

USING SOCIAL MEDIA WELL: PERCEPTIONS AND PREDICTIONS OF SOCIAL MEDIA
SELF-REGULATION

by

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Submitted to the Graduate Faculty of the
College of Communication
Texas Christian University
In partial fulfillment of the requirements for the degree of
Master of Science in Strategic Communication

May 2020

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2020

ACKNOWLEDGEMENTS

A special thanks is extended to my thesis chair, Dr. Jaqueline Lambiase, and to Drs. Wendy Macias and Qinghua Yang for serving on my thesis committee—your input and support during this process has been invaluable.

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Using Social Media Well: Perceptions and Predictions of Social Media Self-Regulation

With 72% of the adult population in the United States using social media, it is easy to understand why social media research has become important to scholars over the past decade (Ngai, Tao, & Moon, 2015; Perrin & Anderson, 2019b). In the United States, 69% of all adults use Facebook and 73% use YouTube (Perrin & Anderson, 2019a). Instagram and Snapchat are the platforms most used by young adults ages 18-24 at 75% and 73%, while 44% of adults ages 25-29 use Twitter. About three-quarters of Facebook users report logging in every day, with half recording multiple logins a day. Similarly, many young adults are daily users of Snapchat (77%) and Instagram (76%), with over half the users (Snapchat- 68% and Instagram- 60%) reporting multiple daily logins. With so many social media users in the United States, it is important to understand why people are so often engaged with the platforms.

Much research has been done on social media to measure why people use various platforms (Alhabash & Ma 2017; Chen, 2011; Huang, Hsieh, & Wu, 2014; Kircaburun, Alhabash, Tosuntaş, & Griffiths, 2018; Smock, Ellison, Lampe, & Wohn, 2011; Wang, Tchernev, & Solloway, 2012). Recent research has also covered the negative effects of social media such as elevated stress, anxiety, addiction, and depression (Atroszko et al., 2018; Barry, Sidoti, Briggs, Reiter, & Lindsey, 2017; Geng, Han, Gao, Jou, & Huang, 2018; Kross et al., 2013; Kuss & Griffiths, 2017; Lin et al., 2016; Steers, Wickham, & Acitelli, 2014). According to a longitudinal study of over 5,000 participants that measured the association between Facebook use and comprised well-being, “using Facebook was associated with a likelihood of diminished future well-being” (Shakya & Christakis, 2017, p. 210). The quantity of social media interactions, rather than the quality, contributed to this finding. Shakya and Christakis (2017)

suggested that “social media users might do well to curtail their use of social media and focus on real-world relationships” to alleviate the negative effects of overuse (p. 210).

Often, social media self-regulation (i.e., taking breaks from social media for a period of time) is suggested as a means to combat the overuse and negative effects of social media (Osatuyi & Turel, 2018; Schoenebeck, 2014; Tromholt, 2016). This study uses the term self-regulation instead of abstention because abstention often implies a permanent end to the usage behavior instead of an end to the behavior for a period of time. Despite self-regulation being a popular suggestion to users, little research has been done to measure users’ perceptions of social media self-regulation campaigns and users’ intentions to self-regulate their time on social media. Understanding how users perceive social media self-regulation and their intentions to self-regulate is a salient topic for communication scholars and practitioners who hope to better understand how to reach users through social media self-regulation campaigns that demonstrate healthy social media usage. Social media self-regulation campaigns are growing in number as more research is done about the frequency of usage and negative effects of social media (Crane, 2018; La Gorce, 2017; Martin, n.d.).

This study seeks to identify perceptions of social media self-regulation campaigns and to understand users’ intentions to self-regulate social media with the goal of informing future health communication campaigns.

Review of Literature

Health communication campaigns grounded in behavior-change theory have attempted to explain and predict behavior change (Cohen, Shumate, & Gold, 2007; Harrington, Palmgreen, & Donohew, 2014). Both for-profit and nonprofit leaders and organizations are concerned about the negative effects of social media and have created campaigns to combat these effects (Crane,

2018.; La Gorce, 2017; Martin, n.d.). Facebook founding president, Sean Parker, admitted Facebook creates “a social-validation feedback loop ... exploiting a vulnerability in human psychology” and former Facebook vice-president Chamath Palihapitiya explained that these feedback loops are “eroding the core foundations of how people behave” (Hern, 2018, para. 10-11). Nonprofit campaigns have been created to encourage self-regulation (Digital detox campaigns, n.d.). Even Facebook came out with a 2018 campaign encouraging people to interact face-to-face instead of on social media; it stated, “The Best Part of Facebook isn’t on Facebook. Get Together” (Martin, n.d.). Campaigns promoting social media self-regulation often show people foregoing social media to spend time with one another.

This study used the health belief model (HBM) and the theory of planned behavior (TPB) to better understand constructs of behavior theory that best predict social media self-regulation, thus informing future health communication campaigns. Before these two models are discussed, other relevant theories related to media use, social media, and self-regulation will be reviewed.

Uses and Gratifications

Since the mid-20th century, the study of uses and gratifications has been used to explain why people use media (Katz, 1959; Katz, Gurevitch, & Haas, 1973; McQuail, D., Blumler, J., & Brown, J., 1972). Categories based on cognitive needs (acquiring information, knowledge, and understanding), affective needs (emotional, pleasurable, or aesthetic experiences), personal integrative needs (strengthening credibility, confidence, stability, and status), social integrative (strengthening contacts with family, friends, and other important relationships), and tension release needs (escape and diversion) were created by Katz et al. (1973).

More recently, studies have specifically looked at why people use social media. Alhabash and Ma (2017) studied motivations and uses of Facebook, Instagram, Twitter, and Snapchat.

They found that college students' two highest motivations in using these four platforms were for entertainment (i.e., social gratification) and convenience purposes (i.e., technology gratification, information gratification), while information sharing (i.e., content gratification, information gratification) performed equally across all platforms. Wang et al. (2012) found that social media use was driven by emotional, cognitive, social, and habitual needs. Uses and gratifications findings can vary based on the social media platform and the personal characteristics of the user (Kircaburun; 2018; Rathnayake & Winter; 2018).

Understanding why people use social media is necessary to this study because it explains the perceived benefits users receive from social media, as well as the perceived barriers they may experience when trying to self-regulate their time on social media (Hochbaum, 1958; Rosenstock, 1960).

Negative Effects of Social Media Usage

While knowing why people use social media is important, it is equally important to understand the potential negative effects of social media usage. Studies have found that negative effects of social media include elevated levels of stress, anxiety, depression, and addiction (Atroszko et al., 2018; Barry et al., 2017; Geng, et al., 2018; Kross et al., 2013; Kuss & Griffiths, 2017; Lin et al., 2016; Steers, et al., 2014). For example, Atroszko et al. (2018) found that Facebook addiction is related to lower levels of well-being such as higher stress and anxiety. Lin et al. (2016) and Steers et al. (2014) found that social media use was associated with increased depression. Understanding the negative effects of social media is important to this study because they inform the benefits associated with social media self-regulation (i.e., avoiding the negative effects of social media such as anxiety, stress, depression, and addiction).

If users discover how to self-regulate their time on social media, they are more likely to enjoy the positive aspects of the platforms (i.e., entertainment, social interaction, obtaining information, sharing information, and convenience) without experiencing their negative effects.

Self-Regulation

Social media self-regulation is considered an answer to the negative effects of social media. Kuss and Griths (2017) explained that complete abstention is not practical for the average user, but that controlled use and media awareness will lead to healthier social media use. Similarly, the results of Geng et al. (2018) suggest that the negative effects of social media can be reduced by incorporating self-evaluations and self-control. Osatuyi & Tuerel (2018) describe self-regulation as something to be developed as one monitors his or her social media use. A study by Twenge (2019) showed overall well-being was supported by technology self-regulation because it lessened the negative effects of social media.

While research supports self-regulation as a means of overcoming the negative effects of social media, there is limited information on user perceptions of social media self-regulation and campaigns that support it. There is also limited research seeking to understand a person's intention to self-regulate his or her time on social media. A better understanding of user perceptions of social media self-regulation and intentions to self-regulate will help inform future health communication campaigns encouraging social media self-regulation. This study will analyze users' perceptions of three social media self-regulation campaigns and will measure users' intention to self-regulate based on theories of behavior (Hochbaum, 1958; Rosenstock, 1960; Fishbein & Ajzen, 2010).

Health Behavior Theories

The health belief model (HBM) has been used to explain health behavior changes and to inform health behavior interventions (Hochbaum, 1958; Rosenstock, 1960). Key components of the HBM include perceived susceptibility (beliefs about the likelihood of getting a disease or condition), perceived severity (beliefs about the seriousness of contracting a disease or condition, including consequences), perceived benefits (beliefs about the positive aspects of adopting a health behavior), perceived barriers (beliefs about obstacles to performing a behavior, and the negative aspects of adopting a health behavior), cues to action (internal or external factors that could trigger the health behavior), and self-efficacy (beliefs that one can perform the recommended health behavior).

