

Investigating meal-concurrent media use: Social and dispositional predictors, intercultural differences, and the novel media phenomenon of “mukbang” eating broadcasts

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Abstract

Meal-concurrent media use has been linked to several problematic outcomes, including higher caloric intake and an increased risk for obesity. Nevertheless, the sociocultural and dispositional predictors of using media while eating are not yet well-understood, including potential cross-cultural differences. Inspired by the recent emergence of a new food-related media phenomenon called “mukbang”—digital eating broadcasts that have become immensely popular throughout East and Southeast Asia—we inquire 296 participants from two cultures (Germany and South Korea) about their meal-concurrent media use. Our results suggest that South Koreans tend to use media more frequently during meals than Germans, especially for social purposes. Meanwhile, younger age only predicts meal-concurrent media use in the German sample. Apart from that, however, many other examined predictors (e.g., gender, living situation, body-esteem, the Big Five) remain statistically insignificant, indicating notable universality for the behavior in question. In the second part of our study, we then put special focus on the emerging mukbang trend and conduct a theory-driven exploration of its gratifications. Doing so, we find that participants' parasocial and social experiences during eating broadcasts significantly predict their enjoyment of the genre.

KEYWORDS

big five, body esteem, cross-cultural comparison, loneliness, meal-concurrent media use, parasocial relationship

Due to their instant and ubiquitous availability, mass media such as television, streaming services, or social networks have become inseparably intertwined with many daily-life activities. As a result, listening to a podcast or watching a TV program is rarely an exclusive occupation anymore—these media can just as well be used while exercising, doing homework, or eating dinner. If anything, the recent triumph of mobile technologies has only fostered this blending of activities: As modern-day smartphones remove the spatial restrictions that

previously limited people's media consumption, it has become easier than ever to enjoy one's favorite programs and shows regardless of the time, place, or task at hand.

While the use of media during physical and academic activities undoubtedly raises its own intriguing questions (e.g., Lau, 2017; Sandercock et al., 2016; Vorderer et al., 2016), a particularly large body of literature has highlighted the timely importance of so-called *meal-concurrent media use*, that is, the engagement with mass media

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during food intake. More often than not, the scientific interest in this regard has been informed by medical concerns, as studies keep uncovering evidence on the increased caloric intake and higher obesity prevalence caused by meal-concurrent media use (e.g., Braude & Stevenson, 2014; Ellithorpe et al., 2019; Higgs, 2015). Quite worryingly, the according research shows that these effects not only apply to adults, but also extend to their children (e.g., Coon et al., 2001; Van den Bulck & Eggermont, 2006). Despite the high societal and clinical relevance of meal-concurrent media use, however, an investigation of its underlying motivations and predictors remains completely lacking from the academic discourse to this day. As such, it remains unclear whether the tendency to use media while eating builds upon specific dispositional or sociodemographic preconditions—for example, if it is more or less likely to occur among introverted or socially isolated individuals—or if constitutes a rather universal behavior. In a similar vein, we note that cross-cultural explorations of the relationship between eating and media use in different countries have not yet been carried out, raising doubts on the intercultural generalizability of the behavior in question. Arguably, this presents a fascinating research gap, not least considering that different cultures are characterized by distinct norms and behavioral expectations, which have been shown to feed into different media habits (e.g., Odağ & Hanke, 2019). Along the same lines, we suggest that influences from the realm of popular culture might account for additional intercultural differences regarding meal-concurrent media use. As a matter of fact, our current research was inspired by the recent emergence of the South Korean media phenomenon *mukbang*—digital video broadcasts that basically invite audiences to watch other people eat. Within only a few years, *mukbang* videos have become immensely popular throughout East and Southeast Asia, and, by these means, have shaped the relationship between media and food for millions of people (e.g., Donnar, 2017; Givens, 2020). Arguably, this shows that cultural factors might indeed play a most crucial role for meal-concurrent media use.

To account for our broad research interests, we designed a two-part study. First, we conducted an exploratory cross-national examination of meal-concurrent media use in two countries, namely an East Asian (i.e., South Korea, the originating country of the *mukbang* trend) and a Western European (i.e., Germany) society. In this initial step, we set out to gain a basic understanding of how different life circumstances and personality traits might predict people's inclination to use media during their food intake. Next, in our study's second part, we sharpened our focus on the *mukbang* phenomenon, conducting a more hypothesis-driven investigation of why people enjoy watching others eat (on a screen) during their own meals.

1 | PART 1: PREDICTORS OF MEAL-CONCURRENT MEDIA USE IN TWO CULTURES

Previous research has firmly established that people's cultural background—including aspects such as childhood socialization, norms, cognitive schemata, and everyday privileges—modulates their

observable behavior in nearly any context of human life (Jackson, 2006). Accordingly, it comes as no surprise that studies have also uncovered notable intercultural differences regarding people's use of various media (e.g., Mulvey et al., 2019; Odağ & Hanke, 2019; Voorveld et al., 2014). To explain these findings, scholars have proposed and scrutinized numerous theoretical constructs (e.g., Odağ & Hanke, 2019), addressing both the societal (e.g., power distance, individualism–collectivism) and the individual level (e.g., self-construal, social identity). In addition, prominent media theories such as the well-established *uses and gratifications* approach (Katz et al., 1974) have been applied in order to conceptualize the media use of people all over the world as an active, yet culturally dependent process (e.g., Kim & Eom, 2020). By these means, the media psychological scholarship has indeed gained a growing understanding of how belonging to a certain culture may affect the preference for different media contents, as well as their eventual effects on the audience.

In contrast to this, however, relatively little is known about the way people's cultural background might shape the context of their daily-life media usage—let alone its interplay with food intake. To alleviate this empirical shortcoming, we designed an exploratory study that examined predictors of meal-concurrent media use in two different cultures. Due to our additional interest in the *mukbang* phenomenon (see Part 2), we first selected South Korea as a starting point for our comparison. Proceeding from there, we strived to choose a second study location that promised a strong intercultural contrast to the East Asian society, keeping in mind meaningful macro- and micro-level factors that have been highlighted in previous cross-cultural studies (Odağ & Hanke, 2019). Thus, since South Korea ranks very high in terms of collectivistic values, cultural tightness, and its interdependent view of the individual (Gelfand et al., 2006; Hofstede Insights, 2020; Markus & Kitayama, 1991), we ultimately considered an individualistic, Western European Society (Germany) as an ideal second setting for our intercultural examination.

