Aug 10th, 12:00 AM

Exploring Psychological Reactions to Social Media Logos

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Completed Research

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Abstract

Modern social media platforms offer myriad benefits to individuals, organizations, and societies; yet, social media also has a potential "dark side", including, among other elements, the potential negative consequences of social media overuse. We explore whether mere exposure to social media cues can induce subconscious pleasurable reactions, particularly among those who report high levels of social media craving and use. We report the results of an online experiment (n=201) that used the Affect Misattribution Procedure (AMP) to elicit pleasantness ratings of target stimuli associated with social media logos and other types of control and comparison images. Results demonstrate that participants who report high levels of social media craving and use subconsciously attribute greater favorability to target stimuli associated with social media logos vs. (a) non-social media stimuli and (b) low craving/use participants, suggesting a spontaneous hedonic reaction to social media cues that may reinforce overuse behavior.

Keywords

Social media, craving, use, affect misattribution procedure.

Introduction

In recent years, the use of social media applications has reached an all-time high ("Social Media Fact Sheet" 2019). What explains this phenomenon? At a basic level, social media attracts billions of users due to the myriad of utilitarian and hedonic affordances related to the production and consumption of social media content (Meservy et al. 2019). Viewed through the lens of uses and gratifications (Weaver Lariscy et al. 2011), social media can satisfy some of humans' most basic psychological needs (Oh and Syn 2015; Whiting and Williams 2013). Yet, social media use also has a "dark side" (Tarafdar et al. 2013) wherein its use infringes on other activities and commitments, becoming compulsive and even potentially addictive (Blackwell et al. 2017; Kuss and Griffiths 2017). Within this area of investigation, a number of studies have demonstrated the potentially detrimental consequences that result from social media "addiction" (Meier et al. 2016; Wang et al. 2011) and psychology research suggests the possibility of neural alterations—including structural changes of the brain—from social media overuse (He et al. 2017). In the face of such evidence, the study of social media overuse—and its primary causes—merits the attention of researchers.

In this study, we examine how social media-related cues prompt spontaneous affective responses that may be associated with compulsive/addictive behaviors. We conducted an online survey experiment (n=198) that utilizes the Affect Misattribution Procedure (AMP) to explore how individuals implicitly react to social media logos. Specifically, we gather implicit affective responses to several prime stimuli including social media cues (e.g., Twitter, Facebook logos), control cues (e.g., stapler, office products), and

non-social company cues (e.g., Philips, General Electric, etc.). We then report on the spontaneous hedonic reactions across these prime images in relation to social media usage and self-reported social media cravings. Our results provide empirical confirmation that people who frequently use and crave social media do indeed exhibit spontaneous hedonic reactions to social media cues, which may be associated with social media overuse.

Theoretical Background

Researchers across disciplines have sought to answer the ubiquitous question of *why* we use social media, and many motivations have been advanced (Nadkarni and Hofmann 2012). People use social media for various reasons including: entertainment, social interaction, information seeking, passing time, information sharing, convenience utility, expression of opinions or keeping up with others (Meservy et al. 2019). These reasons can be traced to some of humanity's most basic psychological needs from the more rudimentary need to belong (Nadkarni and Hofmann 2012), to the more complex desire to build up social-capital (Ellison et al. 2007). Strong psychological forces (Shao 2009) fuel the drive to use these applications as people seek to meet those needs through the affordances of social media (Karahanna et al. 2018).

One theoretical model that has been widely used in research on social media use is the *Uses and Gratifications Theory* (UGT) (Blumler and Katz 1974; Katz et al. 1973). At its core, UGT is a framework intended to explain why and how individuals purposefully pursue—and spend time using—media (i.e. television, mobile phones, internet use). "According to UGT, people are active agents who choose to engage with media that satisfies specific needs and desires such as, relaxation, diversion, knowledge, social interactions/companionship, or escape" (Meservy et al. 2019, p. 2). UGT and has been used by various researchers to explain the psychological reasons behind the pervasiveness of social media usage (Ruggiero 2000; Urista et al. 2009). Studies have shown, for example, that social media use can satisfy need such as connecting with other individuals or expressing one's opinions (Seidman 2013). However, evidence also suggests that the ability of social media to satisfy these needs can lead to overuse of social media, which has been defined as "compulsive use of social media platforms that results in significant impairment in an individual's function in various life domains over a prolonged period" ("Problematic Social Media Use" n.d.). From a broad perspective, scholars have extensively explored the prevalence, causes, consequences, prevention and treatment of social media overuse (Andreassen 2015; Leung and Chen 2018) and a number of models have been developed to categorize social media overuse (Shaffer et al. 2004). Studies have shown that social media overuse often meets the traditional core criteria of addiction: salience, mood modification, tolerance, withdrawal symptoms, conflict, and relapse (Griffiths et al. 2014) and, the overuse of social media can have negative consequences for individuals on the social and psychological level (Lee-Won et al. 2015). Additionally, excessive social media use can be destructive at the firm level (Zivnuska et al. 2019). Considering these negative consequences, there is significant practical and theoretical incentive to better understand the underlying psychological factors that lead to social media overuse.