These constructs help predict engagement in a health behavior based on a person's beliefs about the behavior. A common critique of the model is that not all constructs can equally predict behavior (Carpenter, 2010). Perceived benefits and perceived barriers are typically the strongest predictors, while perceived severity is usually among the weakest. It is also important to note that because it is a cognitively based model, it does not consider emotional components. Another popular critique of the model is that efforts to change beliefs based on the HBM components have only partially succeeded in actual behavior change (Vadaparampil et al., 2004).

The theory of planned behavior (TPB), an extension of the theory of reasoned action (TRA), posits that the best predication of behavior is intention (Fishbein & Ajzen, 2010). The key constructs of TPB include: attitude (overall affective evaluation of the behavior), subjective norms (belief about whether most people approve or disapprove of the behavior), and perceived control (overall measure of perceived control over the behavior) which predict a person's intention to perform a behavior.

In this study, the intended behavior change measured was intent to self-regulate social media usage. A few critiques of the TPB relevant to this study are: the constructs of attitude and subjective norm do not have enough individual distinction—if one is influenced the other will also be influenced, intentions do not always predict actual behavior change, and finally the theory assumes that people are rational—which is not always the case (Montano & Kasprzyk, 2015).

Through a cross-sectional survey grounded in health and communication literature, the study applied constructs of the HBM and TPB in order to better understand intentions to self-regulate social media. An integrated theoretical framework that combined constructs from the HBM and TPB was used to determine behavior change intentions (Figure 1). The framework combined constructs of perceived behavior control (Hochbaum, 1958; Rosenstock, 1960) and self-efficacy (Fishebein & Ajzen, 2010) because of the similarities between the two constructs to create one construct, self-efficacy. Additionally, the integrated framework included attitudes and perceived norms (Fishebein & Ajzen, 2010) under the individual beliefs section along with constructs of the HBM (Hochbaum, 1958; Rosenstock, 1960). The modifying factors from the HBM (age, gender, ethnicity, personality, socioeconomics, and knowledge) and the external variables from the TPB (demographic variables, attitudes toward targets, personality traits, and other individual difference variables) were consolidated due to overlapping meanings and were included in the integrated model as the following modifying factors: sociodemographic characteristics, personality, and knowledge.

This integrated framework supported the use of the health belief model (HBM) and the theory of planned behavior (TPB) to better understand constructs of behavior theory that best predict social media self-regulation in order to inform future health campaigns.

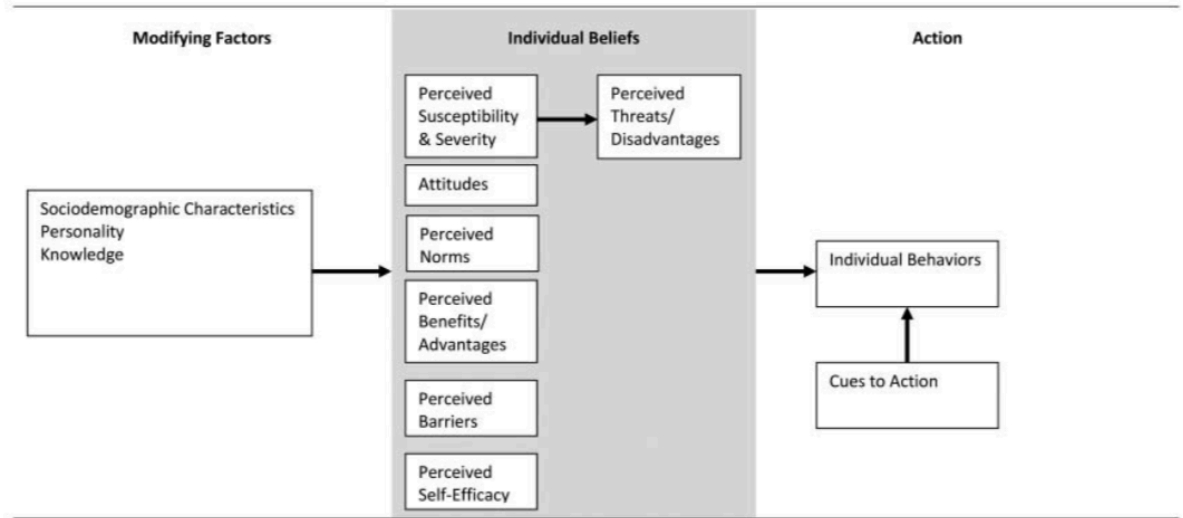


Figure 1: Health Belief Model & Theory of Planned Behavior Integrated Framework (Case et al. 2016)

Research Questions

The literature review revealed that while there are many reasons people choose to use social media (Alhabash & Ma, 2017; Wang et al.; 2012), the overuse of social media can impact a person’s well-being (Shakya and Christakis, 2017). Negative effects of social media use such as elevated levels of stress, anxiety, depression, and addiction have been recorded (Atroszko et al., 2018; Barry et al., 2017; Geng, 2018; Kross et al., 2013; Kuss & Griffiths, 2017; Lin et al., 2016; Steers et al., 2014).

Research suggests that social media self-regulation may lead to healthier social media use that combats its negative effects (Geng et al., 2018; Kuss & Gritths, 2017; Osatuyi & Tuerel, 2018). In order to get this information to the public, health communication campaigns have been created (Crane, 2018; La Gorce, 2017; Martin, n.d.). To better understand how people perceive social media self-regulation campaigns and to predict the likeliness of people choosing to self-regulate their time on social media, this study looked at behavior theory literature. The literature

suggests the HBM and TPB as theories that can successfully predict behavioral intentions (Hochbaum, 1958; Rosenstock, 1960; Fishbein & Ajzen, 2010). Therefore, this study focused on the following two research questions:

RQ1: What are college students' perceptions of social media self-regulation campaigns?

RQ2: Which constructs from the integrated HBM and TPB model are most likely to predict social media self-regulation in college students?

Method

Participants

Participants for this study included 214 college students from a private southwestern university. The study was approved by the Institutional Review Board (IRB) at the researcher's affiliated university prior to data collection. Participants were recruited through communication courses at the university and given extra credit for their participation. The study used a cross-sectional survey to assess participants' perceptions of social media self-regulation campaigns and their intentions to self-regulate their time on social media based on the constructs of the HBM and TPB integrated model (Appendix).

Instrument

The survey was sent out via a Qualtrics link and completed anonymously. Questions about college status, age, and social media usage were used to filter participants. Approximately half of the participants ($N = 99$) were put into a treatment group and were asked to view three campaigns about social media self-regulation (Figures 2-4) and write at least two sentences about their reactions to the campaigns.

- The *Look Up Campaign* (Figure 2) shows two college students studying in a university library. One student is attempting to explain something to the other student who is too

distracted by technology to engage with the other student. Important text on the campaign reads, “Look Up” and “Engage in Conversation” (La Gorce, 2017).



Figure 2: Look Up Campaign (La Gorce, 2017)

- The *Facebook Campaign* (Figure 3) shows a group of friends enjoying a meal together. Important text on the campaign reads, “The Best Part of Facebook isn’t what’s on Facebook. Get Together” (Martin, n.d.).



Figure 3: Facebook Campaign (Martin, n.d.)

- The *Log Off for Love Campaign* (Figure 4) shows silhouettes of a male and female holding hands while on a sunset bike ride. Important text on the campaign reads, “#LogOffForLove” (Crane, 2018).



Figure 4: Log Off For Love Campaign (Crane, 2018)

The campaigns were randomized, and participants submitted a written response based on their reactions to the three campaigns before being directed to the survey questionnaire (Appendix). The survey questionnaire was completed by both the treatment and control group participants. The researcher was interested in exploring if viewing the campaigns before completing the questionnaire would have any significant effect on the participants’ intentions to self-regulate their time on social media.

The open-ended written responses from the treatment group were analyzed in order to answer research question 1: What are college students' perceptions of social media self-regulation campaigns?

An inductive coding method was used to determine significant categories and themes within the data, including those related to the HBM and TPB. As important categories emerged, they were operationalized using key words that were common within each category (Strauss & Corbin, 1998). The researcher, along with another graduate student who was trained in qualitative methods and participated as part of her research assistantship at the university, coded the data based on the following categories that emerged during the textual analysis.

Coding categories for the treatment group's written responses to campaigns:

- 1) General evaluation of the campaigns (positive, negative, mixed, or neutral);
- 2) Identification of the campaigns' purpose (yes or no);
- 3) Evidence of being personally influenced to self-regulate technology/social media by the campaigns (yes or no);
- 4) Evaluation of being personally influenced to self-regulate technology/social media by the campaigns (positive or negative);
- 5) Personal connections/ Engagement (yes or no);
- 6) Perceived Benefits: beliefs about positive aspects of technology/social media self-regulation (yes or no);
- 7) Perceived Threat: beliefs about experiencing the negative effects of technology/social media use or beliefs about the seriousness of not self-regulating technology/social media (yes or no); and
- 8) Favorite Campaign: (Facebook, Log Off For Love, LU, Mixed, None).

The survey questionnaire completed by all participants (Appendix) was designed to measure constructs of the integrated theoretical framework of the HBM and TPB (Figure 1) in order to answer research question 2: Which constructs from the integrated HBM and TPB model are most likely to predict social media self-regulation in college students?

