# The Mediating Role of Parasocial Interaction in the Relationship Between Loneliness and Netflix Binge-Watching Tendencies: A Case Study of Malaysian University Students during the COVID-19 Pandemic

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## ABSTRACT

Streaming services such as Netflix are already penetrating the mainstream market in Malaysia. Netflix offers a wide range of binge-worthy content to young adults, such as K-dramas, anime, thrillers, rom-coms, sitcoms, or reality television shows. As a newer form of media engagement, media researchers are just beginning to understand the meaning of binge-watching, and how motivation to binge-watch (MBW) predicts binge-watching tendencies (BWT). Research on parasocial relationships formed with Netflix characters and how they influence BWT is also relatively scarce. Thus, we seek to identify predictors of BWT from the uses and gratification (U&G) perspective. We predict that parasocial interaction (PSI) will mediate the relationship between loneliness and binge-watching tendencies (BWT). Six hypotheses were tested using zero-order correlations and PROCESS Macro Hayes. A cross-sectional online survey was constructed using Google Forms, and distributed among university students in Malaysia during the COVID-19 pandemic (*N* = 284). Data was collected from October to December 2021. Four hypotheses were supported; results indicate that PSI, stress relief, and enjoyment predicted BWT. PSI also mediated the relationship between loneliness and BWT. Thus, parasocial relationships formed with Netflix characters prompted lonelier individuals to binge-watch more. The repercussions of these findings on U&G, PSI, and binge-watching literature will be discussed.

**Keywords:** *Binge-watching tendencies, loneliness, motivation to binge-watch, parasocial interaction, uses and gratification.*

## INTRODUCTION

Streaming service is presenting Malaysian audiences with new alternatives to access diverse and popular media content. Many streaming platforms offer the audience the option of watching their favourite series in Malaysia, such as Netflix, Disney Hotstar, Viu, Apple TV+, dimsum, WeTV and iflix. Netflix for example, offers a wide range of binge-worthy content to its subscribers, especially to young adults, for example, K-dramas, anime, thrillers, rom-coms, sitcoms, or reality television shows. According to Pittman and Sheehan (2015), the institutional growth of Netflix as not only a platform for viewing, but also as a content creator has led to what is colloquially recognised as the "Netflix effect". The Netflix effect occurs when there is a surge in popularity associated with specific products, brands, and even celebrities because they appear in Netflix television shows and movies (Noble, 2022). This phenomenon has transformed the way media content is written, created, and consumed.

During the COVID-19 pandemic, with the movement control order (MCO) being imposed, demand for Netflix in Malaysia has increased (Chan et al., 2022). Despite the price hike at the time for subscribers, Netflix managed to top 200 million subscribers worldwide at the time, when the pandemic changed media behaviour related to the consumption of digital content. Thus, it became apparent that Malaysian audiences have shifted from a more linear form associated with traditional broadcast channels to online platforms, such as streaming entertainment (The Straits Times, 2021).

The popularity of streaming content may also be attributed to the ability to binge-watch on these platforms. Binge-watching is a relatively new concept in media research (Schweidel & Moe, 2016). For media researchers, what constitutes binge-watching is still up for debate. Some scholars defined binge-watching as when the individual watches multiple episodes (i.e., three or more) of a series in one sitting, back-to-back (Deloitte, 2015; Pittman & Sheehan, 2015). Binge-watching appears to have a negative connotation, with many associating it with addiction and comparing it to destructive behaviours such as binge drinking (Steiner & Xu, 2018; Sun & Chang, 2021). However, researchers have found both positive and negative outcomes from binge-watching. For instance, Panda and Pandey (2017) in their study of binge-watching among college students highlighted both negative and positive consequences of prolonged time spent on binge-watching. Others report that viewers may experience ambivalent feelings about their binge-watching experience (Steiner & Xu, 2018). Thus, as a new media phenomenon, there is still much to understand about binge-watching, including its antecedents and subsequent outcomes.

Consequently, in this study context, we seek to comprehend why university students in Malaysia binge-watched during the COVID-19 pandemic period. The uses and gratification (U&G) perspective is applied to understand binge-watching, where it is predicted that specific motivations to binge-watch will be significantly linked to further binge-watching tendencies. U&G has been used for the last 50 years to understand how people use various media such as newspapers, TV, radio, the Internet, computers, and social media (Steiner & Xu, 2018). Through this theoretical framework, researchers attempt to explain why individuals choose and select a certain media to satisfy their needs (Katz et al., 1973-1974; Katz et al., 1974). In this study, the U&G theory will be used to identify motives for binge-watching and how these factors contribute to further media selection (i.e., binge-watching tendencies).