Thinking about potential differences between the two selected cultural groups, we first assumed that the more independent view of the self and stronger emphasis on ego-focused emotions that differentiates Western European from East Asian societies (Markus & Kitayama, 1991) might manifest as a different inclination to use media while eating. On the other hand, the lack of previous empirical insight into our specific research topic cautioned us against formulating a directional hypothesis, so that we focused on a strictly exploratory research question instead:

RQ1: Are there notable intercultural differences in the frequency and type of meal-concurrent media use between German and South Korean participants?

Building upon this first research focus, we strived to investigate potential sociodemographic, dispositional, and attitudinal antecedents of meal-concurrent media use in both countries. Due to the novelty of our study topic, however, we soon noted a lack of extant research that could help us assemble a meaningful set of potential predictors; instead, we had to consult literature on eating habits in general for this purpose. By these means, we found that people's daily-life food intake is actually influenced by a large number of factors, most of all their age (e.g., de Castro, 2002), gender (e.g., Rolls et al., 1991), Big

Five personality traits (e.g., Elfhag & Morey, 2008; Van Strien et al., 1985; Vollrath et al., 2018), loneliness (e.g., Rotenberg & Flood, 1999), body esteem (e.g., Flament et al., 2012), and living situation (e.g., Breen et al., 2018). In other words, people's food consumption seems to be a function of both situational variables (i.e., states) and more overarching dispositions (i.e., traits); assuming that the same would apply to the specific practice of meal-concurrent media use, we included all of the abovementioned variables as potential predictors in our study.

Although we initially intended to conceive theory-driven hypotheses for the identified variables (using the abovementioned food-related literature), we soon noted that conflicting assumptions arose once the media aspect came into play. For instance, while it seemed likely to us that lonely individuals might use media more often while eating—as it could help them to compensate for a lack of real-world company—we also deemed it possible that meal-concurrent media use would predominantly be carried out in the presence of others, for example, in the sense of a virtual “campfire.” Similarly, research on the relationship between the Big Five—a well-established set of fundamental personality traits, that is, openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism—and different media use patterns has yielded only ambiguous findings, so that a clear assumption could not be proposed (e.g., Huang, 2019; Sutin et al., 2016). In consequence, we again decided to pursue a strictly exploratory approach:

RQ2: Do people's (a) age, (b) gender, (c–g) Big Five personality traits, (h) de facto living situation, (i) loneliness, and (j) body-esteem significantly predict their self-reported meal-concurrent media use?

RQ3: Does the contribution of these predictors differ between the two observed cultures?

1.1 | Method

1.1.1 | Participants and procedure

The participants for our online study were recruited from the two selected cultures (Germany and South Korea) by disseminating participation calls in the respective native languages via social media groups, university mailing lists, and personal contacts. We made sure to target Germans and South Koreans of comparable age and socioeconomic background, focusing on young adults with a high level of education. In addition, we conducted an a priori calculation of minimum sample size with G*Power software; assuming a power of at least 0.80 and moderate effect sizes, this resulted in a minimum number of 118 participants per cultural group.

Initially, a total of 304 participants (152 Germans, 152 South Koreans) finished the provided questionnaire. However, having monitored the time each person spent with our survey, we excluded seven participants who had answered the provided questions in less than 3 min (a value we had determined a priori as shortest possible time for careful responding). Furthermore, one data set had to be removed due to completely implausible answers. Therefore, our

final sample consisted of 296 participants: 149 Germans (122 female, 26 male, 1 other; age $M = 27.81$, $SD = 9.18$) and 147 Koreans (95 female, 49 male; age $M = 26.30$, $SD = 4.68$). Table 1 gives an overview of the sociodemographic properties of both samples. Moreover, all obtained data has been uploaded in anonymized form to an Open Science Framework repository (https://osf.io/6qz8/?view_only=f55f302e37bb497290a826db3cc84347).

While there is no legal requirement for noninterventional studies in Germany and South Korea to be approved by ethics committees, we note that the current study was conducted in full accordance with the Declaration of Helsinki and the guidelines suggested by the German Psychological Society (DGPs). Informed consent was obtained from all participants. As a compensation for their time, each participant received a ticket for a gift raffle of four shopping vouchers worth €15/₩20,000, which were distributed equally among the two cultural groups.

1.1.2 | Measures

Meal-concurrent media use

To yield insightful descriptive data regarding participants' meal-concurrent media use, we prepared a two-part questionnaire. First,

TABLE 1 Demographic overview of our two cultural samples

	German participants	South Korean participants
N	149	147
Age (in years)		
Mean	27.81	26.30
Minimum	18	18
Maximum	62	53
Living situation (distribution)		
Single-person household	26.2%	29.3%
With parents or other family members	14.8%	53.1%
With partner or spouse	36.9%	4.8%
Shared flat (with friends or other students)	21.5%	11.6%
Other	0.7%	1.4%
Relationship status (distribution)		
Single	32.2%	44.9%
In a relationship	63.8%	49.7%
Other/no answer	4.0%	5.5%
Weight-related indicators		
Average body mass index	23.36	22.47
Meals eaten alone ^a	3.17	2.79
Percentage of people currently on a diet	14.8%	39.5%

^aScale range from 1 (*never*) to 5 (*always*).

participants were asked to indicate how often they typically used different types of media while eating food (explicitly stating that this not only referred to full meals, but also to in-between snacking). Since it is mainly visual media that have been connected to adverse health effects in the meal context—for example, by interfering with people's interoceptive abilities, which in turn fosters a higher caloric intake (Braude & Stevenson, 2014)—we focused specifically on these types of media, setting aside fully auditory media forms such as radio or podcasts in our analysis. As such, participants were asked to rate on 7-point scales (1 = *never*, 7 = *always*) how often they used the following media while eating: Traditional television, online streaming services (e.g., Amazon Prime, Netflix), YouTube, social networking services (e.g., Facebook, Instagram), and print media (magazines, newspapers). For our planned statistical analyses, we additionally created a sum score from all five ratings, leading to an index that could range between 5 and 35.