An in-depth literature review of social media uses and gratifications, the negative effects of social media usage, social media and technology self-regulation, and the HBM and TPB guided the adaptations of original scales used to measure behavior intention (Champion, 1999; Guvenc et al., 2011; Fishbein & Ajzen, 2010). Most scale items in this study were measured with a five-point Likert-type scale anchored by “Strongly Disagree” to “Strongly Agree.” Attitude was measured on a five-point bipolar scale. Other survey questions included information about personal social media usage as well as demographic questions such as sex, age, ethnicity, and school year.

In the questionnaire, perceived benefits of social media self-regulation were explained as avoiding the negative effects of social media usage: increased anxiety, stress, depression, and addiction (Atroszko et al., 2018; Barry et al., 2017; Geng et al., 2018; Kross et al., 2013; Kuss & Griffiths, 2017; Lin et al., 2016; Steers, et al., 2014). Perceived susceptibility examined the likelihood of experiencing these negative effects of social media. Perceived barriers of social media self-regulation included missing important information, not knowing how to self-regulate, too much effort, unable to share important information, boredom, missing important social interactions (Alhabash & Ma, 2017; Wang et al.; 2012). Attitude assessed how participants felt about social media self-regulation. Social norm explored how social expectations influence social media self-regulation.

Cronbach's Alpha (α) was found to be reliable for each of the constructs measured. The questionnaire measured constructs of perceived susceptibility ($\alpha=.92$), perceived benefits ($\alpha=.81$), and perceived barriers ($\alpha=.82$) based on scales from Champion (1999). Perceived severity ($\alpha=.81$), subjective norms ($\alpha=.68$), perceived behavior control ($\alpha=.86$), and behavior intention ($\alpha=.94$) were measured based on scales used by Guvenc et al. (2011). Finally, attitude ($\alpha=.73$) was measured based on Fishbein and Ajzen's (2010) scale.

Results

Of the students in the treatment group ($N = 99$), 73.7% were female, with a mean age of about 21 years old ($SD = 1.9$). Of the total 214 college students who participated, 81.2% were female, with a mean age of about 21 years old ($SD = 2.67$). Regarding school year, freshmen accounted for 11.2%, sophomores 20.6%, juniors 27.6%, seniors 36%, and graduate students 4.7%. Participants were asked to "check all that apply" when describing their ethnicity to account for students who identify with more than one ethnicity. White (89.3%) was the most checked, followed by Hispanic or Latino (11.2%), African American (2.8%), Asian or Pacific Islander (1%), African (.5%), Native American or Alaskan Native (.5%), and Middle Eastern (.5%). When asked about their self-regulation behaviors 41.1% ($M = 8.2$, $SD = 1$) answered that they have "sometimes" self-regulated social media for an hour, 40.7% ($M = 7.3$, $SD = .9$) answered that they have "rarely" self-regulated social media for a day, and 54.7% ($M = 6.7$, $SD = .96$) said they have "never" self-regulated social media for a week.

Participants reported using the following social media: Instagram (97.2%), Snapchat (88.3%), Facebook (72%), Twitter (50.5%). About 80% of participants also mentioned using other social media than the ones listed in the survey. The most popular "other" social media mentioned by participants were Tik Tok, YouTube, LinkedIn, VSCO, and Pinterest. When asked

“Which social media do you use most?” participants responded Instagram (64%), Snapchat (23%), Twitter (7.5%), Facebook (3.7%), LinkedIn (.9%), and YouTube (.5%). The average number of followers that participants had on the platform they used the most was 1,574 followers. Participants ranked their reasons for using social media (Alhabash & Ma, 2017) in the following order from 1 as the most primary reason to 5 as the least primary reason: entertainment ($M = 2.16$), social interaction ($M = 2.17$), obtaining information ($M = 3.20$), sharing information ($M = 3.57$), and convenience ($M = 3.90$).

Open-Ended Response Findings

The written responses from the treatment group were coded in order to draw out important categories and themes in the data related to social media self-regulation and self-regulation campaigns. The following findings were organized based on the eight categories that emerged during data analysis: general evaluation of the campaigns, identification of the campaigns’ purpose, evidence of being personally influenced to self-regulate technology/social media by the campaigns, evaluation of being personally influenced to self-regulate technology/social media by the campaigns, personal connections/ engagement, perceived benefits, perceived threat, and favorite campaign. Participant quotations are listed below as part of the findings and are retained in their original form which may contain spelling and grammatical errors. The participants are referred to as “P #.” P standing for participant and then a number based on the numerical order in which the participant’s survey was received. Only students in the treatment group participated in this section of the survey.

General Evaluation of Campaigns. In their general evaluation of the campaigns, most participants gave a mixed (positive and negative) evaluation of the campaigns (43%). This is most likely because they preferred one campaign, but not another within the set of 3. The

evaluation of participants' favorite campaigns gives deeper insight into perceptions of the individual campaigns (see findings for favorite campaigns section below). However, 28% evaluated the campaigns positively overall, 22% gave neutral responses, with only 7% evaluating them negatively. Relevant quotes from the data are shown below to give meaning to the participants' general evaluations of the campaigns:

- “I like the idea of disconnecting to reconnect with those around you. The font on the last campaign looks cheesy and I wouldn't take it seriously. It looks like a meme my grandma would post in Facebook. The first poster is also cheesy and looks like a picture in a middle school textbook. I like the Facebook ad. It's attention grabbing and cool looking.” – P24
- “They were motivating--encouraging me to log off and engage with others. But it did also kind of bother me. It implied because I use social media, I'm not engaged and connected with those around me... which is not true.” - P42

Mixed responses such as the ones above were most common. A theme of “using social media well” emerged during the coding process as participants, like P42, expressed either a desire for the platforms to be utilized in a healthy way, or expressed frustration at the campaigns (specifically LogOff and LU), for making them feel like they did not engage in social interactions because they are too busy on social media.

Identification of the Campaigns' Purpose. In the identification of the campaigns' purpose, 61% of participant responses identified social media or technology self-regulation as the purpose of the campaigns. Coders used key words such as: “self-regulation of technology/social media,” “logging off,” “getting off phone,” and other similar variations of these to operationalize this category. Relevant quotes from the data are shown below as examples for this category:

- “It was clearly sending a message to young adults that they should get off of their phones and engage in face-to-face conversations.” - P38
- “I found all three messages provided a good reason to forgo social media and technology usage for a period of time.” - P85
- “The campaigns were impactful each in their own way. They promoted the idea of hanging up and hanging out, which is very important in this day and age.” - P55
- “I understand the idea. The campaign is trying to get people to get off their phones and enjoy life.” - P61
- “All of the campaign messages were very different in tone and vibes, but gave the same overall message. They were implying that the audience should leave social media and experience life outside of technology.” - P60
- “I found all three messages provided a good reason to forgo social media and technology usage for a period of time.” - P85

Influenced to Self-Regulate Technology/Social Media. For evidence of being personally influenced to self-regulate technology/social media by the campaigns, only 15% of the participants indicated signs of being personally influenced to change behavior. However, because participants were simply asked to record their “reaction” to the campaigns, it is possible that they may have been influenced and failed to record this. Relevant quotes from the data are shown below as examples for this category:

- “If something is going to motivate me to log off, sharing good food with friends would probably do the trick.” - P85

- “I feel convicted of my social media usage. These ads acted as a positive reminder to take time off of social media/my phone to engage with those around me. They reminded me of ‘hang up and hang out.’” - P23
- “I thought the campaigns were clever. The last one didn't grab my attention very much, but the other two made me think about my time on social media and how it is hindering my communication in the real world.” - P45

Evaluation of Being Influenced to Self-Regulate Technology/Social Media. Of those participants who showed signs of being influenced by the campaigns, only one had a negative reaction to the influence.