In this paper, we explore a fundamental question related to social media overuse, namely, whether mere exposure to social media cues can induce subconscious pleasurable reactions, particularly among those who report high levels of social media craving and use. Our investigation is rooted in dual-system theories of behavior, which suggest that people associate hedonic experiences with visual stimuli associated with these experiences (Hofmann et al. 2009). Overtime, exposure to these stimuli can evoke feelings of pleasure and a reinforced desire to engage in the hedonic experience. In a recent study that explored this phenomenon, van Koningsbruggen et al. (2017) reported the results of an experiment that tested hedonic reactions to one type of social media cue using the Affect Misattribution Procedure (AMP), a relatively recent approach for measuring implicit affective reactions to a stimulus (Payne and Lundberg 2014). In their experiment, participants who reported heavy Facebook use were briefly exposed to a prime stimulus consisting of either a Facebook logo or a control image (e.g., picture of an office product such as a stapler) followed by a neutral target image consisting of a Chinese pictograph. Participants were then asked to rate the pictograph as either pleasant or unpleasant. According to the AMP, affective reactions to the briefly displayed prime stimulus will carry over to the target stimulus as participants "misattribute the spontaneous affective reactions triggered by the prime pictures to their evaluations of

the ambiguous pictographs shown milliseconds after the prime" (Van Koningsbruggen et al. 2017, p. 335). Results of their experiment confirmed that participants who reported higher levels of Facebook use and craving indeed showed more positive affective responses to target stimuli associated with Facebook cues than those with control cues, leading the authors to conclude that "frequent social media users' spontaneous hedonic reactions in response to social media cues might contribute to their difficulties in resisting desires to use social media" (Van Koningsbruggen et al. 2017, p. 334).

In this study, we both replicate and extend van Koningsbruggen et al. (2017) in two ways. First, we broaden the boundaries of our study by exploring more than just the Facebook platform. Critics of "Facebook addiction" research have argued that Facebook—which is commonly the studied platform of social media overuse studies (D Griffiths 2013; Kuss and Griffiths 2011; Ryan et al. 2014)—cannot necessarily be generalized to all social media platforms or even social media overuse due to the multi-faceted functions of Facebook. Griffiths (2013, p. 2) notes, "'Facebook addiction' is not synonymous with 'social networking addiction' – they are two fundamentally different things as Facebook has become a specific website where many different online activities can take place – and may serve different purposes to various users". Other scholars have similarly noted that, "different [social media applications] … tend to have different salient affordances and their use is motivated by different sets of psychological needs" (Karahanna et al. 2018, p. 738). Simply put, social media platforms are heterogeneous in their affordances (DeVito et al. 2017) and merit separate analysis. Thus, we expand the scope of our analysis to include hedonic reactions to several distinct social media platforms.

Second, we add additional stimuli to our study to enhance the robustness and generalizability of our findings. Van Koningsbruggen et al. (2017) compared the affective reactions to target pictographs associated with Facebook primes with control images of office supplies such as staplers and tape, stimuli that are not likely to elicit strong affective responses. Although intentional and useful for drawing contrasts, this design leaves open the possibility that the affective reactions associated with Facebook are not due to its use as a social media platform per se, but rather its recognizability as a major commercial entity with which many people are familiar. In order to rule out this alternative hypothesis, hedonic reactions to social media cues must be contextualized with reactions to potentially familiar company logos that are advertised through digital channels. We therefore expand our experimental design to include such logos in order to better isolate the effects of social media platforms themselves.