Second, we strived to explore whether certain media *genres* were used more often in a meal-concurrent way than others. For this purpose, we asked participants to indicate their preferences for fictional media (e.g., movies, TV series), news, documentaries, social media interactions (e.g., chatting), and mukbang broadcasts while eating. Again, answers had to be given on 7-point scales (1 = *never*; 7 = *always*). For the mukbang item, we prepared a small explanatory text, making sure that all participants were familiar with the term before answering.

Personality traits

Constituting one of the most well-established taxonomies of human personality, the *Five-Factor Model* (also known as Big Five) rests on the assumption that most dispositional traits can be condensed into five basic dimensions, which are generalizable across cultures (McCrae & John, 1996): Extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience. To address our research question on the role of personality for meal-concurrent media use, we therefore included the short form of the well-established Big Five Inventory (BFI-K; Rammstedt & John, 2005) in our online study. The BFI-K consists of 21 items on the Big Five (e.g., extraversion: “I see myself as someone who is outgoing, sociable”; agreeableness: “...who is generally trusting.”; conscientiousness: “...who does a thorough job”; neuroticism: “...who gets nervous easily”; openness: “...who has an active imagination”), all of which were presented using 7-point scales (1 = *not at all true of me*; 7 = *completely true of me*).

Cross-cultural measurement. Due to our bicultural study design, we needed valid and reliable versions of the BFI-K in two languages. Whereas the original publication of the inventory already offers a German translation, an official Korean short form could not be obtained from literature. However, based on the previously validated Korean long form of the BFI (Kim et al., 2011), we were able to select translations for all 21 items of the BFI-K. Table 2 provides an overview of the internal consistencies observed for the Big Five

TABLE 2 Internal consistencies observed for the measures used in Study 1

	German version	South Korean version
	Cronbach's α	
BFI-K		
Extraversion	.83	.73
Agreeableness	.78	.47
Conscientiousness	.73	.70
Neuroticism	.83	.77
Openness to experience	.72	.66
Body Esteem Scale for Adolescents and Adults		
Weight esteem	.92	.87
UCLA Loneliness Scale (short form)		
Loneliness	.91	.92

dimensions in both languages, which turned out acceptable (Cronbach's $\alpha > .7$) in most cases. Due to the exploratory nature of our research, the Korean openness to experience scale was included despite its slightly less than optimal internal consistency. The Korean version of the agreeableness scale, however, was found to be of unacceptable reliability, Cronbach's $\alpha = .47$, leading to the suspension of this dimension from our analyses.

Furthermore, to check whether both versions actually measured equivalent constructs—a requirement known as *measurement invariance*, which is most fundamental to cross-cultural research—we adhered to the recommended procedure of multiple-group confirmatory factor analyses (MG-CFA; e.g., Hirschfeld & von Brachel, 2014). Doing so, a series of increasingly restrictive models established the partial scalar invariance of all Big Five scales (Supporting Information Materials S1 and S2).

Loneliness

To measure general feelings of loneliness, the 20-item UCLA Loneliness Scale (Russell, 1996) has become the de facto standard in psychological literature. Again, we decided to use a slightly shortened version of the scale, namely the 12-item form offered by Bilsky and Hosser (1998). All items (e.g., “I feel isolated from others”) were presented on 5-point rating scales (1 = *never*; 5 = *always*).

Cross-cultural measurement. Similar to the Big Five questionnaire, the chosen UCLA short form was already offered in German by its original authors. To assemble a matching Korean version, we obtained a translation of the full UCLA scale from native-speaking literature (Kim & Kim, 1989), and again extracted the items included in the short form. Internal consistencies for both translations turned out excellent (see Table 2). Similarly, our testing of measurement invariance provided satisfying evidence for the partial scalar invariance of the German and Korean versions (Supporting Information Materials S3 and S4).

Body esteem

With their *Body Esteem Scale for Adolescents and Adults* (BESAA), Mendelson et al. (2001) have created a well-suited inventory to assess attitudes on the own body. However, since two of the measure's three subscales revolve around aspects such as clothing or external validation, we decided to focus only on the remaining *Weight Esteem* subscale, which seemed most appropriate for our study. Its eight items (e.g., "My weight makes me unhappy.") were presented using 7-point Likert scales (1 = *not at all true of me*; 7 = *completely true of me*).

Cross-cultural measurement. We acquired a previously created German translation of the BESAA from Stein et al. (2019), as well as a Korean translation from Lee (2001). Both translations proved to be of very high to excellent internal consistency (see Table 2). Regarding measurement invariance, our MG-CFA procedure indicated that full invariance could not be assumed between the German and Korean versions (Supporting Information Materials S3 and S4). However, for a subset of items, partial measurement invariance was supported. Still, it should be noted that the fit indices observed for the BESAA turned out slightly weaker than for the other measures, suggesting that the results from this measurement should be interpreted more cautiously.

Sociodemographic data

Concluding our online questionnaire, we asked participants to fill in their sociodemographic information, including their age, height, weight, gender, relationship status, level of education, and living situation. Finally, we asked participants to rate on a 5-point scale (1 = *never*, 5 = *always*) how often they ate their meals alone.

1.2 | Results

1.2.1 | Cultural differences in meal-concurrent media use

Table 3 gives an overview of the meal-concurrent media use reported by both samples. The data showed that South Korean participants expressed a more frequent use of nearly all types of media while eating, in particular concerning YouTube videos, $t(294) = 7.15$, $p < .001$, Cohen's $d = 0.83$, and social networking services, $t(294) = 6.22$, $p < .001$, Cohen's $d = 0.72$. In contrast to this, German participants indicated a slightly stronger preference for streaming services during their food intake, although this difference was not statistically significant, $p = .271$. Generally speaking, a comparison of the acquired sum scores across all types of media clearly demonstrated a much stronger inclination for meal-concurrent media use in the South Korean sample, $t(294) = 6.49$, $p < .001$, with a large effect size of Cohen's $d = 0.75$. Interestingly, this difference was also evident when focusing specifically on participants with more extreme meal-concurrent media habits. For instance, 42.2% of the Korean sample claimed to use social media every single time they ate food (indicated by the maximum value on the respective scale), followed by 41.5% watching YouTube during every meal. In contrast, much fewer German participants

TABLE 3 Meal-concurrent media use in both cultural samples

	German participants	South Korean participants
N	149	147
Average use of media types while eating ^a	M (SD)	M (SD)
Traditional television	2.72	3.38
Streaming services (Amazon Prime, Netflix, etc.)	3.64	3.37
YouTube	3.41	5.03
Social networks (Facebook, Instagram, etc.)	3.09	4.63
Print media	1.90	2.28
Sum score	14.76	18.69
Average use of media genres while eating ^a	M (SD)	M (SD)
Fictional media (TV series, movies, etc.)	3.76	4.47
News	3.21	3.27
Documentaries	2.72	2.90
Chatting with friends	3.31	4.27
Meokbang	1.17	2.71

^aScales range from 1 (never) to 7 (always).

reported to use meal-concurrent media that excessively—even in the most popular category, only 6.7% of the sample claimed to always use streaming services during meals. For an overview of the complete frequency distributions of both samples, Supporting Information Material S5 may be consulted.

