

# Why Do Individuals Engage in Phubbing? An Empirical Study Integrating Fear of Missing Out, Boredom Proneness, Smartphone Use

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## Abstract

**Purpose-** Increased use of smartphones has necessitated research into its negative psychological and physiological effects on individuals. This study seeks to examine the relationship between psychosocial factors-boredom proneness, fear of missing out (FoMO) and life satisfaction with phubbing. The research also investigates the mediating effect of Phubbing on FoMO, boredom proneness and life satisfaction.

**Design/Methodology/Approach-** A conceptual model is proposed and validated by extending research on smartphone use. A survey of 350 respondents was conducted using purposive sampling technique to empirically test the hypothesized linkages among the constructs using structural equation modeling.

**Findings-** Results of the study confirmed that individuals who engage in phubbing behavior exhibit traits of boredom and FoMO. Findings also reveal that phubbing has a positive effect on life satisfaction. Additionally, results confirm that phubbing mediates the association between FoMO and life satisfaction.

**Limitations-** The sample consisted of only students enrolled at a large, public university in India. While research suggests that students are the largest users of smartphones, and that smartphones are an important aspect of this generation's culture and identity, our ability to generalize these results to other populations is limited and therefore replicating this study among different demographic and geographic regions will aid in generalizing the findings of the present study.

**Practical Implications-** Findings of this study enrich the literature on smartphone use and reveals that phubbing is a direct consequence of individuals' desire to gratify social and psychological needs. Outcome of the study also benefit practitioners by allowing them to understand and develop new interventions aimed at the youth so that they can be protected against the negative effects of smartphone use.

**Originality/Value-** The present study attempts to analyze the effect of FoMO and boredom proneness on phubbing. Understanding the predictors of phubbing is important, considering the negative effects of this behavior on life satisfaction. This study makes significant contributions to the existing body of knowledge about how increased fear of missing out, boredom proneness and phubbing may affect overall life satisfaction.

**Keywords:** Phubbing, Life satisfaction, Fear of Missing Out (FoMO), Boredom Proneness, Smartphone Use

## INTRODUCTION

As the number of smartphone users increase worldwide (Schneider and Hitzfeld, 2019), researchers are opting to understand the newly emerging issues surrounding excessive smartphone use. Empirical evidence suggests that smartphone ownership and the extent to which an individual uses smartphones affects their smartphone-use behavior (Kircaburun et al., 2019). Ranie and Zickuhr (2015) reported that 90% of respondents used their smartphones during social activities, and perceived that 86% of others involved in the social interaction did the same. Resultantly, an escalating problem associated with excessive smartphone use is the act of snubbing others by checking smartphones in the middle of a real-life conversation or during social activities to try to escape face-to-face communication called phubbing (VandenAbeeel et al., 2019; Davey et al., 2018). Problems associated with excessive smartphone use during social activities have motivated researchers across the world to conduct empirical investigations for determining the antecedents and consequences of phubbing (Karadag et al., 2015; VandenAbeeel et al., 2016; Al-Saggaf and O'Donnell, 2019; Verma et al., 2019; Tandon et al., 2022). Determinants of phubbing behavior stem from social and psychological conditions, such as smartphone addiction and social media addiction as well as from lack of social connectedness (Kircaburun et al., 2019; Argan et al., 2019). Scholars argue that phubbing has significant negative implications for both the phubbee as well as the phubber such that people being phubbed are likely to experience a reduction in perceptions of communication quality and a feeling of being devalued by the phubber (Chotpitayasunondh and Douglas, 2018; Wang et al., 2017). For the phubbee, use of cell-phone while in the presence of another person, threatens the face of the phubbee because it suggests that they are boring, not to be taken seriously or not significant

enough to maintain the phubber's attention. This results in negative emotions such as depression and anxiety (Elhai and Contractor, 2018). Similarly, phubbing can be detrimental for the phubber as it indicates that they are using smartphones to regulate their own negative emotional states such as loneliness and boredom, which may lead to a more serious psychological state of mind (Vorderer et al., 2018). Despite serious implications surrounding the issue of phubbing, research examining this phenomenon is still in its nascent stage wherein most existing studies have approached the topic with a focus on two aspects. The first aspect relates to the predictors of phubbing with the literature identifying several predictors including technological addictions such as game addiction, smartphone addiction, social media addiction and SMS addiction (Alhassan, et al., 2018). The second aspect is the impact of phubbing on the quality of interpersonal interactions such as reduced conversation quality, partner phubbing, partner trust, relationship satisfaction as well as reciprocity in phubbing (Chotpitayasunondh and Douglas, 2018; Wang et al., 2017; Argan et al., 2019; VandenAbeeel et al., 2016; Balta, et. al., 2018). In comparison to this body of literature, relationship between psychological wellbeing and phubbing has been understudied. Furthermore, while researchers have investigated the negative outcomes of phubbing associated with the phubbee in terms of relationship satisfaction (e.g. Roberts and David, 2016), very little is known about the causes and consequences of phubbing from the phubber's perspective. Scholars have expressed deep concerns over the significant negative implications of phubbing for phubbers and have even suggested the need for an urgent investigation into different aspects associated with predictors and outcomes of phubbing behavior (Miller-Ott and Kelly, 2017).

