do”) rated on a 5-point Likert scale from “do not agree” to “agree very much.” Higher scores reflect more procrastination behavior. The internal consistency was excellent in the present study ($\alpha = .90$).

Dark Personality Traits: The Single Item Narcissism Scale—Turkish (Özsoy et al., 2017) was used as a template to assess all dark personality traits. Extant definitions from literature (Jonason & Webster, 2010; Marcus et al., 2014; O'Meara et al., 2011; Özsoy et al., 2017) were used to define each personality dimension and participants rated how much these traits related to themselves, from

1 = “absolutely disagree” to 7 = “absolutely agree” (e.g., *I am a narcissist* = selfish, self-centered; *I am Machiavellian* = manipulate and exploit others towards their own end, deceit or lie to get their way; *I am a psychopath* = callous, insensitive, lack remorse, not concerning about morality of their actions; *I am sadistic* = enjoying inflicting pain on others, tend to intentionally hurt others; *I am spiteful* = willing to harm oneself in order to hurt others). The construct validities of the single items used to assess dark personality traits in the present study were assessed by examining the correlation coefficients obtained. There were moderate correlations among all dark personality traits. This is similar to the results of previous studies that used evaluated scales to assess dark personality traits including the Turkish forms of Dark Triad Dirty Dozen and Short Dark Triad (Özsoy et al., 2017).

Big-Five Personality Traits: Single items were used to assess each personality dimension (i.e., extroversion, neuroticism, agreeableness, openness, conscientiousness). Widely used definitions (Rammstedt & John, 2007; Zuckerman et al., 1993) were used to define each personality trait and participants rated how much these traits related to themselves, from 1 = “absolutely disagree” to 7 = “absolutely agree” (e.g., *I am an extrovert* [reverse coded] = not outgoing and sociable, reserved, introverted in social situations and relations; *I am conscientious* = being trustworthy in doing tasks and duties, organized, planned, doing a thorough job; *I am open to new experience* = being less conservative in life, being open to new experience, having an active imagination; *I am agreeable* = not conflicting, understanding and easygoing in social relations; *I am neurotic* = tends to find fault with others, easily irritated, emotionally unstable). The construct validities of the single items used to assess Big Five personality traits in the present study were assessed by examining the correlation coefficients obtained. Extroversion was negatively correlated with neuroticism. Agreeableness had a negative correlation with most of the dark personality traits. Neuroticism was positively correlated with all dark personality traits. These results were similar to the findings of previous investigations carried out with different Turkish samples (Ardic & Özsoy, 2016).