Concerning the preference for different media genres while eating, we also observed notable differences between our cultural samples (Table 3). While South Korean participants expressed a stronger interest in all of the presented genres, the differences were particularly noteworthy for fictional media, $t(294) = 2.98$, $p = .003$, Cohen's $d = 0.35$, chatting with friends, $t(294) = 4.35$, $p < .001$, Cohen's $d = 0.51$, and mukbang videos, $t(294) = 9.65$, $p < .001$, Cohen's $d = 1.12$. In response to our research question RQ1 about the frequency and type of self-reported meal-concurrent media use, we therefore report notable differences between the inquired German and South Korean adults.

1.2.2 | Predictors of meal-concurrent media use

Addressing research questions RQ2 and RQ3, we conducted two hierarchical regression analyses—one for each cultural group—using the sum score of self-reported meal-concurrent media use as a criterion and entering the measured predictors in subsequent steps.¹ Following conventional guidelines, we first entered the fixed demographic variables age and gender, before introducing the Big Five personality traits in a second step. Finally, the measured situational and attitudinal variables were entered to create a third model, including participants'

TABLE 4 Hierarchical regression with the meal-concurrent media use of the German participants as a criterion

	β	<i>t</i>	<i>F</i>	R^2 (ΔR^2)
Step 1			5.27	0.07**
Age	-.26**	3.25		
Gender ^a	-.01	0.10		
Step 2			2.50	(.03)
Age	-.22**	2.67		
Gender ^a	<-.01	0.04		
Extraversion	.02	0.16		
Conscientiousness	.07	0.77		
Neuroticism	-.15	1.65		
Openness to experience	.02	0.22		
Step 3			2.00	(.02)
Age	-.23**	2.74		
Gender ^a	.02	0.18		
Extraversion	.06	0.67		
Conscientiousness	.03	0.29		
Neuroticism	-.14	1.51		
Openness to experience	.02	0.19		
Living situation ^b	-.05	0.60		
Loneliness	.12	1.18		
Body esteem	.09	1.11		

^aGender coded with "0" = female, "1" = male.

^bLiving situation coded with "0" = alone, "1" = not alone.

* $p < .05$.

** $p < .01$.

living situation (dummy-coded: alone vs. not alone), their self-reported level of loneliness, and weight esteem.

The hierarchical procedure with the data of our German participants (see Table 4) resulted in a significant result for the first step, $F(2, 146) = 5.27, p = .006, R^2 = .07$. Out of the two demographic predictors, only participants' age turned out significant, $\beta = -.26, p = .001$. This suggests that with increasing age, German individuals tended to use media less during meals. Yet, neither the predictors added in the second step, nor those included in the third step led to a significant change in R^2 . For details about the respective coefficients, we would like to refer readers to Table 4.

For the South Korean sample (see Table 5), our first regression model did not turn out significant, $F(2,144) = 0.86, p = .427, R^2 = .01$. However, entering the predictors in the second step led to a significant increase in R^2 ($p = .010$), resulting in a significant model, $F(6, 140) = 2.59, p = .021, R^2 = .10$. In this model, participants' extraversion emerged as a positive predictor of meal-concurrent media use, $\beta = .22, p = .015$. In addition, we report that the personality traits neuroticism ($\beta = .17, p = .052$) and conscientiousness ($\beta = -.17, p = .066$) only slightly missed the conventional threshold of statistical significance in this step. Finally, entering the remaining set of predictors in our third model did not result in a significant change in $R^2, p = .052$.

TABLE 5 Hierarchical regression with the meal-concurrent media use of the South Korean participants as a criterion

	β	<i>t</i>	<i>F</i>	R^2 (ΔR^2)
Step 1			0.86	.01
Age	-.06	0.69		
Gender ^a	.08	1.00		
Step 2			2.59	(.09*)
Age	-.03	0.31		
Gender ^a	<.01	0.01		
Extraversion	.22*	2.46		
Conscientiousness	.17	1.96		
Neuroticism	-.17	1.85		
Openness to experience	.14	1.69		
Step 3			1.93	(.01)
Age	-.02	0.17		
Gender ^a	<-.01	0.03		
Extraversion	.23	2.48		
Conscientiousness	.15	1.69		
Neuroticism	-.14	1.42		
Openness to experience	.14	1.62		
Living situation ^b	<.01	0.02		
Loneliness	.04	0.38		
Body esteem	-.11	1.28		

Note: In the R^2 column, asterisks indicate significant R^2 changes to the previous step.

^aGender coded with "0" = female, "1" = male.

^bLiving situation coded with "0"=alone, "1"=not alone.

* $p < .05$.

** $p < .01$.

In summary, we give a mixed answer to our research questions RQ2 and RQ3, which addressed the role of the examined predictor variables in both countries. Out of the numerous included predictors, German participants' meal-concurrent media use could only be connected to their age, whereas dispositional, social, and attitudinal variables did not offer a noteworthy explanatory contribution. A different pattern emerged in the South Korean sample: In this cultural group, age did not influence participants' tendency to use media while eating; instead, the self-reported inclination to show this behavior was linked to a more extroverted personality.

1.3 | Discussion

The potentially dysfunctional practice of meal-concurrent media use has received substantial scientific attention in recent years, and yet, its (intercultural) generalizability has hardly been examined by the scientific scholarship. In the current study, we uncovered first evidence that the specifics of using media while eating might turn out rather differently across cultural borders. Despite focusing on two countries of similar socioeconomic wealth and media literacy, we found

significant cultural differences in both the frequency and type of meal-concurrent media use described by German and South Korean participants. As such, we argue that the behavior in question might indeed be a function of different norms and behavioral expectations as juxtaposed by these two culturally distant societies.

