

The Relationship between Bedtime Procrastination, Phubbing, and Self-control

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Abstract. The aim of this study was to investigate the associations between bedtime procrastination, phubbing, and self-control. Data was gathered via an online questionnaire where participants completed the Bedtime Procrastination Scale, the Phubbing Scale, and the Brief Self-Control Scale. Analysis of the responses from 98 valid participants supported our hypothesis, indicating a significant correlation among these three variables. The results show that there exists negative relationship between self-control and bedtime procrastination, the positive relationship between phubbing and bedtime procrastination, and the negative relationship between self-control and phubbing. Based on the relevance of this study, people can use these results to adjust behaviors or thoughts to their own effect.

Keywords: Bedtime Procrastination; Phubbing; Self-control.

1. Introduction

Bedtime procrastination is a common concern in daily life. Many people often play mobile phones, browse short videos or read electronic novels before going to bed, and then delay their bedtime. Bedtime procrastination was defined academically as ‘going to bed later than intended while no external circumstances are accountable for doing’ (Kroese et al., 2014).

Karadağ et al. (2015) described phubbing as ‘an individual looking at his or her mobile phone during a conversation with other individuals’. Due to the widespread use of smartphones for social interaction and communication, it is common that individuals find it challenging to give their full attention to their conversation partners while engaging with their mobile devices. This behavior is commonly referred to as phubbing, which combines the words ‘phone’ and ‘snubbing’, indicating the act of neglecting one's partner in favor of focusing on smartphone activities (Han et al., 2022). There is a correlation between self-control and the utilization of mobile phones. Billieux (2007) and his colleagues found that different aspects of phone usage were associated with different elements of self-control. Specifically, a tendency towards urgency was positively linked to the perceived dependence on mobile phones, while a lack of perseverance positively correlated with both the frequency and duration of daily calls. Moreover, even after considering factors like anxiety and depression, the absence of perseverance and sense of urgency remained significant indicators for phone dependency. This study indicated a deficiency in perseverance as one of the primary predictors for both how often and how long cell phones are used. In summary, individuals with lower levels of self-control are more likely to engage in excessive phone usage (Billieux, J. et al 2007).

Self-control was defined as ‘the ability to override or change one’s inner responses, as well as to interrupt undesired behavioral tendencies and refrain from acting on them’ (Tangney et al., 2014).. The Strength Model of Self-control (Baumeister et al., 2007) puts forward that self-control resources are limited and take a long time to recover from depletion. self-control resources provide energy for people to consciously utilize and regulate their actions to pursue certain goals. Goal-related behavior will be affected when self-control resources are reduced or even depleted. . Studies have shown that people who suppress their desire more during daytime activity are more likely to delay their sleep time at night (Kamphorst et al., 2018). Therefore, people without enough self-control resources have difficulty in adjusting to goals and are easily distracted by highly attractive stimuli, such as mobile phones. Especially when self-control resources are exhausted, individuals will be unable to pull themselves away from stimulating activities (e.g., phubbing), resulting in a continuous delay in

bedtime. People with lower self-control tend to have more difficulty regulating self-control resources, so they are more likely to engage in bedtime procrastination (Kroese et al., 2016) and phubbing behaviors ().

In order to investigate the overlapping mechanism behind bedtime procrastination, phubbing behaviors, and the self-control, The following hypotheses are proposed;

H1: There is a negative relationship between self-control and bedtime procrastination.

H2: There is a positive relationship between phubbing and bedtime procrastination.

H3: There is a negative relationship between self-control and phubbing.

2. Method

2.1. Participants and Procedures

This study recruited 152 participants by convenient sampling on WeChat. Participants responded to the survey online on the Wenjuanxing platform. 54 responses were deleted because they didn't pass the attention check. 98 responses were valid. The age of 98 participants ranged from 15 to 68 years old ($M_{age} = 30.33$, $SD_{age} = 14.87$; 31 males).

2.2. Measures

2.2.1. Bedtime Procrastination

The Chinese version of the Bedtime Procrastination Scale (BPS, Kroese et al., 2014) was used to measure bedtime procrastination. The scale was translated into Chinese by Ma et al., (2021), 9 items included. Items were scored on a 5-point scale ranging from 1 (never) to 5 (always). Items 2, 3, 7, and 9 are reverse coded. The average score was computed. High mean scores indicate a high level of bedtime procrastination. The reliability of this scale was good, Cronbach's $\alpha = .90$.

2.2.2. Phubbing

The Chinese version of the Phubbing Scale (PS, Karadag et al., 2015) was used to measure phubbing. The scale was translated into Chinese by Hui et al., (2022), 10 items included. Items were scored on a 5-point scale ranging from 1 (never) to 5 (always). The average score was computed to quantify the of phubbing behavior. High mean scores indicate a high level of phubbing behaviors. The reliability of this scale was good, Cronbach's $\alpha = .84$.

2.2.3. Self-Control

The Chinese version of Brief Self-Control Scale, (BSCS, Morean et al., 2014) was used to measure individual's ability of self-control. The scale was translated into Chinese by Luo et al., (2021), 7 items included. Items were scored on a 5-point scale ranging from 1 (not at all) to 5 (extremely). Items 2, 4, 6, and 7 are reverse coded. The average score was computed. High mean scores indicate a high level of self-control. The reliability of this scale was good, Cronbach's $\alpha = .84$.

3. Results

Descriptive statistics and correlation coefficients were shown in Table 1. Phubbing positively correlated with bedtime procrastination, $r = .55$, $p < .001$. It suggests the more phubbing, the higher level of bedtime procrastination. Self-control negatively correlated with bedtime procrastination, $r = -.63$, $p < .001$. This means people who have higher ability in self-control are less likely to procrastinate at bedtime. Phubbing negatively correlated with self-control, $r = -.55$, $p < .001$. It demonstrated that individuals who used to phubbing have low self-control.

Table 1. Descriptive statistics of and correlations between variables

<i>N</i> =98	<i>M</i>	<i>SD</i>	Bedtime Procrastination	Phubbing
Bedtime procrastination	3.41	.95		
Phubbing	2.76	.71	.55***	
Self-Control	2.92	.80	- .63***	- .55***

****p* < .001

Table 2. Regressing phubbing and self-control on bedtime procrastination

	β	<i>SE</i>	<i>t</i>	<i>p</i>
Intercept	.58		6.91	< .001
Phubbing	.12	.29	3.16	.002
Self-control	.10	- .48	5.26	< .001

4. Conclusion

This study investigates the relationships between bedtime procrastination, phubbing and self-control by used valid data from 98 participants by an online questionnaire.

All the data received in this experiment are reliable. All assumptions are formally stated, which are the negative relationship between self-control and bedtime procrastination, the positive relationship between phubbing and bedtime procrastination, and negative relationship between self-control and phubbing. Based on the relevance of this study, people can use these results to adjust behaviors or thoughts to their own effect. For example, if you want to improve sleep delay, you can start by reducing unnecessary self-control during the day.

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