Therefore, the present study aims to investigate whether different psychosocial aspects namely, boredom proneness and fear of missing out (FoMO) correlate with phubbing behaviour. Furthermore, the current study examines whether phubbing behavior correlates with life satisfaction among young Indian smartphone users. The study specifically focuses on the Indian smartphone users for two reasons. Firstly, India has the second highest number of smartphone users, which are expected to double in number by 2023 (Statista, 2020). Secondly, despite having an extraordinary consumer base of smartphone users, the problematic smartphone behaviour among Indian consumers is relatively less studied (Verma et al., 2019; Tandon et al., 2022; Pandey and Rao, 2023).

## THEORETICAL BACKGROUND

### Uses and Gratification Approach

The Uses and Gratification Theory (UGT) (Katz, Blumer and Gurevitch, 1974) is the most widely used cornerstone theory explaining social and psychological needs of people that motivates individuals to use certain types of media (Duvenage et al., 2020). Recent studies (Elhai et al., 2019; Wolniewicz et al., 2019) have extended UGT to predict why people use smartphones to meet specific gratifications and has been particularly insightful in explaining problematic smartphone use (Elhai and Contractor, 2018). Although the Theory of Reasoned Action (TRA) and the Technology Acceptance Model (TAM) also provide significant understanding about factors that influence people's technology acceptance and use, yet these models do not fully explain why people accept and use a particular technology (Park, 2010). In order to overcome the limitations of TAM and TRA, this study uses the UGT approach, which provides a better understanding of why and how people seek to use media to fulfill their needs and motives (Palmgreen, et. al., 1985). UGT is based on the idea that users' motivations to use various communication channels are triggered by their individual needs and characteristics (Baxter et al., 2008). Additionally, it explains that the social and psychosocial effects of using a particular media depends primarily on the user's reasons and goals for using the technology (Weiser, 2001), such as information-seeking, mood management needs, entertainment, personal identity or companionship (Shao, 2009). Given the fact that UGT has successfully examined gratifications associated with the use of different media, such as telephone, television, newspapers and electronic mail, which resemble most of the functions associated with smartphones (Katz et al., 1973; Lichtenstein and Rosenfeld, 1984), it provides a theoretical framework for the present study.

### Compensatory Internet Use Theory

The Compensatory Internet Use Theory (CIUT) (Kardefelt-Winther, 2014) is viewed as an extension of UGT (Elhai et al., 2017) and explains the psychosocial impacts of smartphone use (Pancani et al., 2019). This theory explains that negative life situations can motivate individuals with low psychological well being or reduced life satisfaction to excessively use internet connected devices, such as smartphones, as a compensatory coping strategy to reduce their negative feelings and emotions (Al-Saggaf and O'Donnell, 2019; Wolniewicz et al., 2019). The theory explains that higher the degree of life problems, stronger is the need and motivation to cope with it and thus more time will be spent online as a potential compensation for psychosocial problems. While existing studies have used the CIUT in several contexts, including depression (Kim et al., 2006), loneliness (Kim, LaRose and Peng, 2009), internet addiction (Shen and Williams, 2011), escapism (Parker and Plank, 2000) and high sensation-seeking (Armstrong, Phillips and Saling, 2000) and is applicable across different internet activities and platforms, the present study seeks to test this theory in the context of phubbing. The study is conducted against the background of earlier work focusing on psychological

problems associated with excessive problematic smartphone use. To the author's knowledge, this is the first study to explore the interaction between boredom proneness, FoMO and life satisfaction in the context of phubbing.

### CONCEPTUAL MODEL AND HYPOTHESES

Phubbing (Phone and snubbing) defined as the act of ignoring individuals in social situations in order to devote attention to smartphone (Haigh, 2015; Santos et al., 2023). Studies on phubbing have investigated different determinants of phubbing, for example, smartphone addiction (Karadag et al., 2015), social media addiction (Argan et al., 2019) and narcissism (Al-Saggaf and O'Donnell, 2019). Similarly, prior studies have also suggested the possible outcomes or consequences of phubbing including negative outcomes such as reduced conversation quality (VandenAbeelee et al., 2016), lower relationship satisfaction (VandenAbeelee and Postma-Nilsenova, 2018), and depressive symptoms (McDaniel and Coyne, 2016). Moreover, phubbing also has an impact on interpersonal relationships and personal well-being (Roberts and David, 2016). In comparison to this existing body of literature, the present study examines the relationships between phubbing and psychological wellbeing, which have largely been overlooked by prior literature.