In terms of more detailed results, we examined significantly higher frequencies of meal-concurrent media use among the South Korean than among the German sample. Arguably, this result may be readily explained by the extreme technological fixation found in modern-day South Korea. According to recent statistics, the country not only has the highest smartphone penetration in the world—with 95% of its adult inhabitants owning a smartphone (Taylor & Silver, 2019)—it is also equipped with one of the fastest mobile Internet networks (Clement, 2020). Moreover, cultural scholars have suggested that South Korea's unprecedented economic growth from a developing country into one of the world's leading technological superpowers within only five decades has embedded a deep appreciation for digital technologies in its society (Jin, 2017). In our interpretation, the obtained data might echo this fond view of technology in the South Korean public—especially considering that participants' meal-concurrent media use remained statistically independent of their age or gender.

Focusing on the specific meal-concurrent content preferences of our South Korean participants, we observed particularly high scores for watching YouTube videos and accessing social media. In fact, the mean values for both practices indicated that most participants used these media “often” or “always” while eating. Unsurprisingly, mukbang broadcasts also emerged as a popular subject of meal-concurrent media use, confirming the notion that the emergent phenomenon has entered many people's daily-life media habits in South Korea. Finally, we note that this cultural group expressed a much higher inclination to chat with friends during meals and snacks than participants from Germany. Taken together, these results reveal a particularly strong focus on *social* experiences in the meal-concurrent media use of South Korean adults. In our interpretation, this finding actually matches the collectivistic, interdependent nature of South Korean society rather perfectly, underscoring the importance of interpersonal relationships and societal coherence in the respective culture (e.g., Gelfand et al., 2006; Hofstede Insights, 2020). Judging from our data, it appears to be well-accepted (or downright desirable) for South Koreans to “include” others during a meal, even when they can only be telepresent via technology. Arguably, this notion is further strengthened by the observation that our Korean participants recalled more meal-concurrent media use *despite* the fact that they also reported eating alone less often (Table 3). Thus, the cultural norms in South Korea seem to make it much easier for people to watch YouTube videos or browse social media while eating in the presence of others—a behavior that Westerners might still regard as impolite “phubbing” (e.g., Chotpitayasunondh & Douglas, 2016).

Nevertheless, it is important to mention that our German participants also expressed moderate to strong preferences for several types of meal-concurrent media use, albeit with a stronger focus on nonsocial, fictional media. Further contrasting with the South Korean

results, we found a significant prediction of German participants' meal-concurrent media use via their age, as younger Germans were significantly more likely to report the use of media while eating. As such, our data hint at a notable intergenerational divide regarding meal-concurrent media use in the examined West European culture. Yet, concerning the other entered sociodemographic predictors, no significant effects were found, suggesting that meal-concurrent media use also constitutes a relatively universal behavior among adults in this country, regardless of people's living situation, body esteem, or gender.

Last but not least, we observed that people's basic personality traits only affected the meal-concurrent media use reported by the South Korean group. To our surprise, the according analysis showed that the expressed tendency to use media while eating was even more pronounced among South Koreans with higher levels of extraversion. Based on our other results, however, we suppose that this finding might also be explained by the uncovered social focus of the Korean sample's meal-concurrent media use: As many participants from this cultural group were especially inclined to chat with friends during meals, it might have been even easier for outgoing and sociable individuals to find opportunities to do so.

Concluding the first part of our study, we want to note several important limitations of our work to this point. First and foremost, we would like to remind readers that our sampling of participants captured only a very small part of the general public, not only in terms of sample size, but also regarding their socioeconomic and educational background. In a similar vein, future studies could strive for more balanced age and gender distributions, as our study sample showed notable skewing regarding both of these variables. As another crucial limitation, it has to be noted that we did not include actual measures of our participants' cultural orientation—for example, assessments of collectivistic versus individualistic mindsets, social identities, or self-construals—but only focused on the *de facto* association with the respective society. For further research building upon our exploratory efforts, this might present an important starting point, as inquiring participants about their actual exposure to (and belief in) cultural values will surely help to validate the ideas underpinning the cross-cultural comparison. Finally, we want to point out that—despite our best efforts to find an appropriate balance between complexity and feasibility for the measurement of meal-concurrent media use—future studies might in fact benefit from a slightly more detailed assessment of the behavior in question. For instance, we suppose that combining both full meals and in-between snacking into a single criterion might have obscured interesting differences between these two highly specific eating practices.

Despite the described limitations, however, we firmly believe that the current investigation provided highly relevant insight into the phenomenon of meal-concurrent media use. Even if preliminary in nature, our results offer notable evidence that the behavior in question might indeed take on quite different forms in different parts of the world—without necessarily being limited to a certain type of personality, living situation, age, or gender.

2 | PART 2: MUKBANG—A NEW FOOD-RELATED MEDIA PHENOMENON

Following our exploration of meal-concurrent media use as a possible function of cultural influence, we felt compelled to put a stronger scientific focus on a contemporary media phenomenon that has permeated the East Asian media landscape—and food culture—in recent years: *mukbang* (먹방; alternatively romanized *meokbang*). Translating to “eating broadcasts,” mukbang are best described as food-focused video blogs. In their most basic form, they consist of one or several hosts (so-called broadcast jockeys) sitting in front of a camera and consuming large amounts of food. In addition, popular modifications of the genre include the presentation of unusually large versions of common food products, as well as loud chewing and slurping sounds that provide viewers with intense sensory stimulation (Schwegler-Castañer, 2018). Also, as mukbang videos are usually offered in the form of digital uploads or web streams, they often feature live chatting between the hosts and their audiences, resulting in interactive and immersive media experiences.