Hypotheses

People who use social media platforms are exposed images and other visual stimuli that, over time, become mentally associated with these platforms (Smith and DeCoster 2000). Perhaps the most recognizable of these stimuli is the platform logo, the symbol or design employed by the platform that uniquely identifies it. Users who access social media platforms via mobile devices routinely tap on logo images to access the platform and its features. Moreover, once inside the application, this logo typically appears in several locations on the screen, thus strengthening the user's mental association between the logo and the functionality provided by the platform. Psychology research posits that the human brain develops specific reactions to certain environmental stimuli based on prior experience with the environment (Acquas et al. 1996). After a certain level of habituation, mere exposure to such stimuli can cause neurological reactions that are similar to the reactions elicited by the experiencing the environment itself (Stein 1966). Applied to the domain of social media use, this suggests that mere exposure to the logo of a social media platform can, over time, elicit a hedonic reaction similar to that associated with actual use of the platform (Van Koningsbruggen et al. 2017). The strength and nature of this association depends on both the *quantity* and *quality* of repeated exposure to the platform over time. With respect to quantity, research shows that social media users exhibit a wide range of use frequency and duration (Mislove et al. 2011); some use social media platforms only occasionally while others engage in highly frequent use that could justifiably be described as addictive (Byun et al. 2009). Because affective reactions to visual cues develop over repeated exposure to environmental stimuli (Strack and Deutsch 2004) it is logical to conclude that affective reactions to social media cues will be stronger among those who more frequently use social media compared to those who do not. Moreover, if indeed rooted in repeated use of these platforms rather than simple recognition or familiarity, then affective reactions to

social media logos among frequent users should be stronger than reactions to logos of other recognizable entities, such as large non-social media companies. We therefore hypothesize that:

H1: Frequent users of social media platforms will exhibit stronger spontaneous hedonic reactions to social media logos (vs. company logos and control images) than less frequent users.

In addition to quantity (frequency), the *qualitative* nature of social media use is also likely to play a role in shaping hedonic reactions to social media cues. As noted earlier, social media use research rooted in uses and gratifications theory has identified myriad reasons for use of social media platforms (Meservy et al. 2019). These uses vary widely but can generally be characterized as utilitarian or hedonic in nature. Utilitarian uses of social media include those that are productivity-oriented or focused on the completion of a specific task, such as finding a job, solving a technology problem, or responding to a health issue (Pöyry et al. 2012). On the other hand, hedonic uses—involving the use of social media for non-task-oriented purposes, such as entertainment or pleasure (Pöyry et al. 2012)—have been identified the most frequent and important drivers of social media use (Olivia Valentine 2018); however, because these uses involve satisfaction of basic psychological needs, such as maintaining social relationships, managing one's identity, or mitigating boredom, they are often associated with compulsive behaviors and cravings that lead to social media overuse (Dhir et al. 2018). We therefore expect users who report these types of cravings to be more likely to exhibit affective reactions to social media logos than those who do not (Meule et al. 2012). Moreover, these reactions should be stronger for social media logos than other types of logos or control images.

H2: Users who crave using social media platforms will exhibit stronger spontaneous hedonic reactions to social media logos (vs. company logos and control images) than those who do not.

Methodology

In order to test our hypotheses, we conducted an experiment that implemented the Affect Misattribution Procedure (AMP) using a custom experimental instrument. AMP is a well-established implicit technique that is used across various disciplines (Payne and Lundberg 2014). AMP measures involuntarily triggered responses based on the misattributions people formulate regarding the sources of their cognitions (Payne and Lundberg 2014). AMP is typically implemented by momentarily displaying a prime image (i.e. stapler, Twitter Logo, etc.) which is then quickly followed by an abstract or ambiguous stimulus (i.e. a Chinese pictograph or abstract art). After the abstract image is shown, a mask image is displayed to prevent users from overanalyzing the abstract stimulus. Participants are then asked to rate the abstract stimulus—in this case the Chinese pictograph—as either pleasant or unpleasant. After the rating, the next trial or iteration immediately repeats the previous steps until the completion of the experiment. The design is implemented to measure spontaneous hedonic reactions to the prime images.

