Stuck on Social Media:
Predicting Young Adults' Intentions
to Limit Social Media Use

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Concerns of social media overuse warrant examinations of factors influencing the use of these technologies. While studies have characterized people's adoption and use of social media, few have examined factors that would drive individuals to limit their use. This study uses an extended theory of planned behavior to predict intentions to limit social media use. A survey of 216 college students asked participants to report their intensity of Facebook, Instagram, and Snapchat use, as well as attitudes, social norms, and perceived behavioral control on intentions to limit social media use.

Findings indicate that the standard theory of planned behavior constructs successfully predicted participants intentions to limit social media use, while intensity of use was mediated by social norms. The study suggests that participants' emotional connectedness toward social media is an antecedent of certain variables, such as perceived social norms, which in turn predicts their intent to limit use of these media.

Keywords: social media intensity, social media use, Facebook, Instagram, Snapchat, theory of planned behavior

A ccording to Pew Research (2018), approximately 88% of young adults aged 18-24 use at least one social media account. Although Facebook is still the preferred social media platform by most Americans across a wide range of demographics, young adults aged 18-24 are moving toward newer platforms such as Snapchat and Instagram. According to Pew Research (2018), 78% of young adults aged 18-24 use Snapchat, and 71% use Instagram, with most using the platforms multiple times per day. Despite the uptake in young adults' willingness to adopt newer platforms, 87% of young adults aged 18-29 still report using Facebook (Duggan, 2015), suggesting that young adults are adding newer social media platforms to their media mix rather than replacing older platforms (e.g., Facebook) with newer ones (e.g., Instagram).

Studies examining the average time spent on social media range from two hours (Mander, 2016) to eight hours a day in select populations, such as college students (Alhabash & Ma, 2017). Given the rapid adoption rate of multi-platform use as well as the continued increase in daily use, researchers are beginning to investigate the consequences of social media overuse in young adults. For example, Kross, et al. (2013) found that the more participants used Facebook, the more their life satisfaction levels declined. In a series of experiments, Sagioglou and Greitemeyer (2014) found that the more time people spent on Facebook, the more negative they felt afterwards. The effect was mediated by participants feeling that they had not accomplished anything meaningful. Tromholt (2016) ran a one-week experiment to examine how Facebook use affected well-being. In a study with 1,095 participants, Tromholt (2016) compared participants who took a break from Facebook to participants who continued to use Facebook and found that the participants who discontinued Facebook, experienced increases in life satisfaction as well as more positive emotions.

Despite evidence that social media overuse is prevalent in young adults as well as the potential negative effects to the well-being of its users, few studies examine the factors that would drive individuals to limit their social media use. To date, studies examining these factors focus on the influence of technostress and fatigue on Facebook discontinuation. Technostress is defined as "stress experienced by individuals due to the use of ICT" (Ragu-Nathan, Tarafdar, Ragu-Nathan, & Tu, 2008, p. 418) whereas fatigue is defined as a feeling of discomfort accompanied by decreased motivation and physical energy. For example, Luqman, Cao, Ali, Masood, and Yu (2017) applied the stimulus-organism-response (SOR) framework to predict participants likelihood of discontinuing Facebook. The SOR model posits that aspects of the environment will act as stimulus that affect an individual's internal state and will drive behavior (Mehrabian & Russell, 1974). In an experiment, Luqman et al. (2017) found that excessive social use (e.g., communication with other users), excessive hedonic use (e.g., photo sharing, playing games) and excessive cognitive use (e.g., information seeking) induces technostress and exhaustion, which, in turn, predicted intentions to discontinue Facebook. Similarly, in a survey of students at South Korean University, Lee, Son, and Kim (2015) found that

information overload, communication overload, and system feature overload significantly predicted social media fatigue.