Originating from South Korea, mukbang videos have become hugely popular throughout East and Southeast Asia. In these regions, it is not uncommon for famous broadcast jockeys to accumulate hundreds of thousands of subscribers, as well as view counts in the millions (Donnar, 2017). In contrast, Western audiences are only beginning to learn of this specific type of media offering. Arguably, this intercultural “latency” may explain why, despite the vast variety of available mukbang streams, the phenomenon remains mostly ignored by the international scientific discourse. To this day, only a handful of English-language analyses have even mentioned mukbang (Bruno & Chung, 2017; Chen, 2018; Donnar, 2017; Kang et al., 2020; Kim, 2018; Schwegler-Castañer, 2018), with none of them going beyond a qualitative or content analytical approach. In fact, a recent review summarizes the sparse extant research in this regard, underscoring the need for further quantitative research (Kircaburun et al., 2020). Although this shortcoming is somewhat mitigated by the empirical efforts of South Korean scholars (e.g., Jang & Kim, 2016; Kim, 2016; Moon et al., 2017), their native-speaking contributions remain inaccessible to the international research community. In our opinion, this creates another obvious gap in the contemporary understanding of meal-concurrent media use, especially considering that South Korean popular culture has turned into a global phenomenon in recent years—and is projected to continue doing so (the so-called *Korean Wave*; Kim, 2013). Therefore, in our project's second part, we examined the potential gratifications viewers might pursue by viewing mukbang content. Inviting all participants from Part 1 who had expressed being familiar with the genre, we scrutinized the following research question:

RQ4: What are people's self-reported motivations to watch mukbang?

Moreover, we acknowledged two previously established hypotheses about the appeal of eating broadcasts as they have emerged from qualitative research, proceeding to a more theory-driven approach. Specifically, we first focused on the notion that watching

mukbang might be a *pseudo-social* practice caused by the increasing prevalence of single-person households and loneliness in industrialized Asian societies—indicating many people's unfulfilled desire to eat in company (Chen, 2018; Jang & Kim, 2016; Kim, 2018; Lavelle, 2018).

H1: Mukbang use is positively associated with (a) an isolated living situation and (b) self-reported levels of loneliness.

Embedding this assumption in a media psychological framework, we were specifically interested whether the *parasocial* aspects inherent to mukbang would offer predictive value regarding viewers' enjoyment. After all, literature suggests that the unilateral contact between a media user and the personas depicted on the screen often elicits the impression of lifelike, reciprocal interactions—a phenomenon called *parasocial interactions* (PSIs; Horton & Wohl, 1956). Even more so, it has been established that repeated PSIs usually culminate in an overarching, long-lasting feeling of relatedness to the respective media character, that is, so-called *parasocial relationships* (PSRs). Considering that meokbang fulfill many criteria that have been shown to foster both PSIs and the subsequent PSRs (i.e., hosts verbally addressing viewers, looking at the camera, and treating the audience as friends; Hartmann & Goldhoorn, 2011), we were curious to find out whether participants' parasocial experiences with broadcast jockeys would predict their enjoyment of mukbang. If so, the phenomenon could be considered as a novel manifestation of the *parasocial compensation hypothesis*, which postulates that lonely people often turn to imagined interactions with media characters to balance out their lack of real-life contacts (e.g., Davis & Kraus, 1989; Liebers & Schramm, 2019)—in this case, during their meals. At the same time, we wanted to acknowledge that mukbang content often includes interactive features such as live chatrooms as well, so that genuinely *social* experiences also needed to be considered as a potential key to the genre's popularity. As such, both participants' parasocial feelings toward mukbang hosts as well as their actual social interactions (e.g., chatting, commenting) were considered as potential antecedents of enjoying the genre:

H2: Viewers' enjoyment of mukbang is positively associated with their experience of (a) parasocial and (b) social interactions.

Concluding the second part of our study, we proceeded to another previously established, yet completely different hypothesis about the appeal of mukbang: The idea that the videos might serve as a way to indulge in the (over-)consumption of food while trying to restrict one's own eating behavior (Kim, 2015; Schwegler-Castañer, 2018). From this point of view, the genre could be conceptualized as the next, logical step in the evolution of so-called “food porn” (McBride, 2010), that is, media content that is designed to fulfill an intense sensual stimulation via food without the necessity of consuming it, creating a substitutional form of hedonistic indulgence. If so, it could be assumed that the tendency to watch mukbang would rise and fall with people's deviation from a healthy body mass index (BMI), their current dieting behavior, or, at the very least, their subjective dissatisfaction with their own body.

H3: Mukbang use is positively associated with (a) a higher BMI, (b) currently being on a diet, and (c) lower body esteem.

2.1 | Method

2.1.1 | Participants and procedure

After participants had filled in all items belonging to the first part of our study, we asked them whether they had watched a mukbang video during the last 4 weeks. If they answered this filter question positively, we kindly requested them to fill in another set of questionnaires. Doing so, a total of 94 participants contributed to Part 2 of our project: 10 Germans (8 female, 2 male; age $M = 21.90$ years, $SD = 1.85$) and 84 South Koreans (58 female, 26 male; age $M = 25.83$ years, $SD = 5.33$). However, as the small size of the German subsample did not allow for a meaningful quantitative analysis, we merely conducted a basic descriptive exploration of the respective data—and limited our actual hypotheses testing to the data of the South Korean participants. Accordingly, the requirements for measurement invariance were loosened in this study part.

2.1.2 | Measures

Since we collected the answers for the second study part directly after the first, several data had already been acquired from our participants, including their age, gender, BMI, and living situation, as well as self-reported levels of loneliness and weight esteem. In addition to that, the following measures were presented only to the participants taking part in this second step.

Mukbang motivations and usage

In order to address our research question on the gratifications offered by mukbang (RQ4), we strived to assemble an extensive list of possible options for participants to choose from. For this purpose, we first reviewed qualitative analyses on the genre (Donnar, 2017; Kim, 2018; Lavelle, 2018; Schwegler-Castañer, 2018), as well as previous empirical work on YouTube usage in general (Haridakis & Hanson, 2009). Furthermore, a Korean-language study on mukbang videos offered us additional inspiration regarding the genre's appeal (Jang & Kim, 2016). Based on these combined efforts, we created a comprehensive list of 17 possible gratifications related to mukbang, including boredom relief, escapism, information seeking, substitutional consumption, desire for intimacy, and erotic stimulation. The final questionnaire was translated from German to Korean, with back-translations ensuring its validity. For each of the 17 motives, participants were asked to rate its impact on their personal viewing motivation using 5-point scales (1 = *not at all*, 5 = *completely*). To gain additional insight, we further asked participants to estimate their average viewing duration of mukbang per week, and to indicate whether they usually ate while watching the respective content.