Instrument and Procedure

Our experimental instrument was created with PsychoJS version 3.0.5 and hosted by PsychoJS GitHub. The instrument implemented the AMP protocol by briefly presenting participants with a series of stimulus sequences each consisting of (a) a prime image (75 ms) followed by (b) a randomly paired target image (100 ms) followed by (c) a blank mask screen (shown until participant response). As in prior AMP studies (Payne and Lundberg 2014), the target image consisted of a Chinese character pictograph. Prime stimuli included images in the following four categories: social media cues consisting of social media platform logo images, filler cues consisting of an empty gray screen, control cues consisting of images of office supplies, and comparison cues consisting of logos of highly recognized non-social-media organizations. Social media cues included logos of four widely used social media platforms: Facebook, Instagram, Twitter & Snapchat. These specific platforms were included because they are currently among the most popular social media platforms (Ahmad 2019) and boast significant monthly usage statistics: Facebook 2.4 billion; Instagram 1 billion; Twitter 330 million; Snapchat 301 million (Stout 2019). Comparison cues

included logos of high profile companies such as General Electric, Siemens, Intel, SAP, Oracle, IBM, Cisco, Philips, Honeywell, and Dupont.[1]

After viewing each sequence, participants were asked to rate the target image (Chinese pictograph) as either pleasant or unpleasant. Users could enter their rating with a click, tap, or keystroke (keys 1 or 2) to indicate that the image was perceived as pleasant (coded as 1) or unpleasant (coded as 2).

A pilot study (n=20) was conducted with the purpose of gathering feedback regarding the clarity of the instrument and the experiment flow. Adjustments were made to the number of stimuli presented to mitigate participant fatigue. In the final instrumentation, users first underwent a set of practice trials that displayed 10 stimulus sequences. They then completed the actual experimental task, during which they were shown two runs of 40 stimulus sequences consisting of prime images (10 from each of the four categories) each followed by a randomly assigned Chinese character. (The second run consisted of the same set of prime images, each paired randomly with a different Chinese pictograph to mitigate any ordering effects.) Before completing the experimental task, users were asked to rate the degree to which they used each of the four social media platforms, as well as their familiarity with various high-profile companies. The instrument then dynamically presented social media cues for only the platform most used by each participant.

We recruited 201 participants (45.3% female; 90.0% between the ages of 25 and 54; 46.2% with a 4-year degree; 79.6% employed full-time) through Mechanical Turk with the task description of measuring the perceived appeal of different Chinese characters. The only requirement was that the user be older than age 18 and unfamiliar with the meaning of most Chinese characters. Users were compensated at a pro-rated hourly rate of $9/hour. Upon enrollment, participants were given an explanation of purpose of the study, namely, to determine which Chinese characters they found aesthetically pleasing. They were then asked to rate their level of use of the four social media platforms and their familiarity with several high-profile brands or organizations. Next, they completed the experimental task described above, with the social media logos presented determined dynamically based on the platform the participant reported using most. Finally, participants were redirected to an online survey where they answered several questions regarding their familiarity with Chinese images, their usage of social media, and their desire/craving to use social media. Three of the participants completed the first part of the experiment but not the online survey and thus were eliminated from our analysis. Survey items were adapted from prior literature (Van Koningsbruggen et al. 2017) and are shown in the appendix.

Analysis and Results

To test our hypotheses, we estimated a series of linear mixed effects models using the lme4 package function in R (Bates et al. 2015; R Core Team 2019) comparing the average pleasantness user ratings of target images that followed each of the experimental categories (e.g., company logos, office product images) for both high and low use and high and low cravings. After testing for adequate reliability in use frequency (Cron. alpha=0.706) and craving scales (Cron. alpha=0.958), indices for these constructs were created by conducting an exploratory factor analysis (R factanal function; R Core Team 2019) and extracting standardized factor scores for each participant on each construct. The appendix shows a list of all scale items and their factor loadings.

H1 posited that frequent users of social media platforms exhibit stronger spontaneous hedonic reactions to social media logos (vs. company logos and control images) than less frequent users. We employed a mean split of the standardized *use* factor to split our data into two groups: more frequent and less frequent social media users. Table 1 shows means of pleasantness ratings for each of the different categories overall and the high/low use. We then compared within and between each group the average pleasantness ratings of target images that followed social media logos with those that followed company

[1] To limit confounding effects that may be caused by participants' purchase or use of specific company products, we chose high-profile organizations with wide recognizability that operate mostly in a business-to-business environment and are advertised through digital channels.

logos and office product images. Results of this analysis, shown in Table 2, show that participants in the high use condition rated target stimuli associated with social media logos as significantly more pleasant than those associated with both office images and company logos, while the low use condition showed no significant differences among stimulus types. The model also revealed that pleasantness ratings for the social media category in the high use condition were significantly higher (est=0.066; SE=0.023; p=0.047) than those in the low use condition. However, none of the other categories was statistically different between the high and low use groups. These results provide support for H1.