Although these studies may help explain why some people choose to discontinue Facebook, they are limited in their application. First, Pew Research (2018) suggests that many young adults are moving toward newer social media platforms such as Instagram and Snapchat and motivations for using these sites differ from that of Facebook (Alhabash & Ma, 2017). Therefore, it cannot be assumed that the same variables predicting technostress and exhaustion carry from Facebook to newer platforms such as Instagram and Snapchat. Second, these studies do not consider the possibility that social media users may be adopting newer platforms (e.g., Instagram) after experiencing technostress or fatigue from older ones (e.g., Facebook). It is possible that technostress and fatigue predict platform shifting rather than social media discontinuation. Third, studies measuring the relationship between technostress and fatigue and social media discontinuation don't consider how attitudes and perceptions extending beyond the affected internal state impact behavior change. For example, social norms may play a key role in how individuals contextualize their social media use. Therefore, this study suggests a model to better predict social media limiting behavior to address multi-platform limiting intentions as well as the social and cultural aspects of social media use in addition to individual perspectives such as attitudes.

The purpose of this study is to examine if the theory of planned behavior can predict young adults' intentions to limit their social media use. Given the potential complex motivations for social media use (e.g., social capital, boredom relief, addictive), the Multidimensional Facebook Intensity Scale (Orosz, Király, & Bőthe, 2016) is used as an additional variable to extend the model. To date, research has primarily focused on measuring social media use from a single social media platform (e.g. Facebook). However, studies suggest multi-platform use to be more common among young adults than single platform use (Alhabash & Ma, 2017; Smith & Anderson, 2018). Therefore, this study includes young adults' social media intensity patterns for three platforms popular among young adults: Facebook, Instagram, and Snapchat.

LITERATURE REVIEW
Theory of Planned Behavior

The theory of planned behavior (TPB) posits that behavior intention accurately predicts if an individual will carry out the behavior in question, given the individual can voluntarily decide to engage in the behavior in question. The more strongly an individual *intends* to perform a behavior, the more likely the individual is to perform the behavior (Ajzen, 1991). According to Ajzen (1991), intentions are determined by attitude, subjective norm, and perceived behavioral control. Attitude refers to how positive or negative an individual evaluates the affective and instrumental factors making up the behavior in question. Subjective norm refers to how much social pressure an individual perceives to exist from important others to perform or not perform a behavior. Last, perceived behavioral control (PCB) refers to how much control the individual feels that they have in completing the behavior in question (Baker & White, 2010).

A meta-analysis of TPB demonstrated the theory can predict approximately 39% of the variance in behavior intention and 27% of the variance in actual behavior (Armitage & Conner, 2001). Therefore, it is common for studies to use the theory of planned behavior alongside additional variables to increase the amount of variance a model can predict when examining behavior intentions.

Although typically used to predict health-related behaviors, the theory of planned behavior has also been used to predict adolescent media use (Baker and White, 2010; Pelling & White, 2009; Tian & Robinson, 2017). For example, Baker and White (2010) tested an extended theory of planned behavior model that incorporated group norms and self-esteem to predict frequency social media use. The study had adolescents ($n = 160$) complete a questionnaire measuring attitudes, social norms, PBC, self-esteem, group norms, and intentions. Participants in the study waited one week before they were asked to self-report their frequency of social media use. The study found that attitudes, social norms, and PBC accounted for approximately 35% of the variance in intentions to use social media more often (i.e., number of times per day) and group norms accounted for an additional 10% of variance in intentions to use social media more often. However, when group norms (e.g., most of my friends will socialize online) was introduced into the regression analysis, subjective norms (e.g., most people who are important to me want to

socialize with me online) became insignificant. As suggested by Baker and White (2010), this could indicate that group norms may be a better predictor of behavior intention when explaining the role of social influence. Overall, the findings suggest that when it comes to social media, adolescents are highly influenced by what they perceive their friends to be doing and what they approve of compared to other significant others, such as parents (Baker & White, 2010).

Pelling and White (2009) also tested an extended model of TPB to explain frequent social media use in college students ($n = 233$) aged 17-24. Like Baker and White (2010), attitudes and subjective norms did predict intentions. However, unlike Baker and White (2010), Pelling and White (2009) found that PBC did not significantly predict intentions. Additionally, Pelling and White (2009) found that wanting to belong, or "belongingness", did not predict intentions. Although these studies demonstrate that the theory of planned behavior can be used in studying social media use, the studies are somewhat inconsistent in explaining the roles of social influence and PBC.