In this study context, as the COVID-19 pandemic imposes travel restrictions and mandated quarantines, it is expected that university students will engage in binge-watching for a variety of reasons, including stress relief, enjoyment, and social engagement. This study also focuses on whether loneliness motivates further BWT. Researchers have often highlighted media use such as binge-watching, as an emotionally motivated coping strategy to manage loneliness (e.g., Sun & Chang, 2021; Sung et al., 2015). It is predicted that with social isolation experienced during the COVID-19 phase, individuals will turn to streaming platforms to manage their loneliness where binge-watching will buffer against the negative effects of loneliness. Finally, it is expected lonelier individuals will binge-watch more depending on the pseudo relationships they form with media characters from their favourite binge-worthy show. Relationships with mediated characters are expected to compensate for the lack of social connection during COVID-19 for lonelier individuals and would lead to further binge-watching. Thus, parasocial interaction will mediate the relationship between loneliness and binge-watching tendencies.

In sum, the main research objectives of this study are twofold: (a) To identify determinants of Netflix binge-watching tendencies for university students during the COVID-19 pandemic, and (b) to examine the mediating role of parasocial interaction in the relationship between loneliness and binge-watching tendencies. The conceptual framework for this study is depicted in Figure 1.
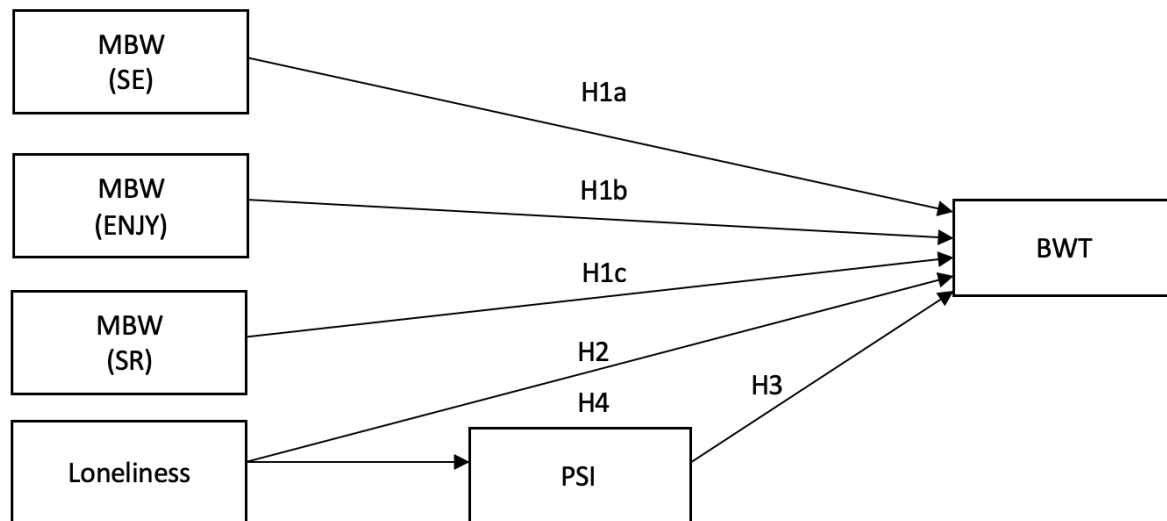


Figure 1: Conceptual framework of the study

*Note: PSI = parasocial interaction, MBW = motive for binge-watching, BWT = binge-watching tendencies, SE = social engagement, SR = stress relief, ENJY = enjoyment*

## LITERATURE REVIEW

### a.    *Binge-Watching and the COVID-19 Pandemic*

Binge-watching is a personalised habit, where binge-watching behaviour may differ from one person to the next (Jenner, 2016). Binge-watching is a newer form of media engagement, and there is no universally agreed-upon meaning for the term. Some scholars argue that it is still an ill-defined construct with non-standardised measurement or operationalisation (Flayelle et al., 2020). For instance, it is not clear how many episodes would constitute binge-watching. For some, the term 'binge-watching' refers to watching more than two episodes (Walton-Pattison et al., 2018), while others define it as watching three or more episodes in one sitting (Merrill & Rubenking, 2019). Others defined binge-watching as "viewing at least four episodes of a 40-minute program" (Feeney, 2014). Mcnamara (2012) suggested that binge-watching should instead be based not only on the minimum number of episodes but also on the minimum duration per viewing session.

Whether binge-watching is destructive or otherwise is still vague. Some view it negatively as a 'problematic behaviour' where extreme binge-watching may lead to serious health implications such as anxiety or sleep problems (Wheeler, 2015), while others related binge-watching with more positive connotation such as 'marathon viewing' (Perks, 2015; Tukachinsky & Eyal, 2018). Young people, such as university students, are especially fond of binge-watching as it helps them deal with the stresses of academic life and the entertainment value associated with Netflix content (Chan et al., 2021; Panda & Pandey, 2017; Starosta et al., 2020). Binge-watching is therefore becoming more common among the streaming

audience, where even though audiences are not initially interested in a particular genre, binge-watching may increase interest in a series that they have not watched before (Ramdzan, 2022).

Is binge-watching more intense during COVID-19? Some studies suggest that it is. According to Sigre-Leirós et al. (2022), the COVID-19 lockdown altered many individuals' everyday habits, including how they use digital technology. For some, because of increased isolation, binge-watching during the pandemic period is used to enhance personal well-being (Riva et al., 2020). Others report that binge-watching increased in correlation with the need to cope with increasing stress during the pandemic period (Aghababian et al., 2021). Specifically, they found an increase in the frequency and duration of binge-watching during the COVID-19 pandemic as compared to before the pandemic, where extreme binge-watching is associated with higher levels of stress due to potentially negative behaviours such as eating while binge-watching or starting to binge-watch due to depression or sadness.