- “They were motivating--encouraging me to log off and engage with others. But it did also kind of bother me. It implied because I use social media, I'm not engaged and connected with those around me... which is not true.” - P42

Personal Connection/Engagement. For personal connection/engagement, over half of the participants (54%) mentioned something about the campaigns containing themes of personal connections or engagement. Key words such as: “face-to-face,” “real-life,” “relationships,” “engage,” “present,” and other similar variations of these words were used to operationalize this category. Relevant quotes from the data are shown below as examples of personal connection and engagement responses:

- “It was clearly sending a message to young adults that they should get off of their phones and engage in face-to-face conversations. - P38
- “I think it is so important to be present, and not always on social media.” - P30
- “I think it’s an important message to get off your phones and spend time with loved ones”
- P54

- “The campaign is encouraging people to not be on social media all the time. It highlights real life experiences as reasons to not be on your phone all the time.” - P28
- “These campaigns appear to be focused on getting off social media and engaging with people face-to-face. There appear to be multiple avenues the campaigns are trying to utilize. One focuses on friends, the other love, and the other simply on engaging.” - P84

Perceived Benefits. For perceived benefits, 41% of the responses included mention of some kind of benefit the participants perceived as due to social media self-regulation. Perceived benefits is a construct of the HBM that was identified by the researcher in the coding process. For this part of the study, perceived benefits was specifically defined as beliefs about positive aspects of technology/social media self-regulation. Relevant quotes from the data are shown below as examples for this category:

- “The benefits are highlighted through images of people having fun.” - P7
- “It shows how Facebook brings people together to enjoy the good things in life like food, and community events.” - P90
- “The second campaign shows that in-person interactions are better when trying to find love when the interactions you can get online.” - P21
- “The last one was super cute. It made me think that if I logged off my phone, especially with dating apps now, I could find love in the real world. It might not have been as lasting as the second ad, but I really enjoyed it. It was sweet.” - P6
- “I agree with the campaign messages. They are putting people's health and wellness over their product (FB) and emphasizing the importance of genuine conversations.” - P59

Perceived Threat. For perceived threat (Becker, 1974), the HBM constructs of perceived

susceptibility and perceived severity were combined to measure participants' perceptions of the threat involved in self-regulating their social media usage. Responses were placed in this category if they exhibited beliefs about experiencing the negative effects of technology/social media use (perceived susceptibility) or beliefs about the seriousness of not self-regulating technology/social media (perceived severity). Although only 14% of the responses included text that could be coded in the perceived threat category, it is important to acknowledge what the perceptions of the threats associated with self-regulation may be. Relevant quotes from the data are shown below as examples for this category:

- “I thought both campaign messages were very thought provoking and made me think about my own social media usage. It's shocking to realize how much time we spend on our phones or on social media in general and sometimes it's important to take a step back and actually live your life through your own eyes, not through a screen.” - P16
- “Pretty creative and attractive, made me think about how I'm always on my phone.” - P62
- “I liked the one with the image of the person on his phone ignoring the other person because I could see myself in that exact same situation several times a day.” - P75
- “They [the campaigns] made me think about how distracting our world is today in terms of the digital world pervading reality.” - P47
- “I like the message. I think social media can be really harmful when it is used constantly.” - P83
- “I believe that the media has encouraged people to not physically interact with others in a social setting. Furthermore, it is encouraging the younger generation to not socially interact with their peers, which could lead to problems in the future.” - P72

- “I thought the campaigns were clever. The last one didn't grab my attention very much, but the other two made me think about my time on social media and how it is hindering my communication in the real world.” - P45
- “These campaign messages how the most effective way of communicating is face to face and experiencing things in real life. Social media is negatively impacting today’s society and people are forgetting about the plenty of real-life opportunities they have to experience.” - P41
- “I thought the designs were average but the messaging was straight forward and strong. As a society, we really put social media as a higher priority than necessary and should focus more on social interaction.” - P43

Favorite Campaign. Many participants gave opinions about the individual campaigns in the open-ended response. Thus, favorite campaign, was a natural category addition that gave meaning to individual campaign elements that viewers of social media self-regulation campaigns may rate positively or negatively. About 33% of participants rated the Facebook campaign as their favorite, while 50% did not specify a campaign preference in their responses. The remaining percentages accounted for 8% Log Off For Love, 5% Mixed responses, and 3% Look Up. Following are relevant quotes taken from the data that give insight into the participants’ perceptions of social media self-regulation campaigns.

Facebook

- “If something is going to motivate me to log off, sharing good food with friends would probably do the trick.” - P85
- “I really liked the first message because it said that the best part of Facebook isn’t on Facebook and I think that’s what I love about social media is it’s ability to connect

people. I had never seen this ad or seen any copy like it before so I think that's another reason it stuck out to me." – P4

- “The Facebook campaign was smart because it portrayed Facebook as a way to enhance ones [sic] social life not just online, but offline as well.” - P82
- “I thought it did an effective job explaining that Facebook's purpose is to aid people in getting out and engaging with people face to face.” - P53
- “It made me realize that the whole point of Facebook is to make connections with people. Meanwhile, people aren't usually taking the time to make connections with others outside of the platform.” - P57
- “The Facebook ad was engaging. The angle was interesting and drew your eye in toward the message.” - P20
- “I understood it best, and the images were bright and clear.” - P37
- “I appreciate the second [Facebook] ad for emphasizing the value of social media while pointing to the priority of what it can facilitate.” - P97
- “It portrayed social media as something that can be useful for interpersonal communication, like an aid.” - P11

Although there were not many negative responses to the Facebook campaign in this study, social media self-regulation campaigns should be cognizant of whether or not audiences will consider their message authentic.

- “I think this is a good ad for Facebook but it's not really representative of what Facebook is. I think that Facebook is almost entirely online connections and communications. Facebook rarely leads to activities like the one in the ad in my opinion.” - P50

Log Off For Love

- “The first campaign image gave off a message to me that in order to create meaningful relationships that matter, you must log off and look outside social media. That online relationships are great but you cannot truly know a person.” - P57
- “I like this campaign. It emphasizes that you should not let social media interfere with your relationships, and that relationships are better without the distraction of social media, which I agree with.” - P50
- “The last one was super cute. It made me think that if I logged off my phone, especially with dating apps now, I could find love in the real world. It might not have been as lasting as the second ad, but I really enjoyed it. It was sweet.” - P6
- “The second one was good but seemed too specific to relationships.” - P96
- “Seem to be more on the side of condescension, lecturing individuals for social media use.” - P97
- “[Log Off For Love and Look Up] made it seem like social media is preventing socialization, which I don’t agree with.” - P11
- “I was more confused with the purpose of this ad. I believe that the main focus was to get off your phone for love. I like the idea of getting off of our phones but don't think that "Love" is the way to appeal to younger audiences.” - P68
- “The logoff campaign was honestly hard to read. It took me a second to decipher it. Also, it seemed over the top and had a very vsco, instagram vibe.” - P82
- “The second one, while good in theory, needs some refinement because when I initially saw it I read it as "Lo Goff for Love," and it wasn't until looking at it for a while that I realized it was actually "Log Off for Love."” -P37

- “Failed to grab my attention. The colors were bland and overall design did not make me want to read the information.” - P20

Look Up

- “It was good to see the campaign about looking up and being more engaged with your surroundings.” - P90
- “The second one was cheesy, however it did make sense and it gets the point across that we shouldn’t be on our phones all the time when we are with someone else.” - P78
- “The third one was the least visually appealing but it was the most obvious about the message, which I liked. I often feel like the guy in the picture not using the phone so that was effective.” - P96
- “I think the first one with the man on his phone is a situation I encounter a lot. You’ll be excited about something or trying to have a conversation and you have to fight for full attention when no one else is there.” - P34
- “This seems like a simple campaign that everyone can relate to. We all know how it feels to be with someone who can't get off their phone. It may also help people realize that they are often that person.” - P50
- “The first one the colors were very overpowering so it was hard to focus on the message.” - P33
- “Ad seemed like a typical ad from a university that's promoting mental health, student well-being, etc. I do not think the ad will be very effective to target college kids. Additionally it didn't stand out to me visually so if it were a poster on a wall and I was breezing by it, I would not notice it.” - P77

- “I think that the one from LU University was probably my least favorite simply because the wording was the most commonly used phrasing in ads about getting off social media.” - P4
- “The first campaign message was very busy and hard to follow. At first I wasn't sure what the message was, and the red tint was very distracting.” - P80
- “Cheesy and looks like a picture in a middle school textbook.” - P24

Further analysis of the findings of the qualitative data in this section are included in the discussion section.

Survey Questionnaire Findings

The researcher was interested in exploring if responses to the survey questionnaire would differ between the treatment group that viewed the campaigns (Figures 2-4) before completing the questionnaire and the control group that only completed the questionnaire. A *t*-test confirmed that there was no significant difference between the treatment group and control group survey responses (Table 1). This may be because social media self-regulation is already a salient issue for many college students or because the campaigns were not persuasive enough to change the minds of those for whom this issue is unimportant. Also, it might be that no significant difference was found because the benefits associated with the three campaigns shown to the treatment group (i.e., personal connections and real-life engagement) did not match the benefits found in the literature which were used in the survey questionnaire (i.e., avoiding the negative effects of social media usage which literature shows are anxiety, stress, depression, and addiction).

Table 1

T-Test Comparing Treatment and Control Group Survey Responses

Variable	M (SD) Treatment	M (SD) Control	t	Sig (2-tailed)
Perceived Susceptibility	5.97 (1.06)	5.94 (.98)	.19	.846
Perceived Severity	3.04 (.81)	2.98 (.92)	.52	.605
Perceived Benefits	3.53 (.58)	3.50 (.76)	.17	.867
Perceived Barriers	2.92 (.77)	2.94 (.86)	-.23	.815
Subjective Norm	3.20 (.66)	3.07 (.78)	1.34	.182
Attitude	4.92 (.95)	4.93 (.92)	-.10	.917
Perceived Behavior Control	4.15 (.60)	4.27 (.57)	-1.43	.152
Behavior Intention	3.75 (.85)	3.66 (.93)	.686	.493

The second research question intended to examine which constructs from the integrated HBM and TPB model (Figure 1) are most likely to predict social media self-regulation in college students. The constructs of perceived susceptibility, perceived benefits, perceived barriers, perceived severity, subjective norm, attitude, perceived behavioral control, and behavior

intention were examined through correlation and multiple regression analyses in SPSS (Tables 2-4).