One key difference between previous research that predicts social media use (Baker & White, 2010; Pelling & White, 2009) and the current study is that the current study is looking at predictive factors leading to behavior intentions to *limit* social media use rather than behavior intentions to *engage* in frequent social media use. This study argues that intentions to engage in social media are distinct than intentions to limit social media use for a variety of reasons. First, the motivations for engaging in social media are different than motivations for limiting social media. For example, engaging in frequent social media use may be driven by motivations to stay in touch with friends, while limiting social media use may be driven by a desire to distance oneself. Second, it cannot be assumed that the theory of planned behavior constructs (attitudes, subjective norms, PBC) are transferrable across these two unique contexts. For example, an individual's PBC toward engaging in social media will likely differ than their PBC toward limiting social media. To engage in social media, a user may feel they have behavioral control if they perceive themselves as having the technological resources, computer skills, and social networking abilities. Whereas, to limit social media use, a user may feel they have behavioral control if they perceive themselves as having the willpower to reduce their use as well as access to alternative communication technologies. Although the theory of planned behavior has

successfully predicted intentions to engage in frequent social media use, without empirical support it cannot be assumed that the theory of planned behavior can predict intentions to limit social media use. However, research to date on social media use still serves as a guide in hypothesizing the likely predictors of intentions to limit social media use.

Based on the research of Baker and White (2010) and Pelling and White (2009), attitudes should predict intentions to limit social media use. Additionally, given the predictability of group norms (Baker & White, 2010) and subjective norms (Pelling & White, 2009), a combined measurement of social norms should predict intentions to limit social media use. Although Pelling and White (2009) found PBC not to be a significant predictor of social media use, Pew Research (2018) found that Americans vary in their perceptions of social media use control. Although most Americans perceive an ability to disconnect from social media, perceptions of difficulty in disconnecting have increased in recent years (Smith & Anderson, 2018). Given this variability, it is hypothesized that PBC will predict intentions to limit social media as outlined below.

> **H1.** Attitudes toward limiting social media use will predict intentions to limit social media use.
>
> **H2.** Social norms toward limiting social media use will predict intentions to limit social media use.
>
> **H3.** Perceived behavioral control toward limiting social media use will predict intentions to limit social media use.

Social Media Use

Social media are "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content" (Kaplan & Haenlein 2010, p. 61). Since the rise of social media and throughout its continued increase in popularity among young adults, scholars have taken different approaches in studying its use. While some scholars study social media habits and motivations (Kwon, D'Angelo, & McLeod, 2013; Papacharissi & Mendelson, 2011; Quan-Hasse & Young, 2010; Sheldon & Bryant, 2016) others have focused on social media intensity (Ellison, Steinfield, & Lampe, 2007; Orosz et al., 2016) and psychology has delved into problematic use (Andreassen & Pallesen, 2014; Young, Kuss, Griffiths, & Howard, 2017; Koc & Gulyagci, 2013).

The concepts of motivations, intensity, and problematic use warrant an important distinction. Problematic use is an excessive preoccupation with social media use that impairs an individual's ability to carry out normal tasks such as school or work (Andreassen & Pallesen, 2014). Motivations typically reflect why someone uses social media and intensity examines the level of involvement someone has while using social media (Orosz et al., 2016). Research has found that high intensity has been associated with problematic use (Andreassen, Torsheim, Brunborg, & Pallesen, 2012) and that certain motivations, such as escapism, have been associated with problematic use (Masur, Reinecke, Ziegele, & Quiring, 2014). However, individuals using social media with high intensity do not necessarily exhibit problematic use.

Generally, scholars have studied the motivations for using specific social media platforms rather than motivations for general social media use. For example, Papacharissi and Mendelson (2011) interviewed Facebook users to uncover motivations for use. Responses identified seven motivations for Facebook use that include habitual passing of time, relaxing entertainment, expressive information sharing, escapism, cool new trend, companionship, and professional advancement. Similarly, Kwon et al. (2013) surveyed college students ($n = 152$) and identified Facebook motivations of information seeking, entertainment, communication, social relations, escape, and Facebook applications. Quan-Haase and Young (2010) identified six motivations that include pastime (e.g., "entertainment, "relaxation, "escape"), affection, fashion, sharing problems, sociability, and social information.