Similarly, another study examined the relationships between binge-watching and psychological aftereffects during the COVID-19 outbreak (Raza et.al., 2021). The findings revealed that binge-watching resulted in negative psychological effects such as depression, anxiety, stress, and loneliness. Similarly, another study examined the relationship between the amount of binge-watching and negative behaviours during the COVID-19 outbreak (Rahman & Arif, 2021). This study indicates "one more episode" syndrome as the primary negative behaviour impacted by the high amount of binge-watching during the COVID-19 pandemic. This refers to the indulgence of watching just one more episode without stopping. Apart from that, addiction and lack of sleep have also been reported by respondents as negative behaviours driven by binge-watching during the pandemic. On the other hand, others such as Horeck (2021) argued that binge-watching is instead 'healing', as it transformed from being a guilty pleasure habit to a self-care strategy during the pandemic period, to counter feelings of listlessness and dissatisfaction that may have risen due to the lockdown. Overall, past research on binge-watching highlights some increase in that behaviour during the pandemic, with some highlighting the negative consequences of extreme binge-watching. Nevertheless, understanding the predictors and motivations behind endless pandemic streaming is also important.

### b. Users and Gratification (U&G) Theory

This study applied the uses and gratification (U&G) perspective as the theoretical foundation to explain the framework. U&G is a media theory that identifies media use as a function of the gratifications that users attempt to achieve (e.g., Katz et al., 1974). U&G studies how people can be affected by the usage of media or technology by measuring their psychological gratifications, motivation, and consumption of the technology (Balakrishnan et al., 2021). This theory believes that a certain technology tool was selected and actively used to satisfy certain needs and intentions (Boudkouss & Djelassi, 2021; Hussain et al., 2020).

In binge-watching literature, some common motives predict binge-watching. Subramanian et al. (2020) found that information attainment, entertainment, hobby/companionship, escape, or mood management were motives that are pertinent in the binge-watching literature. In other studies, entertainment motives (to relieve boredom), friends or peer influence (social interaction), and escaping from reality are some of the factors that influence the behaviour of Netflix binge-watching (Rahman & Arif, 2021). Others, such as

Sigre-Leirós et al. (2022), found that social motives for watching TV series emerged as significant factors for binge-watching during the COVID-19 lockdown period.

### c.    Predictors to Binge-Watching

However, are motives for binge-watching Netflix and traditional broadcast television similar? Several studies have examined motives for binge-watching content on streaming platforms. Motives to binge-watch may influence further media selection and use, as predicted by U&G. Through qualitative interviews, Steiner and Xu (2018) have found newer and unique types of motivations to binge-watch, such as catching up with the latest episodes, a sense of completion when they complete binge-watching and to improve the viewing experience. Also, interviewees reported that they 're-bingeing', where they rewatch previous episodes to fall asleep or relax before a new season is released, or as familiar background noise while they are multitasking. Thus, the researchers conclude that streaming platforms may extend understanding of traditional TV research partly due to the uniqueness of motives for binge-watching.

A dominant predictor of binge-watching appears to be entertainment or enjoyment. Several studies have found that streaming content is binge-worthy because it is enjoyable and used for entertainment purposes (e.g., Chan et al., 2022; Mahmoud & Abdul Wahab, 2021; Panda & Pandey, 2017; Pittman & Sheehan, 2015). While binge-watching, viewers arrive at a state of 'flow' that leads to intense feelings of enjoyment and relaxation (Panda & Pandey, 2017). Others such as Mahmoud and Abdul Wahab (2021) found further binge-watching occurs because viewers enjoy aspects related to series characteristics, such as plot twists, genre, and leading actors. This indicates that relationships formed with mediated characters may influence binge-watching behaviour. Next, studies highlight that social motives do predict BWT. For instance, BWT may result from social engagement with others; binge-watchers do so under the influence of peers and the social need to belong (Fernandes & Pinto, 2020; Mahmoud & Abdul Wahab, 2021; Panda & Pandey, 2017; Steiner & Xu, 2018). Others, such as Angelchev et al. (2022) contend that heavy binge-watchers may function as opinion leaders and binge-watch more because they experience a fear of missing out (FOMO). Finally, stress relief is an important motive for binge-watching (Petersen, 2016; Rahman & Arif, 2021; Sadana & Sharma, 2021). In the study by Petersen (2016), it has been found that university students binge-watched to reward themselves after working hard and to relieve stress related to academic life. In the context of this study, those with strong motives to binge-watch (i.e., social interaction, enjoyment, stress relief) will be more likely to engage in further binge-watching as their motives in consuming Netflix content are assuaged through their binge-watching behaviour.