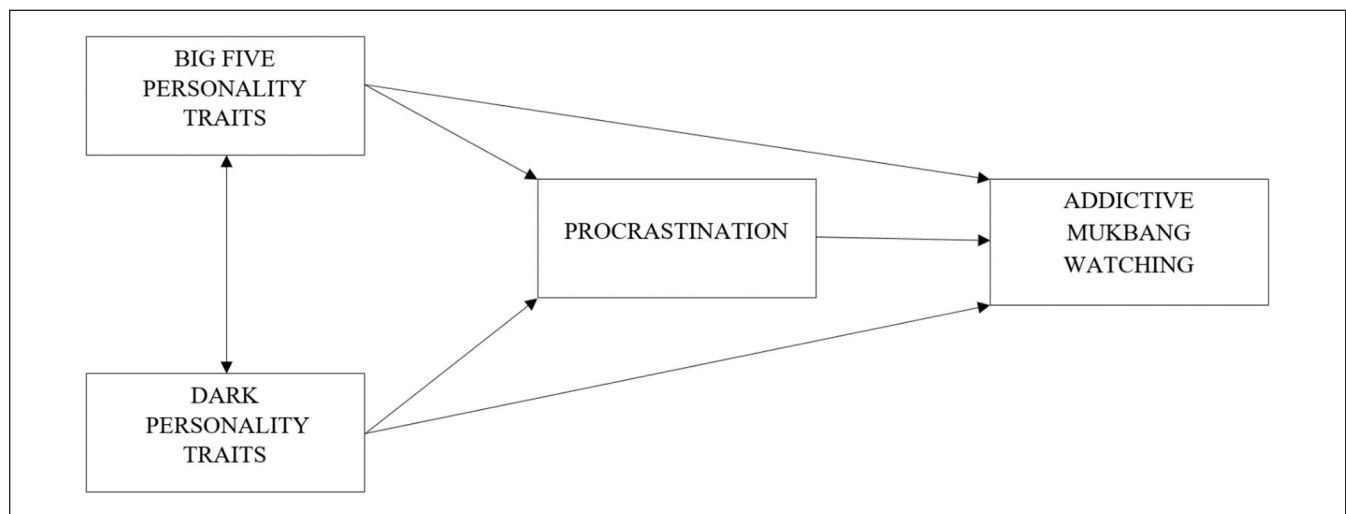
Results

Table 1 illustrates mean scores, standard deviations, skewness and kurtosis values, and correlations of the study variables. Pearson's correlation analysis indicated that AMW was negatively correlated with extroversion ($r = -.32$, $p < .001$) and positively correlated with procrastination ($r = .31$, $p < .001$), narcissism ($r = .37$, $p < .001$), Machiavellianism ($r = .45$, $p < .001$), psychopathy ($r = .60$, $p < .001$), sadism ($r = .63$, $p < .001$), and spitefulness ($r = .52$, $p < .001$). Next, AMOS 23 software was used to test the saturated mediation model (Figure 1). In path analysis, 10,000 bootstrapping samples and 95% interval confidence were

Table 1. Mean Scores, Standard Deviations, Skewness-Kurtosis Values, and Pearson's Correlations of the Study Variables (N=222).

	1	2	3	4	5	6	7	8	9	10	11	12
Addictive mukbang watching	—											
Procrastination	.31***	—										
Extroversion	-.32***	-.43***	—									
Neuroticism	.12	.29***	-.29***	—								
Agreeableness	-.06	.00	-.13	.07	—							
Openness	-.06	-.06	.11	-.03	.39***	—						
Conscientiousness	.11	-.20**	-.00	.04	.31***	.45***	—					
Narcissism	.37***	.27***	-.16*	.25***	-.15*	-.10	-.05	—				
Machiavellianism	.45***	.26***	-.26***	.21**	-.12	-.19**	-.14*	.63***	—			
Psychopathy	.60***	.25***	-.35***	.19**	-.16*	-.23**	-.07	.52***	.64***	—		
Sadism	.63***	.23**	-.32***	.13*	-.09	-.20**	-.02	.54***	.61***	.83***	—	
Spitefulness	.52***	.23**	-.25***	.17*	-.14*	-.20**	-.05	.50***	.59***	.69***	.72***	—
M	9.99	13.29	5.20	3.77	4.80	5.23	4.80	2.65	2.23	1.95	1.69	2.26
SD	5.25	5.00	1.80	1.94	1.62	1.76	1.71	1.78	1.68	1.65	1.54	1.73
Skewness	1.69	.37	-.76	.10	-.61	-.87	-.44	.85	1.31	1.65	2.23	1.31
Kurtosis	2.73	-.66	-.42	-1.05	-.21	-.15	-.58	-.32	.84	1.63	3.92	.75

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

**Figure 1.** Hypothesized model of the study variables.

used. According to the guidelines by Kline (2011), the sample size of the present study was adequate for conducting a path analysis because it was more than 10 times the amount of the number of parameters in path analysis. However, since the number of male and female participants was not adequate (Kline, 2011), group differences in variable scores and model results were not examined separately for males and females.

Since the present study was cross-sectional in which data regarding all dependent and independent variables were collected using same assessment instrument, common method bias was examined. Harman's one-factor test was used to investigate common method bias by including all scale items into one factor and running a dimension reduction test in SPSS (see Podsakoff et al., 2012 for a review). As a result,

since the total variance extracted by one factor did not exceed the recommended threshold of 50% (34.05% in the present study), the present authors concluded that the results were not affected by a common method bias.