#### FoMO and Phubbing

Fear of missing out refers to the "pervasive apprehension that others might be having regarding experiences from which one is absent" (Przybylski et al., 2013, p.1842). The recent surge in social media usage and the possibility of constantly staying connected to social networks through mobile devices has triggered the excessive use of smartphones (Elhai et al., 2016). While FoMO can arise due to non-technology related anxieties, scholars have mainly attributed FoMO as the online FoMO rather than a general fear of an individual of missing out something (Elhai et al., 2016).

Individuals experiencing FoMO have a desire to stay connected online, for example via the use of social media apps on their smartphones, so that they do not miss the rewarding experiences that others are having (Kartol and Gündoğan, 2020). In order to compensate for the psychological deficit arising out of the need to constantly remain updated about what others are doing and to check up on people in their personal social networks, individuals feel the urge to use their smartphones, consequently affecting their face to face communication with the co-present others (Chotpitayasunondh and Douglas, 2018). As a result, when individuals fear missing out important events occurring in social media, they consider smartphones as a viable option for the possibility to remain constantly connected to their virtual groups by concentrating on their phones instead of talking to the person directly (Wolniewicz et al., 2018). Individuals more focused on their smartphones are therefore unable to devote full attention to the physically present others, resulting in rude and socially inappropriate behavior or phubbing (VandenAbeelee et al., 2016). In other words, it is likely that those high on FoMO, may overuse their smartphones in such a way that it interferes with their offline social interactions, leading them to phub their offline interaction partners. Based on the above premise, we expect FoMO to predict phubbing. Therefore, it is hypothesized that;

#### H<sub>01</sub> Smartphone users with high FoMO demonstrate increased phubbing

#### Boredom and Phubbing

Boredom proneness is conceptualized as a trait-based tendency to experience boredom (Mercer- Lynn, et. al., 2014) and has been linked with problematic smartphone use (Lepp, et.al., 2017). Compensatory Internet use theory stipulates that a negative state of mind drives people to excessively use their smartphones for accessing the Internet, resulting in reduced psychological involvement with their surroundings (Wegmann et al., 2018). When people find their surroundings uninteresting, they tend to engage in activities that are more pleasurable, by using and sometimes overusing their smartphones that are easily accessible, provide entertainment activities and compensate for negative emotions, thus allowing individuals to escape from boredom (Leung, 2020). Furthermore, since smartphones are ubiquitous and easily accessible, people who want to kill time out of boredom find it motivating to constantly stay engaged with their smartphones (Wang and Tchernev, 2012), rather than participate in face-to-face conversations with the others (Leung and Zhang, 2016). LePara (2011) indicated that even when boredom-struck smartphone users participate in face-to-face conversations, their attention is impaired due to heavy smartphone use and they are thus able to exhibit only 'divided attention' (Halpern and Katz, 2017). Since boredom drives people to use their smartphones to relieve their boredom (Wegmann et al., 2018), a relationship between phubbing behavior and boredom is not unlikely. More recently, Al-Saggaf et. al. (2018) explored the relationship between trait boredom, a chronic disposition of individuals to experience boredom (Hunter et al., 2016), and phubbing frequency. Although findings of the study established that boredom proneness drives phubbing, it only measured phubbing in terms of the number of times an individual looked at their smartphones during conversations with the others or phubbing frequency. However, phubbing has often been considered a multi-dimensional construct (e.g. Karadag et al., 2015) and therefore the relationship between boredom proneness and phubbing requires further investigation. Therefore, based on the aforementioned literature and findings, we hypothesize that;

## **H<sub>02</sub>: Boredom proneness significantly predicts phubbing**

### **FoMO and Life Satisfaction**

Life satisfaction is the stable cognitive assessment of one's life including a somewhat general evaluation of one's environment, which may be positive or negative (Yang and Srinivasan, 2016; Scheufele and Shah, 2000). Therefore, rather than an assessment of one's situational feelings, life satisfaction involves an appraisal of one's life quality characterized by feelings of overall wellbeing and happiness (Diener et al., 1985). One of the fundamental needs of an individual's social life is to stay well informed about the events in the life of their friends and family, a task made easy by social media. However, failure to satisfy this need leads to FoMO (Przybylski et al., 2013), which has been known to be linked with increased feelings of depression, anxiety and negative mood (Elhai, et al., 2016). Social media research has yielded inconsistent results regarding the association between FoMO and life satisfaction. Some studies indicate a positive association between the intensity of social media use and life satisfaction (Valenzuela, et al., 2009; Grieve et al., 2013). According to these studies, the positive relationship can be attributed to the happiness that one feels due to the social experiences with one's friends, made possible by frequent interpersonal communications and social ties through social media. Therefore, people who actively participate in social media activities are more likely to experience connectedness and feel happier (Valkenburg, Peter, and Schouten, 2006). Contrary to these findings, Kross et. al. (2013) found FoMO to be negatively correlated with life satisfaction such that frustration of not being able to connect to others resulted in lower life satisfaction (Davey et al., 2018). Roberts and David (2019) further corroborated the negative relationship that FoMO has with overall well-being, which is a component of life satisfaction. In sum, studies indicate that while staying connected through social media may lead to higher satisfaction with life, the tendency to stay connected because one believes that one is missing out on something interesting, may often be linked with social pain contributing to anxiety, depression and a general dissatisfaction with life (Elhai et al., 2016). Based on the literature presented, we propose the following hypothesis;