Parasocial experience of mukbang

In 1956, Horton and Wohl introduced the concept of PSI to the field of media psychology, having observed that television viewers would sometimes react to the depicted personas as if they were real interaction partners. Since then, these unilateral viewer responses to media

stimuli have become a much-acknowledged phenomenon in media research, resulting in a constantly advancing understanding of parasocial experience—which now includes the complementary notion of overarching PSRs. To acknowledge the fact that viewers of mukbang might experience both immediate PSIs as well as more enduring PSRs with the broadcast hosts, two measures of parasociality were added to the current study.

To measure situational PSIs, media psychological literature offers multiple options. Among them are highly complex, multifaceted instruments, which conceptualize PSI as a mixture of cognitive, affective, and behavioral processes (e.g., Schramm & Hartmann, 2008). However, scholars have argued that by these means, the modern understanding of PSI has diverged far from Horton and Wohl's initial conceptualization as an immediate perceptual illusion (Hartmann & Goldhoorn, 2011). Concurring with this notion, we decided to measure participants' PSIs with the *Experience of Parasocial Interaction Scale* (EPSI; Hartmann & Goldhoorn, 2011), a measure developed in the tradition of Horton and Wohl's original understanding of PSI. Accordingly, the EPSI's six items focus mainly on the perceptual impression of reciprocal contact (e.g., "The persona reacted to the things I said or did.", "The persona knew I was aware of them."). Since we had decided against showing preselected mukbang stimuli to our participants in order to capture more individualized experiences, we asked them to recall their most recent or most salient instance of mukbang viewing in order to fill in the scale. The required German and Korean versions were created using translations and back-translations by native speakers, leading to very reliable measures (German version: Cronbach's $\alpha = .87$; Korean version: Cronbach's $\alpha = .90$).

To address more overarching feelings of relatedness (i.e., PSRs), we included the 10-item *Parasocial Interaction Scale* by Rubin and Perse (1987). Although the scale was originally proposed as a PSI measure, scholars have argued that—following the theoretical advancements of recent years—the scale is actually much more suited to address PSRs (Liebers & Schramm, 2019). To provide a meaningful frame of reference for the items (e.g., "The mukbang host makes me feel comfortable, as if I am with friends"; 1 = *not at all*, 7 = *completely*), we again asked participants to think either of their favorite mukbang or the one they watched most previously. A Korean version of the scale could be obtained from Lee (2007), whereas we created the German translation ourselves, using back-translations by native speakers. Both versions proved to be of excellent internal consistency (German version: Cronbach's $\alpha = .93$; Korean version: Cronbach's $\alpha = .89$).

Social interactions during mukbang

To assess participants' social experiences in the context of mukbang, we asked them to rate on a 5-point scale how often they used commenting and chatting tools during or after watching the respective genre (1 = *never*, 5 = *every time*). As descriptive follow-up questions, we also wanted to know whether a mukbang host had ever replied to them.

Enjoyment

Media scholars have created numerous measures to assess media enjoyment, which often emphasize quite different aspects of this

multifaceted construct. According to the thematic context examined in the current study, however, we decided to mainly focus on hedonic enjoyment (i.e., “pleasure”), leaving out the more complex phenomena suggested in recent literature. Adapting several items from Krmar and Renfro (2005), we ultimately assembled a 14-item enjoyment scale with a strong focus on pleasure and positive emotions (e.g., “It makes me happy to watch mukbang”). Again, the necessary translations into Korean and German were self-created, resulting in good internal consistency (German version: Cronbach's $\alpha = .78$; Korean version: Cronbach's $\alpha = .89$).

2.2 | Results

2.2.1 | Mukbang motivations

Table 6 summarizes the results of our investigation regarding participants' motivations to watch mukbang videos. Focusing on the main Korean sample, we observed boredom reduction ($M = 3.61$), search for food and restaurant information ($M = 3.54$), and the fact that watching mukbang does not require a lot of mental effort ($M = 3.38$) as the most important gratifications. In contrast, sexual stimulation ($M = 1.19$), intimacy experience ($M = 1.27$), and fascination via disgust ($M = 1.79$) hardly played an important role for these participants.

Interestingly, the data of our few German participants partially echoed the Korean results. These participants also expressed boredom ($M = 4.10$) and the low required mental effort ($M = 3.60$) as important motivations to view mukbang. Furthermore, the German sample reported marveling at the videos ($M = 3.70$) and liking the hosts ($M = 3.40$) as appealing aspects of the genre. However, due to the very small sample size of this group, these data can only be considered as a qualitative impression of emerging mukbang enthusiasm in a Western European country—and should not be interpreted too broadly.

2.2.2 | The role of social isolation

In order to scrutinize hypothesis H1, we conducted a linear regression analysis using the data of our South Korean participants, exploring whether their weekly mukbang viewing duration was significantly predicted by their living situation (dummy-coded: “0” = alone, “1” = with others) as well as their self-reported loneliness. However, the procedure did not result in a statistically significant regression equation, $F(2, 81) = 0.91$, $p = .405$, $R^2 = .02$. As such, we reject our first hypothesis regarding the impact of social isolation on mukbang use.

Despite this negative result, we were still interested in finding out whether social and parasocial experiences would emerge as meaningful antecedents of our participants' enjoyment of the mukbang genre. Accordingly, we entered the obtained scores in the PSI and the PSR measures, as well as our sample's previous mukbang chatting behavior as potential predictors and the obtained enjoyment score as a criterion. This regression model turned out significant, $F(3, 80) = 23.53$,