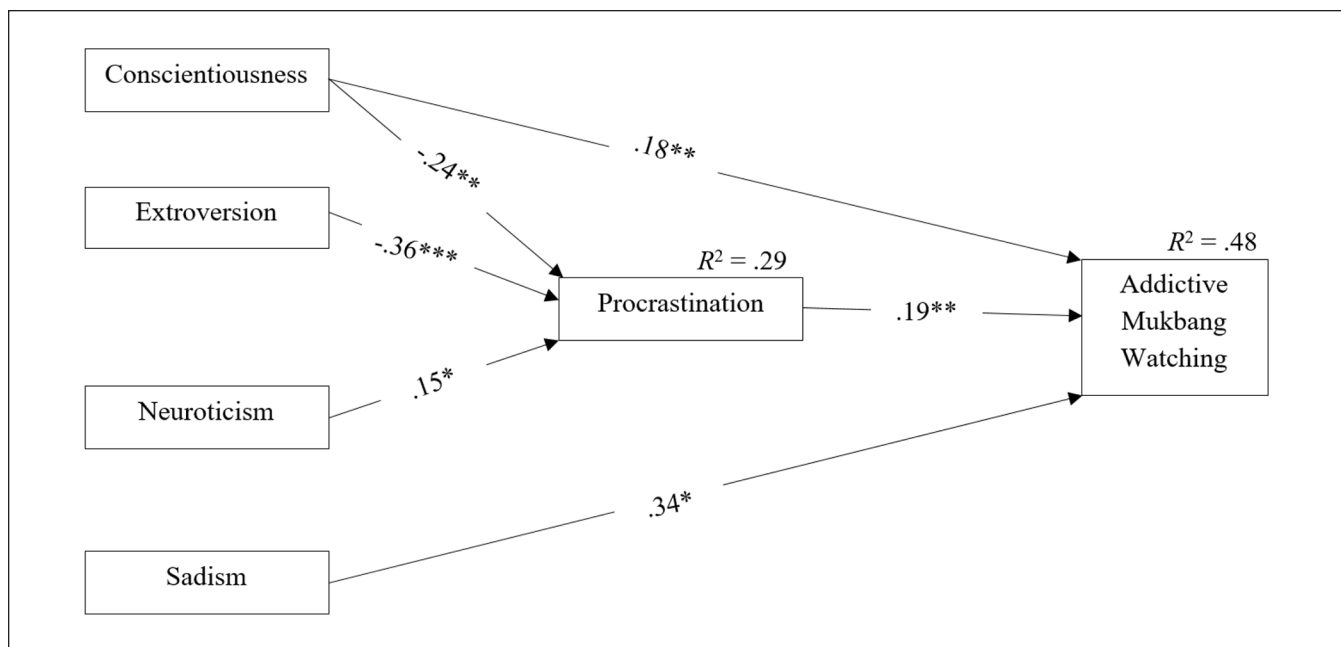
Big Five personality traits (i.e., extroversion, neuroticism, agreeableness, openness, conscientiousness) and dark personality traits (i.e., narcissism, Machiavellianism, psychopathy, sadism, spitefulness) were included into model as distal predictors. Procrastination was the mediator and AMW was the outcome variable. Standardized estimates of total, direct, and indirect effects on AMW are shown in Table 2. Extroversion was negatively indirectly associated with AMW via procrastination ($\beta = -.07$, $p < .01$; 95% CI $[-.14, -.02]$). Conscientiousness ($\beta = .18$, $p < .01$; 95% CI $[.06,$

Table 2. Standardized Estimates of Total, Direct, and Indirect Effects on Addictive Mukbang Watching (N = 222).

	Effect	S. E.	C.I. (LB, UB)
Extroversion→Addictive mukbang watching (total effect)	-.12*	.06	(-.23, -.01)
→Addictive mukbang watching (direct effect)	-.06	.06	(-.18, .07)
→Procrastination→Addictive mukbang watching (indirect effect)	-.07**	.03	(-.14, -.02)
Conscientiousness→Addictive mukbang watching (total effect)	.14*	.06	(.03, .24)
→Addictive mukbang watching (direct effect)	.18**	.06	(.06, .31)
→Procrastination→Addictive mukbang watching (indirect effect)	-.05**	.02	(-.10, -.01)
Sadism→Addictive mukbang watching (total effect)	.34*	.14	(.07, .60)
→Addictive mukbang watching (direct effect)	.34*	.14	(.07, .60)
→Procrastination→Addictive mukbang watching (indirect effect)	.00	.02	(-.05, .04)

Note. Only the significant total effects are shown in the table. Full report is available upon request. S.E. = standard error; C.I. = confidence interval; LB = lower bound; UB = upper bound.