Thus, based on previous literature and to ascertain the basis for using the U&G perspective of Netflix binge-watching, the following hypotheses are proposed:

**H1-a:** Social engagement is positively associated with binge-watching tendencies.
**H1-b:** Enjoyment is positively associated with binge-watching tendencies.
**H1-c:** Stress relief is positively associated with binge-watching tendencies.

Loneliness is a negative emotional reaction as a result of negative external feelings prompted by the environment and other exterior factors, including a lack of social connection (Sun & Chang, 2021). To handle loneliness, the media audience may engage in binge-watching. Studies are mixed about the association between binge-watching and loneliness.

Most studies have found a positive relationship between loneliness and binge-watching (e.g., Alfonsi et al., 2022; Gabbiadini et al., 2021; Sun & Chang, 2021; Sung et al., 2015). For instance, Gabbiadini et al. (2021) have suggested that loneliness was positively related to the tendency to binge-watch and that the relationship between loneliness and binge-watching tendency is mediated by escapism and identification with media characters. For those who are very lonely, binge-watching could be a coping strategy to manage their loneliness and satisfy the need for escape, by identifying with a favourite media character, and this strategy is chosen as it is an activity that requires less effort. Thus, consistent with the predictions of U&G, for especially lonely individuals, loneliness may motivate viewers to engage in further media selection (i.e., binge-watching tendencies) as it is used as a coping strategy. Those who find that binge-watching can reduce loneliness may be more motivated to engage in further binge-watching. However, Ahmed (2017) did not find a significant difference in the levels of loneliness between binge-watchers and non binge-watchers. Tukachinsky and Eyal (2018) also found that loneliness did not predict television marathon viewing. Considering the mixed findings from previous literature, the following hypothesis is suggested:

**H2:** Loneliness is significantly associated with binge-watching tendencies.

Next, parasocial interaction is not new in media research. Originated by Horton and Wohl (1956), the term parasocial interaction refers to pseudo-relationships experienced by an audience in their mediated encounters with performers in the mass media. Rubin and McHugh (1987, p. 280) defined parasocial interaction as 'intimate, friend-like relationships that occur between a mediated persona and a viewer'. Parasocial interaction has been extended to understand relationships formed with media characters and celebrities in books, films, radio, television series, and in newer media contexts, such as social media, online gaming, and virtual reality environments. Celebrities, public figures, or mediated characters act as social agents. These media personalities influenced their fanbase in some ways, including intention to purchase consumer products (e.g., Chung & Cho, 2017; Taher et al., 2022), intention to exercise (Li et al., 2023), or attitude towards fashion products (i.e., Choi & Lee, 2019).

However, research linking PSI and binge-watching appears to be scarcer. Some studies, such as Erickson et al. (2019) and Williamson et al. (2022) found that frequent binge-watchers often report higher parasocial relationships with self-reported favourite media characters, compared to non-binge watchers. Angelchev et al. (2022) found that the length of binge-watching sessions significantly impacted parasocial interaction. Similar relationships can be expected in this study. As viewers spend a lot of time quarantining, they also spend hours binge-watching their favourite media personalities, to the extent that they see this relationship as somewhat real and meaningful. This may culminate in individuals substituting their real-life connections with parasocial ones ultimately leading to further binge-watching tendencies. Therefore, the following hypothesis is postulated:

**H3:** Parasocial interaction is positively associated with binge-watching tendencies.

### d. Mediating Role of Parasocial Interaction

Scholars argue that parasocial interaction is a workable alternative to face-to-face communication, especially for lonely people (Wang et al., 2008). As lonely individuals lack interpersonal communication, they may turn to media use to fulfil their social interaction and belongingness needs. Thus, mediated communication may compensate for certain

interpersonal needs. Furthermore, celebrities, public figures, and media personalities can utilise different types of social media tools (i.e., reels, stories, hashtags) that can ultimately enhance their personality, where these celebrities or the characters they play, are seen as 'real' and personable, culminating in an intense parasocial relationship with their fanbase (Taher et al., 2022). Thus, PSI can be used to curb loneliness, and spending prolonged time with mediated personalities can increase the relationship between loneliness and binge-watching tendencies. It is expected that for those who form a more intense bond with a mediated persona, loneliness will elevate further binge-watching tendencies. Consequently, the following hypothesis is proposed:

**H4:** Parasocial interaction will positively mediate the relationship between loneliness and binge-watching tendencies.

## METHODOLOGY

This study is quantitative, using a cross-sectional online survey design. The instrument was distributed among students in a public Malaysian university ($N$ = 284). The G-power software calculated the minimum sample size needed based on the number of predictors and estimated it as 207. Thus, the minimum number of sample size needed in this study was met. The main sample consisted of Communication undergraduate students, and they were instructed to recruit other respondents from the same university to be compensated with extra credits in the communication course they were enrolled in. Purposive sampling was used to identify suitable respondents, with access to Netflix used as a screening question, where only Netflix users are allowed to participate in the study. Throughout the survey, respondents were also instructed to think of a favourite Netflix character or celebrity from their most binge-watched show. The data was collected from October to December 2021, when Malaysia just exited the movement control order (MCO) phase and was starting phase 3/4 of the national recovery plan for COVID-19.