## **H<sub>03</sub>: FoMO predicts reduced life satisfaction**

### **Boredom Proneness and Life Satisfaction**

Boredom, which has often been described as a negative dissatisfying emotional state (Mikulas and Vodanovich, 1993), has been linked with a host of psychosocial problems (Mercer-Lynn, et al., 2013). For example, boredom appears to be a significant driver of physical inactivity and poor health (Britton and Shipley, 2010). A bored individual does not experience any excitement from the stimulus present in his or her environment (Eastwood, et al., 2012). Defined this way, proneness to boredom primarily results from a mismatch between peoples' activities of interest and stimuli present in the environment around them. Under normal circumstances, people are faced with activities of their interest, which creates meaning in life leading to better quality of life (Iwasaki, 2007). In contrast, bored people consider their activities to be meaningless (Van Tilburg and Igou, 2012) resulting in feelings of loneliness (Wechter-Ashkin and Ashkin, 2013). In support of this view, researchers also found boredom proneness to correlate negatively with well being in general and life satisfaction in particular (Elpidorou, 2017). Of particular interest to the present study, recent evidence suggests that adolescents experience lower life satisfaction when they feel bored in their life (Balaguer et al., 2017). Spruyt (2018) also indicated a negative relationship between boredom and life satisfaction among individuals. Sung et al. (2020) in their research showed that boredom proneness held a significant positive link with sadness (detrimental to life satisfaction) and a negative relationship with joy (an indicator of satisfaction with life) (Jovanović and Joshanloo, 2019). These findings suggest that boredom proneness could be the force behind reduced life satisfaction. It is therefore hypothesized that;

## **H<sub>04</sub>: Boredom proneness predicts reduced satisfaction with life**

### **Phubbing and Life Satisfaction**

The antisocial nature of phubbing has led to increased research on its detrimental effects such as reduced relationship satisfaction (VandenAbee and Postma-Nilsenova, 2018), higher levels of depression (Wang, et al., 2017) and reduction in perception of communication quality (Chotpitayasunondh and Douglas, 2018). Researchers interested in phubbing have looked at how people who are phubbed find the act of phubbing as annoying and disrespectful (Asgaard, 2019). Although very little is currently known about how phubbing affects life satisfaction, it is argued that since phubbing behavior is proximally associated with smartphone addiction, as they are both related to inappropriate smartphone use and behavior, it seems reasonable to expect that people who are addicted to their smartphones will likely use their devices uncontrollably to the extent of being discourteous when in face-to-face communication with another individual (Jones, 2014). Meanwhile, addictive smartphone usage has been found to be negatively linked with individual well-being and life satisfaction (Lepp et al., 2014). Similar results were obtained from studies on excessive smartphone use and its negative effects on interpersonal relationship problems such as insecurity in romantic relationships (Kuss and

Griffiths,2011) and trust development (Przybylski and Weinstein, 2013), which are indicative of reduced life satisfaction. According to the sociometer theory (Leary et al., 1995), when individuals are rejected by others, they underestimate themselves and report low levels of self esteem (Xie, et al.,2020), a correlate of reduced life satisfaction. Since studies have reported the impact of phubbing behavior on negative outcomes such as decreased feelings of self-worth, it is plausible to suggest that phubbing would be associated with decreased life satisfaction. Accordingly, we hypothesize that;

#### **H<sub>05</sub>: Phubbing significantly predicts reduced life satisfaction**

Prior literature has documented phubbing as an indicator of decreased relationship satisfaction (VandenAbeeel and Postma-Nilsenova, 2018), and depressive symptoms (McDaniel and Coyne,2016). Relatedly, association between FoMO and lower life satisfaction has been reported to be associated with problematic social media and mobile phone use (Al-Saggaf and O'Donnell,2019). Evidence suggests that the relationship between personality traits (such as neuroticism) and life satisfaction is often fully or partially mediated by phubbing (Cikrikci, et al., 2019). More recently, researchers examined the influence of mobile phone addiction and depression through the mediating variable of phone-snubbing (Ivanova et al.,2020). Moreover, various studies on smartphone use suggest that social smartphone use (e.g. phubbing) act as a mediating variable between psychopathology-related variables (such as FoMO) and problematic smartphone use (Van Deursen et al.,2015). Based on the rationale that phubbing has been found to result in a range of negative effects including relationship quality and satisfaction, we expect phubbing to exert a mediating effect in the association between FoMO and life satisfaction and between boredom proneness and life satisfaction. This leads to the last hypotheses;