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

**Figure 2.** Final model of the relationships among variables in total sample.

Note. For clarity covariances among independent variables and insignificant direct effects are not depicted in the figure. Narcissism ($\beta = .15$, $p = .05$; $\beta = -.03$, $p = .64$), Machiavellianism ($\beta = .01$, $p = .92$; $\beta = .05$, $p = .44$), psychopathy ($\beta = .01$, $p = .95$; $\beta = .21$, $p = .09$), spitefulness ($\beta = .03$, $p = .75$; $\beta = .08$, $p = .28$), agreeableness ($\beta = .01$, $p = .89$; $\beta = -.06$, $p = .31$), and openness ($\beta = .11$, $p = .11$; $\beta = .04$, $p = .53$) were not related to procrastination and AMW respectively in the model. Furthermore, sadism was not directly associated with procrastination ($\beta = -.00$, $p = .97$) and the relationship regarding extroversion ($\beta = -.05$, $p = .39$) and neuroticism ($\beta = -.06$, $p = .23$) with AMW were also non-significant.

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

.31]), sadism ($\beta = .18$, $p < .05$; 95% CI [.07, .60]), and procrastination ($\beta = .19$, $p < .01$; 95% CI [.05, .32]) were directly positively related to AMW. The tested model explained 48% of the variance in AMW (Figure 2).

Discussion

The aim of the present study was to investigate direct and indirect relationships of the Big Five personality traits (i.e., extroversion, neuroticism, agreeableness, openness, conscientiousness) and dark personality traits (i.e., narcissism,

Machiavellianism, psychopathy, sadism, spitefulness) with addictive mukbang watching (AMW) via procrastination. Partially consistent with the study's expectations, extroversion and conscientiousness were indirectly negatively related to AMW via procrastination. Furthermore, conscientiousness and sadism were positively directly associated with AMW. The indirect effect of neuroticism on AMW via procrastination was non-significant.

Procrastination was positively related to AMW. This preliminary finding is consistent with the extant literature that has identified procrastination as one of the important risk

factors for elevated addictive use of online activities (Geng et al., 2018). For instance, procrastination was found to mediate the relationship between low self-control and social media addiction (Ekşi et al., 2019). Procrastination has also been found to play a partial explanatory role between sensation seeking and adolescent smartphone addiction (Wang et al., 2019). Similar to other online activities, watching mukbang videos can also attract procrastinators due to their entertainment and social aspects where mukbangers eat food while interacting with the viewers (Kircaburun, Harris, et al., 2021). Given the pleasurable and (sometimes) sensational aspects of watching someone eat food (Kircaburun, Harris, et al., 2021), excessive (and in a minority of cases, addictive) mukbang watching can be another type of procrastination for some individuals.

Conscientiousness was not significantly correlated with AMW in the correlation analysis. However, it was directly positively related to AMW in the model. This may be because another variable acted as a suppressor variable and affected the relationship between conscientiousness and AMW (Ludlow & Klein, 2014). Conscientiousness was also indirectly negatively associated with AMW via procrastination. More specifically, low conscientiousness was associated with elevated procrastination, and in turn, elevated procrastination was related to elevated AMW. The negative association between conscientiousness and procrastination is in line with previous studies postulating that conscientiousness has a strong inverse relationship with procrastination and that less conscientious individuals are highly prone to lose focus on a determined task and procrastinate (Lee et al., 2006). It may be that recreational mukbang watching transforms into AMW for some of the less conscientious individuals because of its time-passing features that allow individuals postpone taking decisions and working on more important duties and tasks.

Procrastination fully mediated the relationship between extroversion and AMW. Low extroversion (i.e., introversion) was positively related to procrastination. This finding is consistent with the extant literature suggesting that introverts are more prone to engaging in procrastination (Tibbett & Ferrari, 2015). It may be that introverts' lower enthusiasm for real life social interaction and higher motivation to be left alone engaging in solitary activities leads them to procrastinate their academic and/or work duties and everyday activities (Steel & Klingsieck, 2016). It may be that conscientiousness and extroversion had more robust reverse relationship with procrastination, leading less conscientious and more introverted individuals to more procrastination-driven AMW than those with other personality traits that have weaker correlations with procrastination (e.g., agreeableness, openness to experience) in the present sample. Nevertheless, further studies are needed to investigate the associations of Big Five personality dimensions with AMW by examining other demographic and psychological mediators and moderators and using longer and more detailed assessment tools that

capture facets of Big Five traits to obtain greater clarification on the aforementioned associations.