H2 hypothesized that users who crave using social media platforms exhibit stronger spontaneous hedonic reactions to social media logos (vs. company logos and control images) than those who do not. Similar the analysis for H2, we split the data into high- and low-social media craving groups based on a mean split of the standardized *cravings* factor and compared pleasantness ratings for each type of stimulus within and between groups. Results, shown in Table 1 and Table 2, indicate that participants in the high cravings condition again rated stimuli associated with social media logos as significantly more pleasant than those associated with both office images and company logos. No significant differences between categories were observed in the low use condition. The model also showed that pleasantness ratings for the social media category in the high craving condition were significantly higher (est=0.093; SE=0.024; p=0.001) than those in the low craving condition. However, none of the other categories was statistically different between the high and low use groups. These results support H2.

	Overall		High Use		Low Use		High Craving		Low Craving	
Category	**Mean**	**SE**	**Mean**	**SE**	**Mean**	**SE**	**Mean**	**SE**	**Mean**	**SE**
Company	1.45	0.015	1.44	0.019	1.46	0.018	1.42	0.021	1.47	0.017
Office	1.46	0.015	1.45	0.019	1.46	0.018	1.47	0.021	1.45	0.017
Social Media	1.43	0.015	1.39	0.019	1.46	0.018	1.37	0.021	1.46	0.017

*Lower means indicate higher pleasantness ratings.

Table 1. Category Means*

	Overall		High Use		Low Use		High Craving		Low Craving	
Contrast	**Est**	**SE**	**Est**	**SE**	**Est**	**SE**	**Est**	**SE**	**Est**	**SE**
Company – Office	-0.006	0.011	-0.011	0.015	-0.002	0.015	-0.048	0.018	0.017	0.013
Company – Social Media	0.023	0.011	0.045*	0.015	0.004	0.015	0.051*	0.018	0.007	0.013
Office – Social Media	0.029*	0.011	0.057**	0.015	0.005	0.015	0.099***	0.018	-0.01	0.013

*** p< .001; ** p< .01; * p< .05

Table 2. Contrasts

Discussion

The results of our experiment both confirm and deepen our understanding of psychological factors associated social media overuse, demonstrating that for users who report frequent use and craving of social media platforms, the mere exposure to social media cues can trigger a hedonic response that is likely to reinforce social media overuse. Specifically, our findings for H1 show that frequent social media users exhibit a comparatively higher level of impulsive hedonic reactions to social media cues than less

frequent users. Moreover, the hedonic reactions to social media cues among frequent users was greater than their reaction to control and comparison cues, while individuals who do not spend a significant amount of time using social media show no difference between their reactions to social media, company, and office logos/icons. These findings suggest that frequent use of social media may engender a greater tendency to react favorably to the presence of a social media logo, which underscores the mutually reinforcing role of the use frequency and exposure to visual cues representing the social media platform.

Our second hypothesis contended that exposure to social media (vs. control and non-social media company) logos summons an impulsive hedonic reaction among users who have high levels of self-reported cravings to use social media platform(s). Prior literature (e.g., Pöyry et al. 2012) suggests that such cravings are more likely to result from hedonic uses of social media than utilitarian uses; thus, while H1 which examines use quantity, H2 explores an indicator of qualitative differences in social media use. As shown in Table 2, our findings also support this hypothesis. Those who reported high levels social media craving demonstrated stronger positive affective reactions to target images associated with social media logos than to those associated with company logos or office products. For theory, these findings suggest that both the quantity and the nature of social media use contribute to positive hedonic reactions associated with visual social media cues.

From a methodological perspective, this study strengthens empirical evidence of the unique role of social media cues in at least two ways. First, by designing an experimental instrument that dynamically displayed social media logos from four popular platforms based on participants' reported use, we show that spontaneous hedonic reactions occur with other platforms beyond Facebook, an important step toward generalizing the findings of this body of research (Van Koningsbruggen et al. 2017). Second, by extending our experimental design to include comparison cues consisting of logos of highly recognized non-social media companies, we sharpen our theoretical inquiry by demonstrating that social media cues elicit hedonic reactions that cannot be attributed to mere familiarity or recognizability.