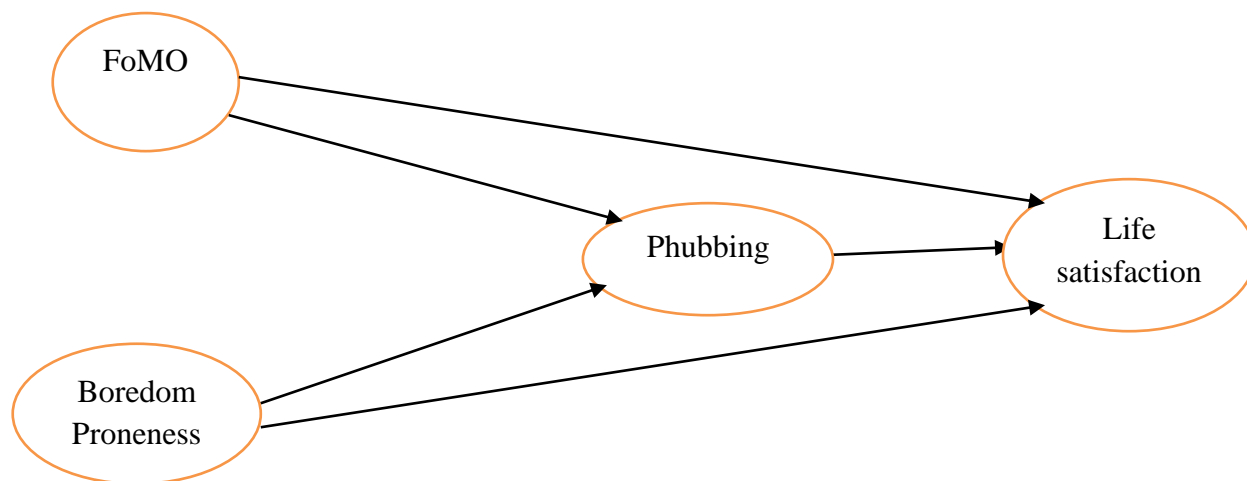
#### **H<sub>06a</sub>: Phubbing would mediate the relation of FoMO on life satisfaction**

#### **H<sub>06b</sub>: Phubbing would mediate the relation of boredom proneness on life satisfaction**

Based on the literature the study objectives are:

1. To study the impact of FoMO on phubbing and life satisfaction
2. To evaluate the effect of boredom proneness on phubbing and life satisfaction
3. To examine the impact of phubbing on life satisfaction
4. To evaluate the mediating the impact of phubbing between FoMo and life satisfaction

The proposed research model is shown in Figure 1.



**Figure1: Proposed Research Model**

### **RESEARCH METHODOLOGY**

#### **Sample and data collection**

The study's target population is young consumers, characterized by an increased use of and familiarity with modern technology and smartphone ownership when compared to the older generation. A total of 350 usable responses were generated out of the 375 questionnaires that were distributed through offline and online modes. Respondents were aged between 21 and 24 years (Mean age=21.53 years; SD=1.62; 55.4% females). The only inclusion criterion for participation in the study was that the respondents must be a smartphone user. All the participants gave their informed consent and took part in the study voluntarily and anonymously.

### Measurement items

The present research comprised four different scales corresponding to the constructs that were modified according to the requirement of the study. FoMO scale (Przybylski et al.,2013) originally consisted of 10 items but only 9 items were used according to requirements of the study. Phubbing scale developed by Karadeg et al. (2015) consisted of 10 items. A short version of boredom proneness scale developed by Struk et al. (2017) consisted of 8 items. Finally, satisfaction with life scale, originally designed by Diener et al. (1985), was adopted and consisted of 5 items. All the items were scored on a five-point Likert-type scale between ‘1=strongly disagree’ and ‘5=strongly agree’.

### RESULTS

To test the research hypotheses, the present study used Partial Least Square (PLS) in SmartPLS software, Version 2.0, as it enables estimating complex models with several constructs, indicator variables and structural paths without imposing distributional assumptions of non-normal and small sized data (Hair et al.,2018). To achieve the appropriate model fit, six items (PH4, F1, F2, F3, F5, F6) were deleted.