Although fewer studies have examined the motivations of use behind newer platforms such as Instagram and Snapchat, recent studies have begun to uncover such motivations. In a survey of college students ($n = 239$), Sheldon and Bryant (2016) found that the main motivations for Instagram use were surveillance, documentation, coolness, and creativity. Additionally, a survey of Korean Instagram users ($n = 212$) identified five motivations of use including social interaction, archiving, self-expression, escapism, and peeking (Lee, Lee, Moon, & Sung, 2015). Examining the two studies together reveals that Sheldon and Bryant (2016) and Lee et al. (2015) uncovered similar motivations but slightly reworded. For example, what Sheldon and Bryant (2015) call "documentation" and "surveillance" Lee et al. (2015) call "archiving" and "peeking."

Some studies have made the case that studying social media intensity provides the best approach to capturing the emotional connectedness behind social media use (Orosz, et al., 2016). Ellison et al. (2007) created the first Facebook intensity scale to measure the time an individual spends on Facebook as well as the strength of involvement an individual exerts while on Facebook. Ellison et al. (2007) found that Facebook intensity was strongly associated with different forms of social capital, particularly bridging social capital. Bridging social capital refers to loose connections, or "weak ties," between individuals. These weak ties can help provide individuals with new perspectives as well as useful information but not emotional support (Granovetter, 1982). Ellison et al. (2007) also found bonding social capital (i.e., strong ties an individual has between close friends and family) as well as motivations to maintain social capital to be associated with Facebook intensity.

More recently, Alhabash and Ma (2017) adapted items from Ellison et al. (2007) Facebook intensity scale to measure the intensity of four platforms: Facebook, Twitter, Instagram, and Snapchat. The study examined the relationship between motivations and intensity and found that the strongest predictor of intensity was the motivation to use platforms for entertainment. However, the study found differences amongst the platforms. For example, Facebook intensity was predicted by motivations of self-documentation, convenience, and self-expression. Instagram intensity was predicted by motivations of self-documentation and passing time. Snapchat intensity was predicted by motivations of convenience and self-expression.

More than a decade has passed since the original construction of the Ellison et al. (2007) Facebook intensity scale, and the items on the scale may no longer fully capture the intensity behind social media use given the rapidly changing social media environment (e.g., more platforms, features, new technology, etc.). Therefore, Orosz et al. (2016) developed an updated Facebook intensity scale that broke Facebook use into four dimensions: persistence of use, use to overcome boredom, overuse, and self-expression. According to Orosz et al. (2016) the Multidimensional Facebook Intensity Scale refers to the "strength of involvement in the activity itself and it intends to grasp the magnitude of the integration of Facebook into one's everyday life" (p. 96). In this construct of intensity,

the measurement is meant to compliment the other facets of social media research such as motivations and problematic use (Orosz et al., 2016).

Similar to Alhabash and Ma (2017), this study measures the intensity of three popular social media platforms among college students: Facebook, Instagram, and Snapchat. However, this study uses the Multidimensional Facebook Intensity Scale to get a more updated perspective of multi-platform intensity. Furthermore, this study uses intensity of use as a variable to predict young adults' intentions to limit social media use. Similar to evidence that excess use can cause a "burnout" effect and cause Facebook discontinuation (Luqman, et al., 2017; Ravindran et al., 2014), this study suggests intensity, as a measurement of perceived emotional connectedness toward social media in daily life, will be associated with young adults' intentions to limit social media.

As suggested by Baker and White (2010), social influence is likely to play a role in that young adults will be influenced by what they perceive their friends are doing. Therefore, it is possible that intensity's ability to predict social media use limiting behavior will be relative to young adults' perceptions of how intense they use social media compared to others as well as what important others think of their social media use. That is, intensity may only predict intentions to limit social media use if it is mediated by social norms. A direct effect of intensity on intentions as well as a mediated effect will be tested. The following hypotheses are offered:

H4a. Social media intensity will predict intentions to limit social media use.

H4b. Social norms will mediate the relationship between social media intensity and intentions to limit social media use.