Table 2

Correlation Matrix Depicting Relationships Between HBM And TPB Constructs

Variable	1	2	3	4	5	6	7	8
1. PSUS	-	.241**	.341**	.531**	.328**	.046	-.095	.290**
2. PBN		-	-.040	.330**	.337**	.342**	.087	.421**
3. PBR			-	.381**	-.014	-.258**	-.361**	-.148*
4. PSEV				-	.364**	.132	-.118	.263**
5. SBN					-	.389**	.049	.513**
6. ATT						-	.215**	.537**
7. PBC							-	.198**
8. BIN								-

Note. ** = correlation is significant at the 0.01 level (2-tailed). * = correlation is significant at the 0.05 level (2-tailed). The abbreviated variables are as follows: PSUS = perceived susceptibility, PBN = perceived benefits, PBR = perceived barriers, PSEV = perceived severity, SBN = subjective norm, ATT = attitude, PBC = perceived behavior control, BIN = behavior intention.

Most of the constructs were significantly related to one another (Table 2). Notably, perceived susceptibility and perceived severity had a significant relationship, $r(214) = .531, p < 0.001$. This explains that participants who believed they were susceptible to the negative effects of social media, such as increases in anxiety, stress, depression, and addiction, also believed that there are serious consequences for not self-regulating their time on social media. These participants were afraid of the consequences of failing to self-regulate time on social media. See

Appendix for specific items that measured these constructs. HBM literature combines perceived susceptibility and perceived severity to explain the perceived threat of the intended behavior (Hochbaum, 1958; Rosenstock, 1960).

Another important relationship that was found in the study is that between perceived benefits and behavioral intention, $r(214) = .421, p < 0.001$. Participants who believed in the benefits of self-regulation (i.e., avoiding increased anxiety, stress, depression, and addiction related to social media use), also intended to self-regulate their time on social media.

Perceived barriers was found to negatively relate to behavior intention, $r(214) = -.148, p < .05$. Thus, participants believed barriers to self-regulation (i.e., missing important information, not knowing how to self-regulate time on social media, expending too much effort to self-regulate, the inability to share important information, boredom, and missing important social interactions) also tended to rate social media self-regulation as less important. These barriers should be addressed by health communicators hoping to persuade audiences to self-regulate their time on social media as they are significantly related with one's intention to self-regulate. HBM literature explains that perceived benefits and perceived barriers are the constructs most likely to predict behavior change, thus it is important to note the relationships between the perceived benefits and behavior intention and perceived barriers and behavior intention (Skinner & Champion, 2015).

Subjective norm was found to positively relate to attitude $r(214) = .389, p < 0.001$. This finding explains that participants who are concerned about social norms—whether most people approve or disapprove of social media self-regulation—also report a positive attitude toward social media self-regulation. This finding is consistent with TPB literature which explains that if the construct of subjective norm is impacted, attitude will most likely be impacted as well

(Fishbein and Ajzen, 2010). Subjective norm and attitude were both significantly related to behavior intention, $r(214) = .513, p < 0.001$ and $r(214) = .537, p < 0.001$.

Table 3

Multiple Regression Analysis of HBM Constructs Predicting Social Media Self-Regulation

Variable	β	t
Perceived susceptibility	.24	3.379**
Perceived severity	.13	1.752
Perceived benefits	.29	4.553**
Perceived barriers	-.24	-3.317**
Perceived behavior control	.14	2.159*

Note. The regression controlled for age and gender.

** $p < .001$

* $p < .05$

A multiple regression (Table 3) was conducted to evaluate how well the HBM independent variables (perceived susceptibility, perceived benefits, perceived barriers, perceived severity, and perceived behavioral control) could predict the dependent variable (behavior intention). The linear combination of the independent variables was significantly related to an individual's behavior intention (intention to self-regulate time on social media): $F(5, 206) = 16.75, p < 0.001$. The sample multiple correlation coefficient, R , was .55, which indicates that approximately 30% of the variance of behavior intention could be accounted for by the linear combination of perceived susceptibility, perceived benefits, perceived barriers, perceived severity, and perceived behavioral control. This finding shows that the HBM is a good starting point in predicting a person's intention to self-regulate their time on social media as it accounts for 30% of the variance in the person's behavior intention.

The following variables accounted for some of the unique variance in behavior intention: perceived susceptibility ($t = 3.38, p < .001, \beta = 0.24$), perceived benefits ($t = 4.553, p < .001, \beta = 0.29$), perceived barriers ($t = -3.32, p < .001, \beta = -.24$), and perceived behavior control ($t = 2.16, p < .05, \beta = 0.14$). Therefore, perceived susceptibility, perceived benefits, perceived barriers, and perceived behavior control can help predict an individual's intention to self-regulate his or her time on social media—with the first three variables being the most salient for predicting behavior intention. This follows HBM literature findings which explain that perceived benefits and perceived barriers are the two variables in the HBM that are most likely to predict behavior intention (Skinner & Champion, 2015).

In this study, a person's beliefs about the perceived benefits of social media self-regulation (i.e., avoiding increased anxiety, stress, depression, and addiction due to social media use) helped to predict their intention to self-regulate their social media usage. Likewise, a person's beliefs about the perceived barriers of social media self-regulation (i.e., missing important information, not knowing how to self-regulate, too much effort, unable to share important information, boredom, missing important social interactions) helped to predict their intention to self-regulate their social media usage. A unique finding in this study was that participants' beliefs about their susceptibility to the negative effects of social media usage was predictive of their intentions to self-regulate their social media usage.

Perceived severity was the only variable not shown to add anything to one's ability to predict a person's behavior intention in this study. Thus, participants' beliefs about the severity of not self-regulating their time on social media were not predictive of their intentions to self-regulate social media. This result also follows HBM literature which suggests that perceived severity is not a good predictor of behavior intention (Carpenter, 2010).

Table 4

Multiple Regression Analysis of TPB Constructs Predicting Social Media Self-Regulation

Variable	β	t
Attitude	.38	6.385**
Subjective norm	.35	5.956**
Perceived behavior control	.11	1.930

Note. The regression controlled for age and gender.

** $p < .001$

A second multiple regression (Table 4) was conducted to evaluate how well the TPB independent variables (attitude, subjective norm, and perceived behavior control) could predict the dependent variable (behavior intention). The linear combination of the independent variables was significantly related to an individual's behavior intention (intention to self-regulate time on social media): $F(5, 208) = 29.44, p < 0.001$. The sample multiple correlation coefficient, R , was .64, which indicates that approximately 41% of the variance of behavior intention could be accounted for by the linear combination of attitude, subjective norm, and perceived behavioral control. This finding indicates that the TPB is a good starting point in predicting a person's intention to self-regulate their time on social media as it accounts for 41% of the variance in the person's behavior intention.

The following variables accounted for some of the unique variance in behavior intention: attitude ($t = 6.39, p < .001, \beta = 0.38$) and subjective norm ($t = 5.96, p < .001, \beta = 0.35$).

Therefore, a participants' overall evaluation of social media self-regulation (attitude) and their beliefs about whether most people approve or disapprove of social media self-regulation (subjective norm), can help predict their intention to self-regulate time on social media.

Perceived behavior control was not shown to add anything to one's ability to predict a person's behavior intention in this study. Further analysis of the survey questionnaire findings is expanded in the following discussion and recommendation sections.

Discussion

The negative consequences of social media use and overuse continue to be a concern for researchers and health campaign creators alike (Atroszko et al., 2018; Barry, et al., 2017; Crane, 2018; Geng, 2018; Kross et al., 2013; Kuss & Griffiths, 2017; La Gorce, 2017; Lin et al., 2016; Martin, n.d; Steers, et al., 2014). With over three-fourths of the United States population using social media, and with most users logging in multiple times a day, it is important to consider how to use social media well (Perrin & Anderson, 2019a). While the phrase "using social media well" could lend itself to various suggestions, this study looked specifically at social media self-regulation as a means of minimizing the negative effects of social media that can impact user well-being.

To better understand social media self-regulation, this study examined perceptions of social media self-regulation campaigns and the use of the HBM and TPB to predict a person's intention to self-regulate his or her time on social media. The findings from this study are valuable to health campaign creators hoping to design messages that encourage social media self-regulation as a means of "using social media well."

The qualitative portion of the study found that college students who viewed the self-regulation campaigns and answered the open-ended response prefer social media self-regulation campaigns that show audiences how social media can be used as a tool to create face-to-face connections offline. This idea of "using social media well" was expressed often in positive participant responses. It was important to participants that campaigns not contain themes

associated with social media negatively impacting socialization. These campaigns may elicit a boomerang effect as they actually frustrate audiences who may feel that they still socialize (in-person; face-to-face) often, despite also constantly using social media.

Real-life experiences (i.e., relationship building, engaging face-to-face) and experiencing health and wellness were common benefits of social media self-regulation mentioned in the findings. A key theme mentioned throughout the open-ended response data was personal connection. Participants found that creating personal connections outside of social media can motivate social media self-regulation behaviors. Too much time spent on social media was found to be a perceived threat that related to the negative effects of social media use, although participants did not particularly describe why time spent was a threat. Too much time spent on social media may result in compromised well-being (Shakya & Christakis, 2017), which might be why participants mentioned that their time spent on social media is a threat.