TABLE 6 Participants' self-reported motivations to watch meokbang content

	German participants	South Korean participants
N	10	84
I watch meokbang... ^a	M (SD)	M (SD)
...out of boredom	4.10 (1.20)	3.61 (1.15)
...because it is part of my routines	2.70 (1.64)	2.27 (1.22)
...because it does not require thinking a lot	3.60 (1.43)	3.38 (1.16)
...because it makes me happy	2.50 (1.18)	2.81 (1.20)
...because it was recommended to me by an acquaintance	1.60 (1.08)	2.10 (1.19)
...because I like the hosts	3.40 (1.65)	2.46 (1.34)
...because I like to see how comfortable the hosts feel in their body	2.20 (1.03)	2.29 (1.33)
...because I am interested in the reactions and comments of other users	3.00 (1.41)	2.14 (1.20)
...in order to forget my daily life (work, school, etc.)	2.50 (1.65)	2.20 (1.41)
...in order to find new information about food and restaurants	3.40 (1.17)	3.54 (1.27)
...in order to marvel (e.g., at the amount of food)	3.70 (1.57)	2.73 (1.45)
...because I find it disgusting, but somehow also fascinating	2.50 (1.58)	1.79 (1.09)
...because it quickens my appetite / makes my food taste better	3.30 (1.49)	2.90 (1.42)
...because it makes me feel less alone while eating	2.40 (1.35)	2.01 (1.27)
...because my diet makes me refrain from eating and I want to enjoy food passively	1.80 (1.23)	2.77 (1.59)
...because it gives me the impression to watch something private or intimate	2.00 (1.25)	1.27 (0.63)
...because I find it sexually stimulating	1.10 (0.32)	1.19 (0.57)

^aScales range from 1 (*not at all*) to 5 (*completely*).

$p < .001$, with a very high explained variance of $R^2 = .47$. Whereas the perceptual illusion measured by the EPSI scale remained insignificant ($p = .318$), participants' PSRs ($\beta = .63$, $p < .001$) and previous chatting behavior ($\beta = .29$, $p = .001$) strongly predicted their enjoyment regarding mukbang videos. As such, we present notable evidence in favor of H2a and H2b.

2.2.3 | The role of body esteem

Finally, addressing the assumption that mukbang videos might serve as a substitution for own food intake (H3), we entered participants'

body esteem, current dieting, and BMI in yet another linear regression predicting their weekly mukbang viewing duration. However, the procedure did not yield a significant result, $F(3, 80) = 1.53$, $p = .213$, $R^2 = .06$. In consequence, we have to reject H3, having found no evidence suggesting a noteworthy impact of body-related factors on the enjoyment of the genre.

2.3 | Discussion

The idea of watching a stranger consume large amounts of food in an online video might seem peculiar to some, but such eating broadcasts have indeed become a crucial element in the daily life of millions of viewers throughout East and Southeast Asia. Unlike the assumptions put forward in previous essays on the genre, however, we found that neither an isolated living situation nor viewers' concerns about their own weight could explain the appeal ascribed to mukbang videos. Instead, the genre emerged as a rather *escapist* phenomenon according to our survey, as the recruited participants mainly appreciated the mental distraction and boredom relief provided by the digital eating broadcasts. At the same time, by exploring the (para-)social aspects of the genre, we also found notable evidence that taking part in mukbang chatrooms and having positive parasocial feelings toward the hosts was indeed connected to much higher enjoyment—with the two predictors explaining nearly half of the criterion's observed variance. Therefore, we suggest that mukbang videos might be much more than simple remedies against boredom; they may also constitute a way to feel connected to other people during meals, after all. The question as to why these effects were found despite the statistical insignificance of participants' self-reported loneliness or living situation arguably offers a welcome foundation for upcoming research projects. In all probability, further insight might lie in the specific cultural aspects of South Korea, including the way its inhabitants construct their personal identity as part of a collectivistic society. For instance, some South Korean adults might not feel a particular sense of loneliness in the traditional understanding of the word (due to their strong connections to society in general), but still long for the feeling of daily-life social interaction as provided by mukbang.

Of course, it is also possible that the mixed results observed in this study depended on the specifics of our recruited sample, as only about 30% of our South Korean participants reported living in a single-person household. Accordingly, studies focusing more on socially isolated participants might lead to quite different results. Similarly, the limitations of the first study part also apply to our second research effort—suggesting that future quantitative studies on this intriguing media phenomenon should strive for larger, more balanced samples.

3 | CONCLUSION

The current paper presented a two-part empirical study located at the intersection of food consumption and media use. Inspired by the rising popularity of the eating broadcast genre, we first scrutinized

predictors of people's meal-concurrent media use in two countries with varying exposure to the phenomenon, before continuing with an exploration of the emergent mukbang trend. In summary, our results showed that participants from South Korea—a technologically advanced society embedded in a strong sense of mutual interdependence—expressed a stronger inclination to use media during their meals, in particular for social purposes. This social fixation also emerged in the subsequent analysis of the mukbang genre, which highlighted social and parasocial aspects as important gratifications for viewers (apart from the relatively mundane purpose of boredom alleviation).

On the other hand, recruiting participants from Germany, a traditionally more individualistic society, we observed much lower frequencies in meal-concurrent media use, as well as a significant decline of this behavior with increasing age. While our results suggest that mukbang remain rather irrelevant to West European audiences—contrasting with its immense popularity in East and Southeast Asia—it might be a worthwhile endeavor to repeat similar analyses after a few years and with different samples. Surely, this could help to clarify whether the observed lack of familiarity among Westerners is merely the result of an intercultural delay (and will change over time), or whether the sensation of watching others eat on a screen turns out to be a distinctly East Asian pleasure.

Reflecting on the merit of our two-part exploratory study, we hope that the current work serves as an ignition spark for future studies that try to deepen the scholarly understanding of meal-concurrent media use, both from a psychological and a sociological perspective. After all, it has to be considered that the practice of looking at digital screens during daily-life food intake not only seems to hold great appeal for many different people—it also carries considerable health-related consequences. Also, as vividly illustrated by our investigation of the mukbang phenomenon, it should arguably be kept in mind that popular culture and emerging new technologies will continue to shape the way people go on with their lives; without acknowledging trends such as the one addressed by our project, a crucial piece of the puzzle may remain missing.

CONFLICT OF INTERESTS

The authors have no conflicts of interest to disclose.

ENDNOTE

¹ Before executing these analyses, it was confirmed that no crucial assumptions for hierarchical regression were violated (e.g., no multicollinearity, no univariate or multivariate outliers).

PEER REVIEW

The peer review history for this article is available at <https://publons.com/publon/10.1002/hbe2.306>.

DATA AVAILABILITY STATEMENT

All obtained data has been uploaded in anonymized form to an Open Science Framework repository (https://osf.io/6qpz8/?view_only=f55f302e37bb497290a826db3cc84347).

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SUPPORTING INFORMATION

Additional supporting information may be found in the online version of the article at the publisher's website.

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