METHODS
Sample

Upon study approval by the University's institutional review board, undergraduate students from a large western university were offered extra credit to participate in a survey that examined social media use and intentions to limit social media use. To qualify for the study, students had to be users of one or more of the following platforms: Facebook, Instagram, or Snapchat.

A total of 481 students received the recruiting message. Two hundred and thirty-four consented to participate. Of the 234 students, 18 were removed from the study for completing less than 50% of the survey or falling outside the target age range, leaving a final sample size of $n = 216$ students (43.1% male, 56.9% female) aged $18 - 25$ years ($M = 22.14$, $SD = 1.50$). The study's response rate was 44.9%. Of our participants, 91.9% report using Facebook, 89.3% report using Instagram, and 93.3% report using Snapchat.

Design

Students who agreed to participate in the study were given a self-administered survey to collect information on their social media use and intentions to limit social media use. After agreeing to participate in the study, participants were asked which platforms they *personally* use (not work or school-related use). Participants were filtered to questions related to the platforms they selected. First, participants answered questions related to platform intensity. Following intensity of use, participants answered questions on their attitudes, perceived social norms, and perceived behavioral control related to limiting social media use. After, they answered questions on their intentions to limit their social media use in the next three months. Last, demographics were collected from participants including age, gender, college major, and race.

Operational Measures

Intensity of use

Intensity of use was measured using the 5-point Likert Multidimensional Facebook Intensity Scale which ranged from strongly agree (1) to strongly disagree (5), where lower scores corresponded to lower intensity of use. The scale was applied to all three platforms assessed in this survey. Multiple items on the scale were reversed coded to ensure that lower scores corresponded to lower intensity. Orosz et al. (2016) developed the Multidimensional Facebook Intensity Scale (MFIS) to "assesses self-reported information regarding the extent to which participants engage in Facebook activities and measure the involvement in Facebook use" (Orosz et al., 2016, p. 102). They conducted three studies to formulate and validate a more complex way to view Facebook use as defined by existing scales (i.e. Ellison et al., 2007). They identified four dimensions and 13 items of social media use, including persistence (affective and behavioral aspects of habitual use), boredom relief (affective and behavioral aspects of using social media to pass time),

overuse (for a typical, and not exceptional or addicted user), and self-expression (affective and behavioral aspects of customizing online profile).

The MFIS was adapted to the current study by substituting Instagram and Snapchat in the survey items. Therefore, participant's intensity of use was measured for each individual platform they used. For example, the following survey item, "I feel bad if I don't check my Facebook daily," was adjusted to fit Snapchat and Instagram by substituting Facebook with Instagram and Snapchat. Reliabilities of the intensity scales for the three social media platforms were all above α = .80. Mean intensity scores for the three social media platforms were all at, or slightly above, midpoint (Table 1).

A mixed model with a subject random effect and a fixed effect for each social media platform was used to examine if the intensity scores between social media platforms differed significantly. This model accounts for correlation between responses within a subject as well as variability between subjects. Like Alhabash and Ma (2017), this study found Facebook intensity to be significantly lower than Snapchat and Instagram intensity. Table 2 reports the significance with Bonferroni adjustments for multiple comparisons.

Table 1.
Means, Standard Deviations, and Scale Reliabilities for Intensity of Use

Platform	*M*	*SD*	α
Facebook	2.54	.76	.87
Instagram	3.09	.85	.91
Snapchat	2.97	.91	.93

Note. Intensity scores ranged from 1 = low to 5 = high

Table 2.
Mean differences and significance values between social media platforms

Platform	*Compared Platforms*	*Mean Difference*
Facebook	Instagram	-.548*
	Snapchat	-.447*
Instagram	Facebook	.548*
	Snapchat	.101
Snapchat	Facebook	.447*
	Instagram	-.101

Note. *p < .001.