The actual design of the campaign mattered to the participants as well. Participants preferred the simple text, bright colors, and engaging photo angle of the Facebook campaign to the difficult to read Log Off For Love and Look Up campaigns. These findings help one understand college students' perceptions of social media self-regulation campaigns.

The quantitative findings from the questionnaire measured participants' intention to self-regulate their time on social media. An integrated framework of constructs from the HBM and TPB was used to predict behavior intention. The findings showed significant correlations among several of the constructs as seen in Table 2. Most notable, were the relationships found between perceived benefits and behavior intention and perceived barriers and behavior intention. This relational connection to behavior intention is important because it suggests that participants who perceive the benefits of social media self-regulation (i.e., avoiding increased anxiety, stress,

depression, and addiction) as important are also likely to intend to self-regulate their time on social media. The significant negative relationship between perceived barriers and behavior intention explains that participants who view social media self-regulation barriers as salient (i.e., missing important information, not knowing how to self-regulate, too much effort, unable to share important information, boredom, missing important social interactions) are less likely to self-regulate their time on social media.

Regression analyses showed that perceived benefits, perceived barriers, perceived susceptibility, attitude, and subjective norm were the constructs most likely to predict behavior change. Literature about the HBM supports perceived benefits and perceived barriers as the most likely predictors of behavior intention (Blavos et al., 2014; Gerend and Shepherd, 2012; Ross et al., 2010; Skinner and Champion, 2015). Therefore, more discussion of these two constructs is necessary to understand their impact on a person's intention to self-regulate their time on social media.

The perceived benefits of avoiding increased anxiety, stress, depression, and addiction as a result of social media use predicted participants' intentions to self-regulate their social media use. Kuss and Griffiths (2017) explained 10 lessons learned from social media addiction research and wrote that "the Internet and social networking have become integral elements of our lives," and that because of this, users "should focus on establishing controlled [social media] use" in order to avoid its negative effects (p. 12). As people realize the benefits of social media self-regulation, they will seek to self-regulate their social media use. Controlled social media use may take various forms. Osatuyi and Tuerel (2018) suggest "age-appropriate social self-regulation interventions might be required for effective awareness and internalization" of healthy social media use behaviors (p. 103). For older adults, seminars and workshops about self-regulation are

suggested, while campaigns on social media platforms about the benefits of self-regulation may be more successful for reaching the young adult population (Osatuyi and Tuerel, 2018).

The perceived barriers which predicted participants' intentions to self-regulate their time social media (i.e., missing important information, not knowing how to self-regulate, too much effort, unable to share important information, boredom, missing important social interactions) should be compared to the order in which participants in this study ranked their reasons for using social media. Participants ranked the following five reasons from 1 as the most primary reason to 5 as the least primary reason: entertainment ($M = 2.16$, $SD = 1.25$), social interaction ($M = 2.17$, $SD = 1.25$), obtaining information ($M = 3.20$, $SD = 1.21$), sharing information ($M = 3.57$, $SD = 1.25$), and convenience ($M = 3.90$, $SD = 1.14$). Entertainment and social interaction were ranked as most important by the participants. This furthers the study's knowledge of potential barriers and suggests that people may be more reluctant to self-regulate their time on social media if they feel that their entertainment or social interactions might be impacted.

According to this study, perceived benefits and perceived barriers along with perceived susceptibility, attitude, and subjective norm can predict a person's intention to self-regulate his or her time on social media. Although this discussion focused on the ability of the HBM perceived benefits and barriers to predict behavior intention, it is important to note that other studies that have analyzed these two theories together may focus on TPB constructs as most salient for predicting behavior intention. Gerend and Shepherd's (2012) study of HPV vaccine uptake utilized constructs of the HBM and TPB. It found that while both theories could predict uptake of the vaccine, the TPB outperformed HBM. The constructs of attitude and subjective norm also outperformed HBM in this study. The following section considers recommendations

for future social media self-regulation campaigns based on the qualitative and quantitative findings of this study.

Recommendations for Future Social Media Self-Regulation Campaigns

Based on the findings of this study, some specific suggestions for campaign creators follow:

First, highlight perceived benefits of social media self-regulation in campaigns (i.e. avoiding the negative effects of social media usage—anxiety, stress, depression, and addiction). People’s positive beliefs about these benefits are likely to influence their decision to self-regulate their time on social media. Campaign creators should also consider including the benefits of self-regulation mentioned by participants in the open-ended responses (i.e. real-life experiences and health and wellness).

Second, include perceived barriers of social media self-regulation (i.e. missing important information, not knowing how to self-regulate, too much effort, unable to share important information, boredom, missing important social interactions). Campaign creators should address these barriers in campaigns as they are salient reasons that people choose to not engage in social media self-regulation. Participants in this study rated social interactions as a primary reason for using social media. The qualitative analysis of the open-ended responses supports this as it showed that participants value face-to-face social interactions. Face-to-face social interactions can have a positive impact on well-being (Shakya and Christakis, 2017). Therefore, a campaign that focuses on self-regulation behaviors that enhance social interactions should be impactful and help decrease the salience of some of the perceived barriers.

Third, in order to incorporate the construct of perceived susceptibility in campaigns, the audience must feel that they are likely to experience the negative effects of social media. The findings show that perceived benefits is significantly related to perceived susceptibility, $r(214) =$

.241, $p < 0.001$ (Table 2). Therefore, it is possible that a campaign which successfully targets the perceived benefits is also likely to influence participants' perceived susceptibility.

Fourth, attitude and subjective norm were also able to predict participants' intentions to self-regulate their time on social media. It is important for campaign creators to consider implementing these constructs into their campaign design depending on the campaign's target population (du Prè, 2014). For example, a campaign may use messaging that targets a population's or person's subjective norms to show that "most people who are important to the target audience" support social media self-regulation.

Finally, participants appreciated campaigns that showed them how to use social media well. Many participants favored the Facebook campaign because it was not focused on avoiding social media completely, but it showed them how social media could be used to create real-life experiences. It also encouraged them to get off Facebook in order to enjoy those experiences. Campaigns should not represent complete social media abstention, but should show audiences how to self-regulate social media in a healthy way that avoids its negative effects and results in benefits like personal face-to-face connections.

Limitations and Future Research

The study used a college student sample that was not representative of the general population of college students. Although college-aged students are heavy users of social media, the results cannot be generalized to the total population of social media users in college. Future research should consider similar studies as this one, but with participants of more diverse demographics that are nationally representative of college students.

The cross-sectional nature of the study is also a limitation. Without studying this population of college students longitudinally, it is more difficult to determine clear variable patterns

of social media self-regulation perceptions and social media self-regulation intentions that will be consistent over time.

Another limitation is that the benefits (i.e. personal connections and real-life engagement) associated with the three campaigns shown to the treatment group did not match the benefits found in the literature which were used in the survey questionnaire (i.e., avoiding the negative effects of social media usage which literature shows are anxiety, stress, depression, and addiction). This may be why there was not a significant difference between the treatment and control group answers to the survey questionnaire. Future studies should seek to match the benefits found in literature or through elicitation interviews with the benefits displayed in self-regulation campaigns. This consideration should be taken for any of the constructs of the HBM or TPB that are being measured in a study. See Sangalang et al. (2019) study for ideas about selecting beliefs about a health behavior for future health campaign content.

In conclusion, this research adds to social media and behavior-change literature by exploring users' perceptions of social media self-regulation campaigns and measuring intention to self-regulate social media using constructs of the HBM and TPB. This study offers suggestions for future health communication campaigns that aim to help people self-regulate their time on social media, thus encouraging them to use social media well.

Appendix: Survey Questionnaire

1. How old are you?

The following questions will ask about your use of social media. For each question, please choose between statements on a scale of 1 to 5 (5 means “Strongly Agree”, 4 means “Somewhat Agree”, 3 means “Neutral/No opinion”, 2 means “Somewhat Disagree”, and 1 means “Strongly Disagree”).

**Health Belief Model Measurements
(Champion, 1999)**

Perceived susceptibility:

1. It is likely I will experience the negative effects of social media, such as increases in anxiety, stress, depression, addiction, etc.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5
_____	_____	_____	_____	_____

2. My chances of experiencing the negative effects of social media, such as increased anxiety, stress, depression, addiction, etc. in the next few years are high.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5
_____	_____	_____	_____	_____

3. I feel I will experience the negative effects of social media, such as increased anxiety, stress, depression, addiction, etc. sometime during my life.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5
_____	_____	_____	_____	_____

IMPORTANT: This section will ask about your social media **self-regulation**. Self-regulation is intentionally choosing to **stop using social media for a period of time**.

Self-regulation **DOES NOT** describe times when you must stop using social media such as in class, while sleeping, on an airplane, etc.

Self-regulation describes times in which you **CHOOSE to stop using social media** for a period of time to engage in another activity.