### Measurement Model

A confirmatory factor analysis (CFA) was conducted to assess the measurement model (Anderson and Gerbing, 1988) and establish convergent and discriminant validity. All factor loadings were greater than 0.7 and were significant thereby establishing convergent validity (Hair, et al.,2018) (Table 1). AVE values were statistically significant and were found to be above 0.05, indicating acceptable convergent validity (Fornell and Larker,1981). Further, the CR of all the constructs was also above the acceptable level of 0.7 (Fornell and Larker,1981). Discriminant validity was assessed using the Fornell-Larker criterion by comparing AVE values and the squared correlations of each pair of the latent constructs (Fornell and Larker, 1981).

**Table 1: Item loadings, CR, AVE and Cronbach's alpha coefficients**

Construct	Scale Items	Loadings	CR	AVE	Cronbach's alpha
Boredom (BR)	BR1	0.785	0.906	0.548	0.880
	BR2	0.733			
	BR3	0.712			
	BR4	0.844			
	BR5	0.665			
	BR6	0.835			
	BR7	0.693			
	BR8	0.626			
FoMO (F)	F4	0.648	0.821	0.537	0.711
	F7	0.666			
	F8	0.750			
	F9	0.850			
Phubbing (PH)	PH1	0.813	0.907	0.521	0.884
	PH2	0.714			
	PH3	0.635			
	PH5	0.695			
	PH6	0.664			
	PH7	0.746			
	PH8	0.680			
	PH9	0.799			
	PH10	0.729			
Life Satisfaction (LS)	LS1	0.810	0.869	0.573	0.825
	LS2	0.837			
	LS3	0.743			
	LS4	0.677			
	LS5	0.704			

Table 2 reveals that the AVE values of all the constructs exceeded the squared correlations of pairs of latent constructs. Also, the Maximum Shared Variance (MSV) for any given measure should be less than the corresponding AVEs (Hair, et. al., 2014).

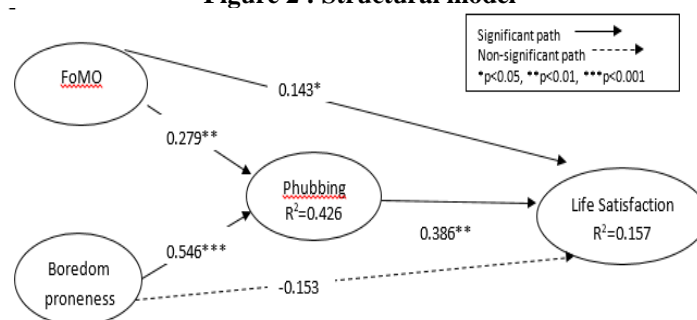
**Table 2: Discriminant validity of constructs**

Construct	F	PH	BR	LS
<b>FoMO (F)</b>	<b>0.733</b>	-	-	-
<b>Phubbing (PH)</b>	0.368	<b>0.722</b>	-	-
<b>Boredom (BR)</b>	0.162	0.591	<b>0.740</b>	-
<b>Life Satisfaction (LS)</b>	0.260	0.348	0.099	<b>0.757</b>

### Structural Model

The proposed hypotheses of the study were tested using the PLS analysis. To assess statistical significance and path coefficients, a bootstrapping method with 1000 iterations was performed. As shown in Table 3, results of the structural model assessment revealed that the four main paths in the sample are significant except the path of boredom to life satisfaction. Further, Figure 2 shows that the path relationship from boredom ( $\beta=0.546$ ,  $p<0.05$ ) and FoMO ( $\beta=0.279$ ,  $p<0.05$ ) were statistically and positively significant explaining 42.6 per cent variation in phubbing behavior. Also, FoMO ( $\beta=0.143$ ,  $p<0.05$ ) and phubbing ( $\beta=0.386$ ,  $p<0.05$ ) were found to be statistically significant and explained 15.7 percent of variation in life satisfaction. However, the result also showed that boredom has no significant effect on life satisfaction ( $\beta=-0.153$ ,  $p>0.05$ ).

**Figure 2 : Structural model**



**Table 3: Summary of test results for the structural model**

Hypotheses	Path	Standardized coefficient	p-value	Supported	Constructs	R-squared
H1	F-PH	0.279	0.002	Yes	Phubbing	0.426
H2	BR-PH	0.546	0.000	Yes	-	-
H3	F-LS	0.143	0.050	No	Life satisfaction	0.157
H4	BR-LS	-0.153	0.694	No	-	-
H5	PH-LS	0.386	0.010	No	-	-

To further analyze the influencing mechanisms of FoMO on life satisfaction, we examined the mediating effect of phubbing. Bootstrapping method was used to conduct the mediation analysis with 1,000 samples (Zhao, Lynch and Chen, 2010). As shown in Table 4, phubbing mediated the effect of FoMO on life satisfaction. However, since the direct path from boredom to life satisfaction was not significant, there was no mediation effect of phubbing between boredom and life satisfaction.