Theory of planned behavior

The core determinants of the TPB (i.e., attitudes, perceived social norms, perceived behavioral control) were used to predict intentions (i.e. limiting social media use). Although the survey was crafted with the general guidance of Ajzen's 2013 questionnaire, all items used to measure the constructs of TPB were adapted from Ho, Lwin, and Lee (2017). Ho, Lwin, and Lee (2017) examined how these TPB factors were related to neuroticism, extraversion, need to belong, self-esteem, and self-identity, as well as how TPB could be extended to predict problematic social media use. Each variable was measured using a 5-point Likert scale that ranged from strongly agree (1) to strongly disagree (5). However, upon data analysis scales were reversed to clarify that a higher score is associated with higher attitude, social norms, PBC, and intentions. Scale reliability and mean scores are reported in Table 3.

Attitude

Attitudes toward limiting social media use was measured using four items. Sample items include "It would be good for me to reduce the amount of time I spend on social media" and "I would find it pleasant to reduce the amount of time I spend on social media." One item, "I would be bored if I reduced the amount of time I spend on social media.", was reverse coded. This item was later removed from the scale to improve reliability.

Social norms

Perceived social norms regarding social media limiting behavior was measured using four items. Items on the scale contained items aimed at measuring both subjective norms and group norms. Sample items include "Most people who are important to me think I should reduce the amount of time I spend on social media" (subjective norm) and "Most of my friends spend less time on social media than I do" (group norm).

Perceived behavioral control

Perceived behavioral control regarding social media limiting behavior was measured using four items. This scale did not reach sufficient reliability, and two questions were removed. The items "Whether or not I reduce the amount of time I spend on social media is completely up to me" and "I am confident if I wanted to, I could reduce the amount of time I spend on social media" were significantly correlated. Therefore, these

two items were used to measure PBC. The two-item scale reliability and correlation between mean scores are reported in Table 3.

Intentions

This study developed a 6-item scale to measure intentions to limit social media use within the next three months. An exploratory factor analysis was performed on the scale using principal component method of extraction. The data revealed a single factor holding an eigenvalue of 3.53, accounting for 58.8% of the variance in the data. Scale items and factor analysis results are reported in Table 4.

Table 3.
Means, Standard Deviations, and Scale Reliabilities for Theory of Planned Behavior

Measure	M	SD	Reliability
Attitude	3.74	.87	α= .95
Social Norms	2.46	.67	α= .73
PBC	4.11	.64	α= .52, r= .36*
Intentions	2.90	.77	α= .86

Note. Attitudes, social norms, and PBC scores ranged from 1 = low to 5 = high.
*$p < .001$.

Table 4.
Results of the Factor Analysis on the Intentions to Limit Social Media Use Scale

Item	Factor loadings
I intend to reduce the number of times I post on social media	.820
I intend to spend less time scrolling through my social media feeds	.759
I intend to reduce the amount of times I alter or manage my social media profiles	.778
I intend to reduce the amount of time I spend messaging my friends on social media	.780
I intend to spend less time managing the quality of my images before posting	.677
I intend to reduce the amount of times I check my social media notifications throughout the day	.779

Last, a correlation matrix with significance values between platform intensity scores and theory of planned behavior variables are reported in Table 5.

Table 5.
Correlation Matrix Among Intensity, Attitudes, Social norms, PBC, and Intentions

Pearson Correlation	FB intensity	IG intensity	SC intensity	Attitudes	Social norms	PBC	Intentions
FB intensity	1	.332*	.133	.261*	.281*	.032	.129
IG intensity	.332*	1	.502*	.153*	.249*	.073	.013
SC intensity	.133	.502*	1	.186*	.297*	-.008	.048
Attitudes	.261*	.153*	.186*	1	.417*	.003	.542*
Social norms	.281*	.249*	.297*	.417*	1	-.063	.459*
PBC	.032	.073	-.008	.003	-.063	1	.094
Intentions	.129	.013	.048	.542*	.459*	.094	1

Note. *$p < .001$.