All dark personality traits were positively moderately correlated with AMW. However, sadism was the only personality trait that was significantly directly associated with AMW in the model. This indicates that sadistic personality features most led to the problematic watching of mukbang when compared to other "dark" traits. It may be that individuals who eat food in mukbang videos engage in different behaviors to attract viewers' attention and entertain them. For instance, while some people engage in food challenges where they try and eat an excessive amount of food in a limited period of time, others demonstrate apparent agony and pain when eating extremely spicy food (Kircaburun, Harris, et al., 2021). These different types of mukbang video that demonstrate harm to others may attract individuals with sadistic tendencies to increasingly watch mukbang.

Given that psychopaths would ignore others' suffering instead of taking pleasure from it, they might not become dependent on watching mukbang videos simply these videos would not entertain them and/or result in positive mood modification (i.e., an important factor that turn recreational activity to addictive behavior for some individuals; Griffiths, 2005). Furthermore, previous studies have largely shown that Turkish individuals with psychopathic traits score lower on addictive use of online activities when compared to others with higher levels of narcissism, Machiavellianism, sadism, and spitefulness (Kircaburun & Griffiths, 2018b). Despite the persistent positive associations of narcissism, Machiavellianism, and spitefulness with addictive use of internet, social media, and gaming, these traits were non-significant when included into the model with sadism. This may be because mukbang watching is not as attractive as other online activities such as gaming, social media use, and online sex for participants who have higher levels of dark traits other than sadism. It may be that (i) gaming is more addictive for narcissists due to its competitive nature, (ii) social media use is more addictive for Machiavellians and spiteful individuals due to its interpersonal manipulation and stalking features, and (iii) online sex is more addictive for psychopaths who seek out sensation and hypersexual experiences (Kircaburun et al., 2018; Kircaburun & Griffiths, 2018). Nevertheless, further studies that use more in-depth assessment tools for assessing personality traits (e.g., primary and secondary psychopathy, grandiose, and vulnerable narcissism) are needed to examine the relationship between dark aspects of personality and AMW.

Limitations and Conclusion

There are several limitations that should be taken into account when considering the present study's results. First, this study assessed personality traits using single item scales. Each personality dimension was defined using existing definitions (Jonason & Webster, 2010; Marcus et al., 2014;

O'Meara et al., 2011; Özsoy et al., 2017) and participants were asked to rate how much these traits related to themselves. This may be criticized for being brief and not being able to comprise essential content (Jones & Paulhus, 2014). However, the correlation analyses showed that there were adequate construct and convergent validities of the single item scales. Therefore, the single-item measures are arguably adequate (Özsoy et al., 2017). Nevertheless, future studies should replicate the present findings using different assessment tools to assess personality traits. Second, the data were collected using self-report measures, which are susceptible to well-known biases (e.g., social desirability, memory recall). Future studies should use more in-depth methods to examine the present associations. Third, the cross-sectional design prevents determining causal relationships based on the present findings. Future studies should adopt a longitudinal design to understand the directions of the relationships found in the present study.

Despite its limitations, this study is one of the first studies to investigate the personality correlates of AMW, and the mediating role of procrastination between personality traits and AMW. The present study addressed a gap in the literature and examined the individual difference predictors of AMW by providing cross-sectional evidence concerning the relationships of personality traits with AMW while taking procrastination into account. This study advances the current literature on addictive use of online activities by introducing an emerging addictive online behavior (i.e., mukbang watching) which may be associated with other problematic and risky health outcomes. The present findings indicate that extroversion and conscientiousness were negatively indirectly associated with AMW via procrastination, and that procrastination, conscientiousness, and sadism were positively directly related to AMW. The results suggest that maladaptive personality-related procrastination may lead individuals to higher engagement in mukbang watching behavior and experience potential physical and psychological harms from such excessive and problematic use. Although these preliminary findings should be replicated more widely before developing possible prevention strategies, it appears that some individuals engage in problematic mukbang watching behavior and their personality and proneness to procrastination plays contributory role in this behavior.

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