In this study, parasocial interaction served as the mediating variable, while the main independent variable is loneliness, and binge-watching tendency is treated as the dependent variable. Additionally, loneliness is measured based on how frequently a person feels disconnected from others (Russell, 1996). Further, parasocial interaction is the mediated involvement that occurs through repeated exposure to celebrities or public figures (Bocarnea & Brown, 2007). In this study, parasocial interaction will measure the extent to which Netflix viewers form parasocial relationships with a favourite Netflix celebrity or character. Finally, this study will treat BWT as Netflix viewers' self-perception of repeated, consecutive and successive consumption of Netflix content (Granow et al., 2018). Other independent variables include three motives to binge-watch Netflix: social engagement, enjoyment, and stress relief motives. All scales used in this study met the cut-off value of .70, indicating good internal consistency (Hair et al., 2013). Cronbach alpha scores ranged from .71 to 98. The research instrument contains scales that were adapted from previous studies (i.e., Bocarnea & Brown, 2007; Granow et al., 2018; Panda & Pandey, 2017; Russell, 1996). In this study, scales were measured using either a five-point (i.e., PSI) or seven-point Likert-type items (i.e., MBW, BWT, and loneliness), and all items from each scale were averaged to form a composite score. Details on the scales used in the study are displayed in Table 1.

Table 1: Reliability of scales used in the study

| Scale | Source | Cronbach alpha | Number of items | Mean | Std Deviation |
|---|---|---|---|---|---|
| Binge-watching tendencies (BWT) | Granow et al. (2017) | .71 | 5* | 4.96 | 1.26 |
| Loneliness | Russell (1996) | .95 | 10 | 3.45 | 1.64 |
| MBW (enjoyment) | Panda and Pandey (2017) | .98 | 4 | 6.02 | 1.27 |
| MBW (social engagement) | Panda and Pandey (2017) | .88 | 6* | 3.49 | .1.61 |
| MBW (stress relief) | Panda and Pandey (2017) | .96 | 4 | 5.93 | 1.34 |
| Parasocial interaction (PSI) | Bocarnea and Brown (2007) | .89 | 20* | 3.20 | .69 |

*Note = Contains reverse coded items

PROCESS macro by Hayes (model 4) was used to test the relationship between all variables as well as to examine the mediating role of PSI in the relationship between loneliness and BWT. PROCESS models are appropriate for analysing mediating relationships (Hayes, 2018).

*Data Normality*
To meet the assumptions of conducting mediation analysis, data screening was done to check for normality and multicollinearity. There were no issues with multicollinearity as the relationships between independent variables are not close to +1. To check for normality, the histogram for regression for the dependent variable (BWT) was examined (Figure 1), as well as the skewness and kurtosis values (Table 2). The data is normally distributed when the values that represent the skewness and kurtosis of the variables range from -2 to +2, with consideration of 5% sampling errors (Siddiqi, 2014). The skewness and kurtosis values were also within the acceptable range (refer to Table 2). Based on both Figure 2, the normality assumptions were met, where values mostly ranged from -2 to +2. Thus, multiple regression and mediating analysis can be conducted.

Table 2: Normality based on skewness and kurtosis values

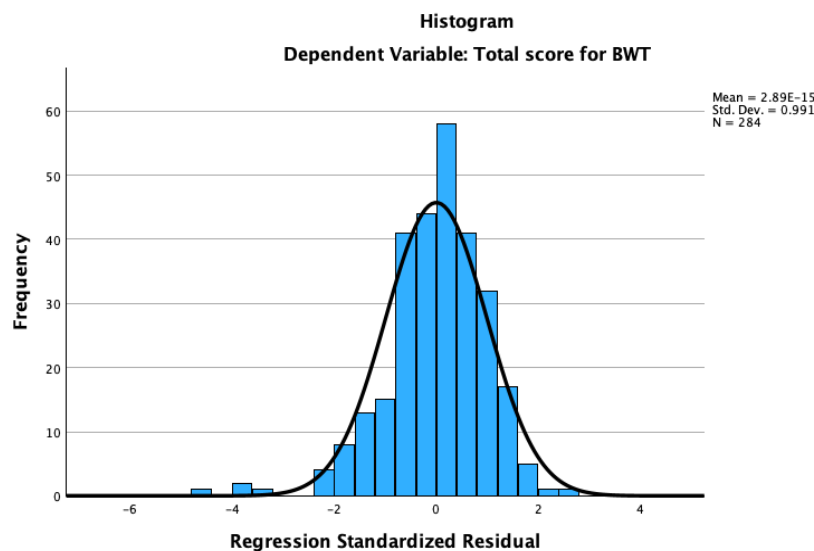| Variable | Skewness | Kurtosis |
|---|---|---|
| Binge-watching tendencies (BWT) | -.748 | .359 |