RESULTS
Regression Analysis Predicting Intentions

A hierarchical regression analysis was used to examine the predictors of intentions to limit social media use. The standard TPB variables of attitudes, social norms, and PBC were entered at step 1, with each platform intensity subsequently entered at steps 2-4. For step 1, a significant regression equation was found ($F(3, 212) = 41.99$, $p < .001$), with an adjusted R^2 of .37. Facebook intensity was added for step 2, and a significant regression equation was found ($F(4, 187) = 22.18$, $p < .001$), with an adjusted R^2 of .31. However, Facebook intensity was not a significant predictor in the model, $p > .05$. Additionally, the overall predictability of the model decreased approximately 6% when Facebook intensity was included. Instagram intensity was added for step 3, and a significant regression equation was found ($F(5, 172) = 16.59$, $p < .001$, with an adjusted R^2 of .31. Like Facebook intensity, Instagram intensity was not a significant predictor in the model, $p > .05$. Last, Snapchat was added for step 4. Again, a significant regression equation was found ($F(6, 160) = 11.86$, $p < .001$, with an adjusted R^2 of .28. Snapchat intensity was not a significant predictor and the adjusted R^2 decreased by another 3%.

The regression analysis found that the attitudes, social norms, and PBC were all significant predictors, accounting for approximately 37% of variance in participants

intentions to limit their social media use. Therefore, hypotheses 1-3 were all supported. Regardless of platform, intensity was not a significant direct predictor of intentions to limit social media. Therefore, H4a is rejected. Results of the regression analysis are presented in Table 6.

Table 6.
Hierarchical Regression Analysis Predicting Intentions to Limit Social Media Use

Note.	Step 1			Step 2			Step 3			Step 4		
Variable	*B*	*SE B*	β	*B*	*SE B*	β	*B*	*SE B*	β	*B*	*SE B*	β
Attitudes	.371	.053	.422**	.369	.060	.405**	.355	.061	3.92**	.337	.065	.374**
Social	.354	.072	.296**	.354	.080	.293**	.394	.083	.323**	.397	.088	.325**
PBC	.141	.065	.118*	.128	.072	.107	.157	.074	.133*	.178	.079	.150*
Facebook				-.048	.061	-.049	-.047	.065	-.049	-.057	.069	-.059
Instagram							-.068	.057	-.079	-.023	.068	-.027
Snapchat										-.081	.062	-.099
Adjusted R^2		.37			.31			.31			.28	

*p<.01, **p<.001

Mediation Analysis

Hayes (2018) PROCESS model 4 was used in SPSS to examine the relationship between intensity of use, social norms, and intentions to limit social media use. It was hypothesized that social norms would mediate the relationship between intensity of use and intentions to limit social media use. Facebook, Instagram, and Snapchat were each run in their own model to test the mediation across all three platforms. When running the mediation model, Facebook intensity predicts social norms, $F(1, 190) = 13.96$, $p < .01$, $R^2 = .07$ and $b = .21$, $t(190) = 3.74$, $p < .01$. Additionally, social norms predicts intentions to limit social media use, $F(2, 189) = 19.55$, $p < .001$, $R^2 = .17$ and $b = .49$, $t(189) = 5.94$, $p < .001$. The direct effect of Facebook intensity on intentions to limit social media use is not significant, $b = .02$, $t(189) = .33$, $p = .74$. The total effect model is also not significant, $b =$

.13, $t(189) = 1.80$, $p = .07$. Although the total effect model is not significant, the percentile bootstrap sampling confidence intervals demonstrate that social norms still has a significant indirect effect on the relationship between Facebook intensity and intentions to limit social media, $b = .10$, LLCI = .04, ULCI = .18.

When running the mediation model with Instagram intensity, Instagram intensity predicts social norms, $F(1, 190) = 9.09$, $p < .01$, $R^2 = .05$ and $b = .15$, $t(190) = 3.01$, $p < .01$. Additionally, social norms predicts intentions to limit social media use, $F(2, 189) = 20.86$, $p < .001$, $R^2 = .18$ and $b = .53$, $t(189) = 6.46$, $p < .001$. The direct effect of Instagram intensity on intentions to limit social media use is not significant, $b = -.07$, $t(189) = -1.18$, $p = .24$. The total effect model is also not significant, $b = .01$, $t(189) = .18$, $p = .85$. Although the total effect model is not significant, the percentile bootstrap sampling confidence intervals demonstrate that social norms still has a significant indirect effect on the relationship between Instagram intensity and intentions to limit social media, $b = .08$, LLCI = .02, ULCI = .15.