**Table 4: Results of mediation effect test (bootstrap 1,000 samples)**

Hypotheses	Mediation path	95% bias-corrected confidence interval	Mediation effect
H6a	F->PH->LS	[0.005, 0.207]	Partial mediation
H6b	BR->PH->LS	[-0.007, 0.399]	No mediation

## DISCUSSION

The present research blended the uses and gratification approach and compensatory internet use theory to examine the relationship between factors affecting phubbing and its consequences. Specifically, by integrating factors affecting problematic smartphone use- boredom and FoMO, we built a conceptual model to show how these factors affect phubbing, which subsequently affects life satisfaction. In support of the first research hypothesis, FoMO was found to be positively related to phubbing. This finding is consistent with prior research on the FoMO-phubbing relationship

(e.g. Schneider and Hitzfeld,2019). Drawing on previous research on determinants of phubbing, a type of interpersonal neglect (David and Roberts,2017), we anticipated that people with greater FoMO would be more likely to use their phones during conversations with their offline peers thus exhibiting phubbing behavior. These findings fit with the compensatory motivation perspective of self-determination theory (Ryan and Deci,2000), suggesting that peoples' fear of missing out on the interesting activities happening online triggers them to compensate for the temporary disconnection from the exciting social media world. As a result, people will be prompted to overuse their smartphones to alleviate their fear of missing out, eventually causing them to engage in phubbing with the co-present others. Furthermore, contrary to previous findings (e.g. Davey et al., 2018), FoMO was found to be positively related to satisfaction with life. Results of this study provide evidence that people who desire to keep up with what others are doing have higher levels of life satisfaction. Although only hypothetical, there are some possible explanations for this contrary relationship between FoMO and life satisfaction. Individuals' need to stay connected with others and a desire to keep themselves up-to-date, may lead them to be more satisfied with their lives as they may consider FoMO as an aid to assist them in their quest to find meaning in their lives. FoMO may provide a reason for such individuals to stay connected through social media, resulting in opportunities for staying in the know. This may further lead to cognitive and emotional needs being met. It may also be argued that an increase in the feeling of FoMO would make one seek out varied experiences resulting in greater need satisfaction and reduced complacency, which may have positive effects on life satisfaction. Additionally, the present study specifically focuses on students who are characterized by constant pressures of student life- the inability to keep up with all the events causing stress, frustration, burnout and depression. It is well known that FoMO is a social construct wherein a person aggressively seeks out opportunities to engage with others in an attempt to find out what others are doing. This may provide them a way to distract themselves and to communicate with others. Consequently, such people high on FoMO may experience higher satisfaction with life. The hypothesis that boredom will affect phubbing behavior was supported by the results of the present study, indicating boredom as a strong and reliable predictor of phubbing. This finding supports previous research (Elhai et al.,2017; Al-Saggaf et al.,2018) which reported a positive link between the two variables. There are two possible explanations for this finding. Firstly, as emphasized in the UandG theory, when people lack stimulation in face-to-face conversations, they are motivated to engage in something to manage the negative feelings, such as feeling of boredom. The constant availability of smartphones provides the easiest escape from situations of boredom resulting in people instantly engaging with their smartphones even at the cost of avoiding or phubbing a conversational partner. Secondly, boredom is likely to arise out of an individual's inability to intelligently participate or contribute in a face-to-face conversation. In such situations, an individual may be inclined towards instant gratification by engaging with one's smartphone, which may alleviate their feeling of boredom without putting the pressure of contributing to the active conversation. Therefore, by remaining a passive participant via smartphone use, one hopes to ease the feeling of boredom, which is less possible in a face-to-face interaction. Findings of this study did not find support for H4 (i.e. boredom will predict negative life satisfaction) as no significant correlation was found between boredom and life satisfaction, suggesting that the presence or absence of a feeling of boredom does not predict satisfaction with life. This finding is inconsistent with previous research (Farmer and Sundberg,1986; Iwasaki, 2007) which indicated a significant negative association between feelings of boredom and levels of life satisfaction such that individuals high on boredom were more dissatisfied with their lives than individuals low on boredom. However, the present findings support the view that both kinds of people, high boredom prone and low boredom prone, may feel dissatisfied with life in general. Individuals high on boredom harbor feelings that they lack creative things to do in life, and that their activities are pointless and meaningless (Van Tilburg and Igou,2012) resulting in dissatisfaction with life. Additionally, individuals low on boredom, who find themselves too busy with their work and have no time to waste on being bored (Darden and Marks,1999), find themselves under a lot of stress due to their demanding lives. Since stress is related to decreased life satisfaction (Extremera, Duran and Rey,2009), individuals with low levels of boredom also experience decreased satisfaction with life. Contrary to past research, the study provides novel evidence that phubbing positively affects satisfaction with life. Although satisfaction has often been shown to be negatively associated with being phubbed by a conversation partner through use of smartphone during conversations (Wang et al.,2017), the consequences of being a phubber on life satisfaction has received very little attention (e.g. Chotpitayasunondh and Douglas,2016). It has been argued that phubbers (those who engage in phubbing behavior) assume that others phub in the same way as they do, and therefore continue with the phubbing behavior. On the other hand, people experiencing phubbing notice the behavior occurring frequently around them and assume such a behavior to be socially acceptable (Ross,1977). Therefore, the tendency of a phubber to engage in more than one task at the same time for seeking immediate gratification may explain why phubbers feel more content and satisfied. Furthermore, we also explored the mediating role of phubbing. As expected, the study demonstrates that phubbing mediates the relationship between FoMO and life satisfaction. Previous studies discussed links between FoMO, phubbing and satisfaction, however mediation results offer an important contribution to the existing body of literature, which seeks to assess the impact of these two factors on satisfaction with life.