Figure 2: Histogram for binge-watching tendencies

RESULTS AND DISCUSSION

*Demographic Background and Netflix Binge-Watching Related Behaviours.*
The respondents of the study were mostly female (73%), single (84%), and relatively young (*M* = 20.88, *SD* = 1.54), between the ages of 17 to 27 years old. During the COVID-19 period (2020-2021), they mostly stayed in a rented house or apartment, or their family homes (70%). A minority were confined to the university campus during that period (15%). In terms of Netflix ownership, almost half had their own Netflix account (42%) or accessed their family's account to binge-watch (42%). Only a minority used shared accounts with non-family members (16%). During this pandemic period, Netflix binge-watching appears to be a solitary activity, with a majority reporting that they binge-watched alone (85%). Those who did watch Netflix with others watched with other occupants in the household, such as siblings, parents, or roommates. Netflix is not the only platform used to binge-watch their favourite shows; close to two-thirds used other platforms, such as Viu and IQiYi (58%).

Overall, the respondents actively used Netflix during the pandemic period; they binge-watched at least four episodes in one sitting (*M* = 4.39, *SD* = 3.53). Binge-watching also occurred at least three times a week (*M* = 3.58, *SD* = 1.78). Across genres, favourite Netflix shows binge-watched by the respondents consist mainly of popular Korean drama/reality series (38%) and Western series, including sitcoms, dramas, thrillers, and reality shows (47%). A minority binge-watched anime/cartoons (10%). Popular shows to binge-watch at the time include Korean series such as *Hospital Playlist*, *Vincenzo*, *Squid Game*, *Hometown Cha Cha*, and the 90s American sitcom, *Friends*. When responding to items on parasocial interaction, a majority reported on their parasocial relationship with a favourite character from a Netflix show (46%), such as Jake Peralta from *Brooklyn 99*, or the actor/actress playing their favourite Netflix character (43%), such as Andy Samberg.

Before further analysis, zero-order correlations were run to analyse the relationship between all variables. Results indicate a positive and significant relationship between all variables, except for between MBW (social engagement) and BWT. The results are presented in Table 3.

Table 3: Correlation matrices of all variables

|  | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| MBW (SE) | 1 |  |  |  |  |  |
| MBW (SR) | .151* | 1 |  |  |  |  |
| MBW (Enjoyment) | .185** | .877** | 1 |  |  |  |
| Loneliness | .125** | .179** | .231** | 1 |  |  |
| PSI | .379** | .339** | .391** | .259** | 1 |  |
| BWT | .027 | .577** | .566** | .202** | .368** | 1 |

*Correlations significant at .05 level
**Correlations significant at .001 level
Note: MBW = motives to binge-watch; SE = social engagement; ENJ = enjoyment; SR = stress relief; ESC = escape, PSI = parasocial interaction; BWT = binge-watching tendencies

*Predictors of Binge-Watching Tendencies*
To further identify predictor variables to BWT (H1-H3), the multiple regression analysis was run with BWT as the outcome variable. For H1-a, MBW (social engagement) predicted BWT ($b = -.119$, $p < .05$), which indicates that social engagement significantly influenced BWT. However, contrary to the hypothesised direction predicted, the relationship is negative. Thus, H1-a is not supported. In testing H1-b, MBW (enjoyment) positively predicted BWT ($b = .264$, $p < .05$). Therefore, H1-b is supported. Next, H1-c predicted a positive relationship between MBW (stress relief) and BWT. There was a positive and significant relationship between MBW (stress relief) and BWT ($b = .245$, $p < .05$). Thus, H1-c is also supported.

H2 tested the relationship between loneliness and BWT. However, the results were insignificant ($b = .043$, $p = .25$). Thus, although the result for H2 was in the hypothesised direction, this hypothesis is not supported. Finally, H3 indicates a positive relationship between PSI and BWT ($b = .397$. $p < .001$). Therefore, H3 is supported. Overall, the model is significant, $F (6, 277) = 34.68$, $p < .000$, and the $R^2 = .384$ indicates that the model explains 38.4% of the variance in BWT. The following Table 4 displays a summary of the multiple regression analysis findings.

Table 4: Predictors of binge-watching tendencies

| Hypothesis | Regression Weights | Beta Coefficient | t-value | p-value | Results |
|---|---|---|---|---|---|
| H1-a | MBW (SE) -> BWT | -.119 | -2.980 | .003 | H1a is not supported |
| H1-b | MBW (ENJ) -> BWT | .264 | 2.771 | .007 | H1b is supported |
| H1-c | MBW (SR) -> BWT | .248 | 2.597 | .009 | H1c is supported |
| H2 | Loneliness -> BWT | .043 | 1.147 | .274 | H2 is not supported |
| H3 | PSI -> BWT | .397 | 3.947 | .000 | H3 is supported |

Note: MBW = motives to binge-watch; SE = social engagement; ENJ = enjoyment; SR = stress relief; ESC = escape, PSI = parasocial interaction; BWT = binge-watching tendencies

*Mediating Role of Parasocial Interaction*
To test H4, the mediating analysis was examined using PROCESS macro by Hayes (model 4). The study predicted that PSI would positively mediate the relationship between loneliness and BWT. The results revealed a significant indirect effect of the impact of loneliness on BWT ($b = .026$, $t = 1.896$). There is no '0' straddling between the lower-level confidence interval (LLCI) and the upper-level confidence interval (ULCI), indicating the mediation effect. Also, the direct effect of loneliness on BWT in the presence of PSI is not significant ($b = .044$, $p = .25$). Hence, PSI mediated the relationship between loneliness and BWT. Overall, H4 is supported. The mediation analysis is summarised in Table 5.