For each question, please choose between statements on a scale of 1 to 5 (5 means “Almost Always”, 4 means “Very Often”, 3 means “Sometimes”, 2 means “Rarely”, and 1 means “Never”).

Extra Questions

1. I have self-regulated (intentionally stopped using) social media for an hour.

Never 1	Rarely 2	Sometimes 3	Very Often 4	Almost Always 5
_____	_____	_____	_____	_____

2. I have self-regulated (intentionally stopped using) social media for a day.

Never 1	Rarely 2	Sometimes 3	Very Often 4	Almost Always 5
_____	_____	_____	_____	_____

3. I have self-regulated (intentionally stopped using) social media for a week.

Never 1	Rarely 2	Sometimes 3	Very Often 4	Almost Always 5
_____	_____	_____	_____	_____

For each question, please choose between statements on a scale of 1 to 5 (5 means “Strongly Agree”, 4 means “Somewhat Agree”, 3 means “Neutral/No opinion”, 2 means “Somewhat Disagree”, and 1 means “Strongly Disagree”).

Perceived benefits:

1. Self-regulating my time on social media will help me avoid their negative effects (i.e. increased anxiety, stress, depression, addiction).

Strongly disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree 5
_____	_____	_____	_____	_____

2. Self-regulating my time on social media is the BEST way for me to avoid their negative effects such as increased anxiety, stress, depression, addiction, etc.

Strongly disagree 1	Disagree 2	Neutral 3	Agree 4	Strongly Agree 5
_____	_____	_____	_____	_____

3. If I self-regulate my time on social media, this will decrease my chances of experiencing their negative effects such as increased anxiety, stress, depression, addiction, etc.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5
_____	_____	_____	_____	_____

4. If I self-regulate my time on social media, my symptoms of their negative effects (i.e. increased anxiety, stress, depression, addiction, etc.) may not be as bad.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5
_____	_____	_____	_____	_____

5. If I self-regulate my time on social media and this does not reduce their negative effects (i.e. increased anxiety, stress, depression, addiction, etc.), I will not worry about their negative effects in the future.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5
_____	_____	_____	_____	_____

Perceived barriers

Social media uses and gratifications literature informing barrier questions: Alhabash & Ma 2017; Chen, 2011; Kircaburun, Alhabash, Tosuntaş, & Griffiths, 2018; Wang, Tchernev, & Solloway, 2012; Whiting & Williams, 2013

1. I'm afraid to self-regulate my time on social media because I might miss important information.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5
_____	_____	_____	_____	_____

2. I don't know how to self-regulate my time on social media.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5
_____	_____	_____	_____	_____

3. Self-regulating my time on social media takes too much effort.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5
_____	_____	_____	_____	_____

4. I won't be able to share important information if I self-regulate my time on social media.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5
_____	_____	_____	_____	_____

5. I will be bored if I self-regulate my time on social media.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5
_____	_____	_____	_____	_____

6. I will miss important social interactions if I self-regulate my time on social media.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5
_____	_____	_____	_____	_____

(Guvenc et al., 2011)

Perceived severity:

1. The thought of experiencing the negative effects of social media usage such as increased anxiety, stress, depression, and addiction scares me.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5
_____	_____	_____	_____	_____

2. Problems I would experience with the negative effects of social media usage such as anxiety, stress, depression and addiction would last a long time.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5
_____	_____	_____	_____	_____

3. Negative effects of social media usage such as increased anxiety, stress, depression and addiction would threaten my relationship with my partner.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5
_____	_____	_____	_____	_____

4. I am afraid to think about the negative effects of social media usage such as increased anxiety, stress, depression, and addiction.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5
_____	_____	_____	_____	_____

Subjective Norms:

1. Most people who are important to me think I should self-regulate my time on social media.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5
_____	_____	_____	_____	_____

2. Most people whose opinion I value would approve if I self-regulated my time on social media.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5
_____	_____	_____	_____	_____

3. Most people I respect and admire will self-regulate their time on social media.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5
_____	_____	_____	_____	_____

4. Most people like me have self-regulated their time on social media.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5
_____	_____	_____	_____	_____

Perceived Behavior Control:

1. My performance of self-regulating my time on social media is completely up to me.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5
_____	_____	_____	_____	_____

2. If I really wanted to, I could self-regulate my time on social media.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5
_____	_____	_____	_____	_____

3. For me, self-regulating my time on social media is under my control.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

4. I am confident that I can self-regulate my time on social media.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

Behavior Intention

1. In the future, I intend to self-regulate my time on social media.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

2. I will self-regulate my time on social media.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

3. I plan to self-regulate my time on social media.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

Planned Behavior Measurements (Fishbein and Ajzen, 2010)

Attitude:

1. My decision to self-regulate my time on social media is

Bad	_____	_____	_____	_____	_____	_____	Good
	-3	-2	-1	0	1	2	3
	extremely	quite	slightly	neither/nor	slightly	quite	extremely

2. My decision to self-regulate my time on social media is

Unpleasant	_____	_____	_____	_____	_____	_____	Pleasant
	-3	-2	-1	0	1	2	3
	extremely	quite	slightly	neither/nor	slightly	quite	extremely

3. My decision to self-regulate my time on social media is

Harmful	_____	_____	_____	_____	_____	_____	Beneficial
	-3	-2	-1	0	1	2	3
	extremely	quite	slightly	neither/nor	slightly	quite	extremely

4. My decision to self-regulate my time on social media is

Boring _____ Interesting
- 3 - 2 - 1 0 1 2 3
extremely quite slightly neither/nor slightly quite extremely

Now, please answer these last **few questions about yourself**. Answers to these questions will be used for the purpose of aggregating data and you will **NOT** be asked your name or identity. Please select the answer that best describes you.

1. How much time do you spend daily on social media?
_____ hours _____ minutes
2. Which social media do you use? Check all that apply.
_____ Facebook
_____ Instagram
_____ Twitter
_____ Snapchat
_____ Other, please specify
3. Which social media platform do you use most?
_____ Facebook
_____ Instagram
_____ Twitter
_____ Snapchat
_____ Other, please specify
4. How many followers or friends do you have on the platform you use most?

5. What is the primary reason you use this social media platform? (Use your mouse to drag items into rank order 1 means "most primary" 5 means "least primary."
_____ Social Interaction
_____ Convenience
_____ Obtaining Information
_____ Entertainment
_____ Information Sharing
6. What is your gender?
_____ Female
_____ Male
_____ Other, please specify
7. What is your ethnicity? Check all that apply.
_____ African American

- Asian or Pacific Islander
- Hispanic or Latino
- Native American or Alaskan Native
- White
- Other, please specify

8. What year in school are you?

- Freshman
- Sophomore
- Junior
- Senior
- Graduate Student

References

- Alhabash, S., & Ma, M. (2017). A tale of four platforms: Motivations and uses of Facebook, Twitter, Instagram, and Snapchat among college students? *Social Media + Society*, 3(1), 205630511769154. doi:10.1177/2056305117691544
- Atroszko, P. A., Balcerowska, J. M., Bereznowski, P., Biernatowska, A., Pallesen, S., & Schou Andreassen, C. (2018). Facebook addiction among Polish undergraduate students: Validity of measurement and relationship with personality and well-being. *Computers in Human Behavior*, 85, 329-338. doi:10.1016/j.chb.2018.04.001
- Barry, C. T., Sidoti, C. L., Briggs, S. M., Reiter, S. R., & Lindsey, R. A. (2017). Adolescent social media use and mental health from adolescent and parent perspectives. *Journal of Adolescence*, 61, 1-11. doi:10.1016/j.adolescence.2017.08.005
- Becker, M.H. (Ed.). (1974). *The health belief model and personal health behavior*. Thorofare, NJ: Charles B Slack.
- Blavos, A. A., Glassman, T., Sheu, J. J., Diehr, A., & Deakins, B. (2014). Using the health belief model to predict bystander behavior among college students. *Journal of Student Affairs Research and Practice*, 51(4), 420-432.
- Carpenter, C. J. (2010). A meta-analysis of the effectiveness of health belief model variables in predicting behavior. *Health Communication*, 25(8), 661-669.
- Case, K., Crook, B., Lazard, A., & Mackert, M. (2016). Formative research to identify perceptions of e-cigarettes in college students: Implications for future health communication campaigns. *Journal of American College Health*, 64(5), 380-389. doi:10.1080/07448481.2016.1158180