## IMPLICATIONS

### Theoretical Implications

Based on the results, this study provides meaningful theoretical implications. First, findings of the present study empirically establish boredom proneness and FoMO as possible antecedents to phubbing. Furthermore, satisfaction with life was considered to be the consequence of phubbing behavior. Although past studies have investigated some psychosocial predictors and consequences of phubbing from the perspective of the phubbee (i.e. the person being phubbed), it seems important to study the possible antecedents and outcomes from the perspective of a phubber. Consequently, the present study extended existing knowledge of phubbing behavior which is consistent with the suggestions from recent literature which calls for an extensive understanding of possible antecedents and consequences of such behavior (e.g. Chotpitayasunondh and Douglas, 2018). Second, the outcome or consequence of phubbing behavior has largely been studied in terms of adverse life outcomes such as relationship satisfaction or relationship quality with a romantic partner (Halpern and Katz, 2017) and conversation quality (Abeele et al., 2016). As a result, it is not known, other than satisfaction in relationship with the others, what are the other possible outcomes or consequences of phubbing behavior. The present study bridges this gap by measuring the effect of satisfaction with one's own life as a new outcome variable not previously studied. Interestingly, findings of the current study suggest a positive relationship between phubbing and life satisfaction. Intuitively, phubbing behavior, as hypothesized, would appear to be negatively linked to a sense of satisfaction with one's life in general. The present investigation reveals an unexpected relationship between the two variables and provides a new dimension to the ongoing discussion on the effects of phubbing. Third, following prior research, the study proposed an integration of the uses and gratification approach and CIUT. As is evident from past research, testing an integration of theories is a beneficial theoretical endeavor for a better understanding of the association among the motivators for using specific media and reactions to life situations, facilitated by Internet applications.

### Practical Implications

In addition to contributing to the existing body of literature on how technology, specifically smartphones, affects our behavior, the current study also offers several practical implications. By identifying the factors that predict phubbing behavior among students, this study can contribute to the assessment of problematic smartphone use and interventions to deal with it. A novel finding of the study is that phubbing is a direct consequence of individuals' desire to gratify social and psychological needs. By identifying phubbing as a key outcome, practitioners may be able to identify early warning signs that young individuals are developing habitual and addictive habits that become increasingly difficult to control. Furthermore, findings suggest that users' motivations constitute an important feature in the development of technology use in the future. By combining uses and gratification theory and CIUT to analyze users' motivations to optimize smartphone use, this study redirects attention to users with the recommendation that developers of smartphone technology pay close attention to consumers' needs especially to the need for lowering boredom and overcoming FoMO.

## LIMITATIONS AND FUTURE RESEARCH

Although phubbing as a phenomenon has only recently received attention among researchers, it has been a widely exhibited behavior not only at home (Wang et al., 2019) but also at the workplace (Roberts and David, 2020). Resultantly, researchers are paying increased attention to understand the predictors and consequences of phubbing (Benvenuti et al., 2020). The present study is aimed at contributing to the existing body of research on phubbing through the understanding of a framework including FoMO, boredom proneness and life satisfaction. Despite its contributions, the present study has a few limitations. The present study did not consider demographic variables such as gender, age and occupation in the current framework. Also, variables such as narcissism, nomophobia, loneliness have not been considered and can be used in future studies. Future studies could consider qualitative research methods in terms of conducting personal interviews with individuals to understand the phenomenon of phubbing and to investigate the predictors, underlying causes, effects and consequences of phubbing. As future work, longitudinal studies instead of a cross-sectional study may be undertaken to track the activities undertaken by individuals using their smartphones. This will enable researchers to collect precise data about the effects of phubbing across age groups.

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