Table 5: Mediation analysis summary

| Relationship | Total Effect | Direct Effect | Indirect Effect | Confidence interval | | t-statistics | Results |
|---|---|---|---|---|---|---|---|
| | | | | LLCI | ULCI | | |
| Loneliness -> PSI -> BWT | 0.692 ($p = .07$) | 0.436 ($p = .25$) | 0.026 | 0.004 | 0.056 | 1.896 | H4 is supported |

Note: PSI = parasocial interaction; BWT = binge-watching tendencies, LLCI = lower-level confidence interval, upper-level confidence interval

## DISCUSSION

This study was conducted at the tail-end of the COVID-19 movement control order (MCO) period, when university students were still confined in their own family homes or the university campus due to mandated quarantine. Based on the descriptive data, these Netflix binge-watchers engaged in this behaviour quite regularly. Due to the recent surge of the Korean Wave "Hallyu", in Malaysia and globally (Ariffin et al., 2018; Badrul Hisham et al., 2019; Ing et al., 2018; Menawati & Putri, 2023), K-television series in this study are perceived to be highly binge-worthy, like other popular Western series. Binge-watching is mainly a solitary activity, with most having access to their family or their account when engaging in this activity. The descriptive data indicates that although Netflix is the main platform chosen to binge-watch, the survey respondents also used other platforms to binge-watch, depending on the content available on those platforms. Based on the wide range of titles and genre types chosen as the favourite binge-worthy shows, it appears that binge-worthy content is indeed diverse and dependent on individual preferences and tastes.

This study mainly aimed to identify determinants of binge-watching tendencies and whether parasocial interaction mediated the relationship between loneliness and binge-watching tendencies. Six hypotheses were proposed to identify predictors for binge-watching tendencies (H1a-c, H2, and H3) and the mediating role of parasocial interaction in the relationship between loneliness and BWT (H4). Out of the six hypotheses, four hypotheses are supported, and two are not (H1-a & H3). The following paragraphs will examine in detail the results of the study based on the hypotheses proposed.

First, results indicate that social engagement motives negatively predicted BWT (H1-a). This conflicts with earlier studies, where social motives often lead to increased binge-watching behaviour (e.g., Chan et al., 2022; Elmashhara & Soares, 2019; Panda & Pandey, 2017; Steiner & Xu, 2018). However, this finding is in line with research by Klouda (2020), indicating that high peer pressure does not elevate binge-watching behaviour. It can be argued that due to the COVID-19 context, perhaps social pressures discouraged BWT. During this period, binge-watching became even more of a solitary activity due to MCO and lack of face-to-face interaction. University students may have been separated from their families and confined to their rooms and have had to resort to tailoring their individual media habits to manage their own emotions and experiences instead of relying on recommendations or pressure from others. Pressure from others perhaps even deterred them from binge-watching a certain show. Thus, the comfort provided by BWT in coping with the uncertainties and stress brought on by COVID-19 may have decreased the urge to give in to social pressures when it comes to media use. This is also supported by the descriptive data provided in the study; binge-watching appears to be a solitary activity, not one enjoyed with others.

Additionally, the study found that university students who enjoyed binge-watching on Netflix were more likely to engage in further BWT (H1-b). Netflix content is binge-worthy because it is enjoyable and used to gratify entertainment needs, as indicated in previous studies (e.g., Chan et al., 2022; Panda & Pandey, 2017; Pittman & Sheehan, 2015). Thus, enjoyment is a primary motive for binge-watching. A closer look at the types of binge-watched shows supports this contention; in this context, preferred content to binge-watch was traditionally more entertaining rather than informative (i.e., reality shows, dramas, sitcoms, and anime as opposed to documentaries). Perhaps, it is likely that the COVID-19 pandemic context also contributed to this factor; as they were confined, individuals had limited means to entertain themselves and thus resorted to binge-watching. This is supported by arguments

from Kumar et al. (2021), who found that entertainment is the most dominant motive to binge-watch content during the pandemic period.

Next, in line with previous studies (e.g., Petersen, 2016; Rahman & Arif, 2021; Sadana & Sharma, 2021), this study also found that the need for stress relief is another primary motive to binge-watch (H1-c). This is perhaps not surprising due to the study context; COVID-19 may have brought unusual stress for university students, with high levels of uncertainty (i.e., refer to uncertainty reduction theory by Berger & Calabrese, 1975). Challenges may come in many different and unexpected forms, such as financial stress brought on by loss of income or mental health issues due to isolation and lack of physical interaction. Therefore, Netflix content provides an outlet to relieve stress, particularly content that allows individuals to cathartically release their emotions (i.e., sitcoms) and reduce their stress. In sum, findings from H1a-c provides some support for the U&G perspective; where motives to binge-watch are indeed quite varied and it significantly predicted binge-watching behaviours for university students during the COVID-19 pandemic.