In addition to providing meaningful theoretical contributions, our results also have important implications for practice. As the usage of social media increases ("Demographics of Social Media Users and Adoption in the United States" n.d.), platforms are beginning to provide ways to assist users in their self-discipline pursuits. For example, in iOS 13 users can schedule time away from the screen, set time limits for apps, and get reports on application usage. The fact that mobile platforms are beginning to empower individuals to limit their usage of certain applications indicates the practical need for a better understanding on why individuals knowingly or unknowingly overuse applications in a manner that is inconsistent with their overarching goals. With an enhanced knowledge of the role of social media logos, industry engineers may consider developing functionality that "hides" social media icons from users on their phones during set times of the day. Perhaps, in this case, the adage "out of sight, out of mind" may assist users in their efforts to appropriately limit social media usage.

Lastly, we acknowledge several limitations that should be considered regarding our study. We note that the demographics of recruited participants (MTurk) may not be representative of the general population. Thus, while we are able to more confidently generalize to other social media platforms aside from Facebook, our ability to generalize our findings to the average social media user is limited. We believe that a targeted study aimed at exclusively measuring self-identifying social media addicts would be fruitful. Lastly, we note that similar to other studies, the cross-sectional nature of our study design limits our ability to definitively isolate causal relationships. Future work may include additional controls and stimuli types such as user experience, emotional laden cues (e.g., photo of a loved one), and other cues and formats associated to social media platforms (e.g., stories).

Conclusion

This study builds on the insights from prior work by offering more generalizable findings regarding the role of social media logos in excessive social media use. Our findings suggest that social media logos trigger a spontaneous hedonic reaction from high-frequency and high-craving users. This observed phenomenon may be partially responsible for explaining why it is so difficult for frequent users to resist the temptation to interact with social media. Further theorization surrounding social media logos should explore mediators of these implicit behavioral reactions to refine our understanding of this growing phenomenon.

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Appendix

Variables*	Items	Factor Loading
Use (Frequency)	On average how many times per day do you get on social media? ["0-1 time", "2-3 times", "3-5 times", "5-10 times", "10 or more times"]	0.872
Use (Duration)	On average how much time do you spend per encounter on social media? ["5 minutes or less", "5-10 minutes", "10-20 minutes", "30 minutes to an hour", "An hour or more"]	0.155**
	On average how many minutes per day do you spend on social media? ["10 minutes or less", "10-30 minutes", "31-60 minutes", "1-2 hours", "2-3 hours", "3+ hours"]	0.872
	During your last encounter on social media how much time did you spend using it? ["5 minutes or less", "5 to 10 minutes", "10 to 20 minutes", "30 minutes to an hour", "An hour or more"]	0.000**
Use (Recency)	When was the last time you used social media? ["Within the last hour", "Earlier today", "Yesterday", "A week ago", "A month ago", "Several months ago", "More than a year ago", "Never"]	0.702
	When was the last time you posted something on social media? ["Within the last hour", "Earlier today", "Yesterday", "A week ago", "A month ago", "Several months ago", "More than a year ago", "Never"]	0.484
Cravings	I want to use social media right now. ["Strongly agree", "Somewhat agree", "Neither agree nor disagree", "Somewhat disagree", "Strongly disagree"]	0.586
	I would love if it was possible to use social media right now. ["Strongly agree", "Somewhat agree", "Neither agree nor disagree", "Somewhat disagree", "Strongly disagree"]	0.466
	I will use social media immediately after I finish this survey. ["Strongly agree", "Somewhat agree", "Neither agree nor disagree", "Somewhat disagree", "Strongly disagree"]	0.637
	I strongly desire to use social media right now. ["Strongly agree", "Somewhat agree", "Neither agree nor disagree", "Somewhat disagree", "Strongly disagree"]	0.734
	I don't need social media at the moment. ["Strongly agree", "Somewhat agree", "Neither agree nor disagree", "Somewhat disagree", "Strongly disagree"]	0.657
	Right now, I'm craving to use social media. ["Strongly agree", "Somewhat agree", "Neither agree nor disagree", "Somewhat disagree", "Strongly disagree"]	0.817

* Adapted from van Koningsbruggen (2017)
** Retained in model to preserve content validity in spite of lower factor loading.

Table 1. Survey Measurement and Factor Loadings