- Champion, V. L. (1999). Revised susceptibility, benefits, and barriers scale for mammography screening. *Research in Nursing & Health*, 22(4), 341-348. doi:10.1002/(SICI)1098-240X(199908)22:4<341::AID-NUR8>3.0.CO;2-P
- Chen, G. M. (2011). Tweet this: A uses and gratifications perspective on how active Twitter use gratifies a need to connect with others. *Computers in Human Behavior*, 27(2), 755-762. doi:10.1016/j.chb.2010.10.023
- Cohen, E. L., Shumate, M. D., & Gold, A. (2007). Anti-smoking media campaign messages: Theory and practice. *Health Communication*, 22(2), 91-102. doi:10.1080/10410230701453884
- Crane, Beth. (2018). Valentine's day 2018: #logoffforlove digital detox challenge. *Time to Log Off*. Retrieved from <https://www.itstimetologoff.com/2018/02/08/log-off-for-love-valentines-digital-detox-challenge/>
- Digital detox campaigns. (n.d.). Retrieved from <https://www.itstimetologoff.com/digital-detox-campaigns/>
- du Pré, A. (2014). *Communicating about health: Current issues and perspectives*. New York, NY: Oxford University Press.
- Fishbein, M., & Ajzen, I. (2010). *Predicting and changing behavior: The reasoned action approach*. New York: Psychology Press.
- Glanz, K., Rimer, B. K., Viswanath, K., & ProQuest Academic Complete. (2015). *Health behavior: Theory, research, and practice* (Fifth ed.). San Francisco, CA: Jossey-Bass.
- Guvenc, G., Akyuz, A., & Açikel, C. H. (2011). Health belief model scale for cervical cancer and pap smear test: Psychometric testing. *Journal of Advanced Nursing*, 67(2), 428-437. doi:10.1111/j.1365-2648.2010.05450.x

- Harrington, N. G., Palmgreen, P. C., & Donohew, L. (2014). Programmatic research to increase the effectiveness of health communication campaigns. *Journal of Health Communication, 19*(12), 1472-1480. doi:10.1080/10810730.2014.954082
- Hern, Alex (2018). 'Never get high on your own supply' – Why social media bosses don't use social media. Retrieved from <https://www.theguardian.com/media/2018/jan/23/never-get-high-on-your-own-supply-why-social-media-bosses-dont-use-social-media>
- Hochbaum, G. M. (1958). *Public participation in medical screening programs: A socio-psychological study*. Washington DC: U.S. Department of Health, Education, and Welfare.
- Huang, L., Hsieh, Y., & Wu, Y. (2014). Gratifications and social network service usage: The mediating role of online experience. *Information & Management, 51*(6), 774-782. doi:10.1016/j.im.2014.05.004
- Katz, E. (1959). Mass communication research and the study of popular culture: An editorial note on a possible future for this journal. *Studies in Public Communication, 2*, 1-6.
- Katz, E., Gurevitch, M., and Haas, H. (1973). On the use of the mass media for important things. *American Sociological Review, 38*, 164-181.
- Kircaburun, K., Alhabash, S., Tosuntaş, Ş., & Griffiths, M. (2018). Uses and gratifications of problematic social media use among university students: A simultaneous examination of the big five of personality traits, social media platforms, and social media use motives. *International Journal of Mental Health and Addiction, 1-23*. doi:10.1007/s11469-018-9940-6
- Kross, E., Verduyn, P., Demiralp, E., Park, J., Lee, D. S., Lin, N., ... & Ybarra, O. (2013). Facebook use predicts declines in subjective well-being in young adults. *PloS One, 8*(8).

- Kuss, D., & Griffiths, M. (2017). Social networking sites and addiction: Ten lessons learned. *International Journal of Environmental Research and Public Health*, 14(3), 311.
- La Gorce, T. (2017). Digital detox: First, look up! Retrieved from <https://www.nytimes.com/2017/04/07/education/edlife/digital-detox-at-liberty-university.html>
- Martin, L. (n.d.). Facebook - Get Together. Retrieved from <https://www.lukeamartin.com/get-together>
- McQuail, D., Blumler, J., and Brown, J. (1972). The television audience: A revised perspective. In D. McQuail, ed., *Sociology of Mass Communications*. England: Penguin.
- Montano, D. E., & Kasprzyk, D. (2015). Theory of reasoned action, theory of planned behavior, and the integrated behavioral model. *Health behavior: Theory, research and practice*, 70(4), 231.
- Ngai, E. W., Tao, S. S., & Moon, K. K. (2015). Social media research: Theories, constructs, and conceptual frameworks. *International Journal of Information Management*, 35(1), 33-44.
- Osatuyi, B., & Turel, O. (2018). Tug of war between social self-regulation and habit: Explaining the experience of momentary social media addiction symptoms. *Computers in Human Behavior*, 85, 95-105. doi:10.1016/j.chb.2018.03.037
- Perrin, A. & Anderson, M. (2019a). Share of U.S. adults using social media, including Facebook, is mostly unchanged since 2018. Retrieved from <https://www.pewresearch.org/fact-tank/2019/04/10/share-of-u-s-adults-using-social-media-including-facebook-is-mostly-unchanged-since-2018/>
- Perrin, A. & Anderson, M. (2019b). Social media fact sheet. Retrieved from <https://www.pewresearch.org/internet/fact-sheet/social-media/>

- Rathnayake, C., & Winter, J. S. (2018). Carrying forward the uses and gratifications 2.0 agenda: An affordance-driven measure of social media uses and gratifications. *Journal of Broadcasting & Electronic Media*, 62(3), 371-389. doi:10.1080/08838151.2018.1451861
- Rosenstock, I. M. (1960). What research in motivation suggests for public health. *American Journal of Public Health and the Nations Health*, 50, 295-302.
- Ross, T. P., Ross, L. T., Rahman, A., & Cataldo, S. (2010). The bicycle helmet attitudes scale: using the health belief model to predict helmet use among undergraduates. *Journal of American College Health*, 59(1), 29-36.
- Schoenebeck, S. (2014). Developing healthy habits with social media: Theorizing the cycle of overuse and taking breaks. *Proceeds of SIGCHI*.
- Shakya, H. B., & Christakis, N. A. (2017). Association of Facebook use with compromised well-being: A longitudinal study. *American Journal of Epidemiology*, 185(3), 203-211.
- Skinner, C. S., Tiro, J., & Champion, V. L. (2015). Background on the health belief model. *Health behavior: Theory, research, and practice*, 75.
- Smock, A., Ellison, N., Lampe, C., & Wohn, D. (2011). Facebook as a toolkit: A uses and gratification approach to unbundling feature use. *Computers in Human Behavior*, 27(6), 2322-2329. doi:10.1016/j.chb.2011.07.011
- Steers, M. L. N., Wickham, R. E., & Acitelli, L. K. (2014). Seeing everyone else's highlight reels: How Facebook usage is linked to depressive symptoms. *Journal of Social and Clinical Psychology*, 33(8), 701-731.
- Strauss, A., & Corbin, J. (1998). *Basics of Qualitative Research* (2nd ed.). Thousand Oaks, CA: Sage.

Tromholt, M. (2016). The Facebook experiment: Quitting Facebook leads to higher levels of well-being. *Cyberpsychology, Behavior, and Social Networking*, 19(11), 661-666.

doi:10.1089/cyber.2016.0259

Vadaparampil, S. T., Champion, V. L., Miller, T. K., Menon, U., & Skinner, C. S. (2004). Using the health belief model to examine differences in adherence to mammography among African-American and Caucasian women. *Journal of Psychosocial Oncology*, 21(4), 59-79.




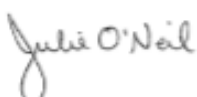
Wang, Z., Tchernev, J., & Solloway, T. (2012). A dynamic longitudinal examination of social media use, needs, and gratifications among college students. *Computers in Human Behavior*, 28(5), 1829-1839. doi:10.1016/j.chb.2012.05.001



BOB SCHIEFFER
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Using Social Media Well: Perceptions and Predictions of Social Media Self-Regulation

Thesis approved:

	4/16/20
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Lisa Helen Nottoli was born October 27, 1989, in Fort Worth, Texas. She is the daughter of Anthony and Janice Owens. She received a Bachelor of Science degree with a major in Education from Baylor University, Waco, in 2012.

After receiving her undergraduate degree, she taught English at Birdville High School, North Richland Hills, TX. She then founded an anti-human trafficking organization—Unbound Fort Worth, for which she served as Executive Director from 2013-2017.

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She is married to Joseph David Nottoli of Fort Worth. They have three children—Luke, Brooks, and Carolyn.

ABSTRACT

USING SOCIAL MEDIA WELL: PERCEPTIONS AND PREDICTIONS OF SOCIAL MEDIA SELF-REGULATION

by Lisa Nottoli, Graduate Student, Department of Strategic Communication, Texas Christian University

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Social media are often part of everyday life; while they can elicit positive experiences, there are also negative effects to consider. Communicators have attempted to combat these negative effects through health campaigns. This study examined college students' perceptions of social media self-regulation campaigns and intentions to self-regulate time on social media. The health belief model (Rosenstock, 1960) and the theory of planned behavior (Fishbein & Ajzen, 2010) were used to predict social media self-regulation intentions. Participants ($N = 214$) were divided into two groups. The treatment group viewed social media self-regulation campaigns and wrote about their reactions to the campaigns before responding to a questionnaire based on HBM and TPB constructs which measured intention to engage in social media self-regulation (completed by both groups). Results showed that college students prefer campaign messages that explain how to “use social media well”—as a tool to make face-to-face connections offline. Five of the seven constructs from HBM and TPB significantly predicted social media self-regulation.

Implications for future health campaigns and social media self-regulation are discussed.

Keywords: social media, self-regulation, health belief model, theory of planned behavior, uses and gratifications, anxiety, depression, stress, addiction, health campaigns, behavior theory