Contrary to previous research (i.e., Gabbiadini et al., 2021; Sun & Chang, 2021; Sung et al., 2015), H2 is not supported. Loneliness did not lead to BWT, although it is in the hypothesised direction. This finding is however, in line with findings from previous studies that found no significant correlation between the two (Ahmed, 2017; Tukachinsky & Eyal, 2018). Thus, in this study, even though individuals may perhaps experience intense loneliness due to the quarantine and lack of social connection, loneliness was managed through other coping strategies besides BWT. Thus, this also points to the complexities of the relationship between loneliness and binge-watching. For instance, some scholars argue that binge-watching can either lead to further isolation of the individual socially or can buffer against a person's feelings of loneliness (Batik & Demir, 2022). One study conducted post-COVID-19 was able to link loneliness, motives for using social media, and time spent on social media (Bonsaksen et al., 2023). That study found that those who used social media for relationship maintenance motives felt lonelier than those who used the same amount of time on social media for other reasons. Researchers concluded that while media use may facilitate social connection to a certain degree, it may not gratify the type of needs of those who aim to use media specifically for this reason. Thus, future studies could perhaps examine, if loneliness differs significantly between those who binge-watch Netflix primarily for social motives (i.e., relationship maintenance, fear of missing out or FOMO, need to belong) compared to those who binge-watched for non-social reasons (i.e., escape, stress relief, enjoyment, or immersion).

Additionally, H3 is supported; PSI significantly influenced BWT. This finding is in line with other studies (i.e., Erickson et al., 2019; Williamson et al., 2022). Tukachinsky and Eyal (2018) argued that as viewers continue marathon viewing, they are more likely to interact and empathise with such characters. In the context of COVID-19, during the lockdown period, the lack of real social interaction may create a longing for the need to emotionally connect with media characters (Jazyrna, 2021). Thus, audiences will continue to binge-watch Netflix shows with these media characters, to compensate for the lack of face-to-face connection during the lockdown period. PSI may also give a sense of togetherness during the pandemic period, where it raises self-esteem and belongingness, which is much needed to counter negative emotions such as fear and uncertainty during the COVID-19 period (Jarzyna, 2021). Therefore, parasocial relationships are used as an outlet for social support during a distressing period. In sum, feeling connected with a media character, further augments the need to

binge-watch in this context, when individuals are divested of physical social connections and in need of social support to manage anxiety, fear, and uncertainty caused by the pandemic.

Finally, although loneliness does not directly predict BWT, results demonstrated significant mediation analysis, where PSI mediated the relationship between loneliness and BWT (H4). This finding, therefore, supports H4. Thus, as viewers begin to empathise more with the characters they see on their screen, this also leads to a further tendency to binge-watch, as they perceive these characters to be real and important to them. Also, the relationship between loneliness and PSI has also been established in the literature (e.g., Wang et al., 2008). For especially lonely individuals, parasocial relationships with media characters may have substituted their real-life connections due to the lack of physical companionship and connection, and this in turn leads to further binge-watching. Perhaps further investigations should compare the mediating effects of other variables related to user involvement and experience with streaming series, such as identification with media characters, or worship for Netflix series, in the relationship between loneliness and BWT.

## CONCLUSION

Overall, this study merely scratched the surface of what binge-watching means to the contemporary media audience. Findings related to motives for binge-watching and binge-watching habits during COVID-19 have added to the existing literature on U&G. In this study, it also appears that binge-watching should be viewed positively as a non-problematic behaviour due to its positive motivations, such as reducing stress and increasing enjoyment. Lonely viewers, due to interaction with media characters, feel more connected with others when they binge-watch more. Like any other study though, this study is not without its limitations. Recall issues, social desirability bias, and its cross-sectional nature preclude definitive judgement about the longitudinal effects of loneliness and parasocial interaction on binge-watching tendencies. As social life post-COVID returns to somewhat normal with some semblance of life pre-COVID, it will be interesting to find out if these results are consistent post-COVID, where individuals are free to gratify their social interaction and belongingness needs through actual their interpersonal network instead of relying solely on mediated channels. Also, future researchers could triangulate this data with more qualitative methods, to uncover newer and unique motives that can lead to binge-watching. For instance, is re-bingeing indeed a common motive for binge-watching among young adults, as suggested by Steiner and Xu (2018)? How would re-bingeing interact with motives to binge-watching? In conclusion, this study emphasises the important role binge-watching plays as a newer form of media engagement during a global health crisis period, where it is not just reduced to a dysfunctional or destructive habit. It is instead an active and rewarding form of media engagement that can gratify enjoyment needs and relieve stress while the viewer interacts with their favourite media characters. It also highlights that in this digital era when media habits fully consume our free time, choosing, customising, or replaying *what* and *who* we want to watch, for as long as we want, is as easy as a click on the remote control.

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