When running the mediation model with Snapchat intensity, Snapchat intensity predicts social norms, $F(1, 196) = 15.04$, $p < .001$, $R^2 = .07$ and $b = .19$, $t(196) = 3.88$, $p < .001$. Additionally, social norms predicts intentions to limit social media use, $F(2, 195) = 26.62$, $p < .001$, $R^2 = .22$ and $b = .57$, $t(195) = 7.26$, $p < .001$. The direct effect of Snapchat intensity on intentions to limit social media use is not significant, $b = -.07$, $t(195) = -1.20$, $p = .23$. The total effect model is also not significant, $b = .04$, $t(195) = .68$, $p = .50$. Although the total effect model is not significant, the percentile bootstrap sampling confidence intervals demonstrate that social norms still has a significant indirect effect on the relationship between Snapchat intensity and intentions to limit social media, $b = .11$, LLCI = .04, ULCI = .19.

The mediation models all found that there was not a significant direct effect between intensity and intentions or a significant total effect between intensity and intentions with social norms as a mediator. However, regardless of platform, social norms are a significant mediator between intensity and intentions to limit social media use.

Although intensity may not offer as much predictive power as attitudes, social norms, and PBC on intentions to limit social media use, it is still a consistent significant

predictor of social norms, acting as an antecedent to the relationship between social norms and intentions to limit social media use. Therefore, support is provided for H4b.

DISCUSSION

College students are some of the most avid users of social media, with some students reporting up to eight hours of use across platforms (Alhabash & Ma, 2017). Although a plethora or research examines the motivations to use social media (Alhabash & Ma, 2017; Kwon, D'Angelo, & McLeod, 2013; Lee et al., 2015; Papacharissi & Mendelson, 2011; Quan-Hasse & Young, 2010; Sheldon & Bryant, 2016), few studies have predicted social media limiting behavior. According to Pew (2018), most users (59%) say that it would not be hard to quit using social media. On the other hand, the number of Americans reporting that it would be hard to give up social media has increased 12% compared to a survey in 2014 (Smith & Anderson, 2018). Despite young adults' spending more time on social media compared to the public, this study found college students generally perceive a high degree of behavioral control over reducing their social media use, indicating that they believe they could reduce their social media use if they wanted.

Prior research by Alhabash and Ma (2017) measured intensity of use across multiple platforms by adjusting the Facebook intensity scale constructed by Ellison et al. (2007). This study measured intensity of use across multiple platforms by adjusting the Multidimensional Facebook Intensity Scale constructed and validated by Orosz et al. (2016). The 13-item scale measures intensity of use across four dimensions including persistence of use, boredom relief, overuse, and self-expression. Despite using a different scale, intensity patterns from this study match those of Alhabash and Ma (2017) in that the mean intensity scores of Facebook (M= 2.54) were significantly lower compared to the mean intensity scores of Instagram (M= 3.09) and Snapchat (M= 2.97), which were closer in intensity. These results suggest that young adults may not only be shifting which platforms they use, but also newer platforms may be used with more intensity compared to older platforms.

This study found that the standard theory of planned behavior constructs were the most predictive model when looking at intentions to limit social media use compared to an extended theory of planned behavior model including intensity. Baker and White (2010)

found attitudes, social norms, and PBC accounted for approximately 35% of the variance in intentions to frequently use social media. However, when group norms were introduced into the regression analysis, subjective norms became insignificant, indicating that group norms may be a better predictor of behavior intention when explaining the role of social influence. This study measured both subjective and group norms in the same scale, which was labeled as social norms in analysis. Like Baker and White (2010), this study found attitudes, social norms, and PBC to account for approximately 37% of variance in intentions to limit social media use. Taken together, the theory of planned behavior stands to successfully predict young adults' social media use intentions in terms of both intentions to frequently use social media and intentions to limit social media use.

Luqman et al. (2017) found that excessive social use, hedonic use, and cognitive use induces technostress and exhaustion, which in turn predicts intentions to discontinue Facebook. Given that multiple dimensions of the Multidimensional Facebook Intensity Scale measure similar variables (e.g., overuse, persistence of use, boredom relief, and self-expression), it was hypothesized that intensity would predict intentions to limit social media use. However, across platforms, intensity was not direct significant predictor of intentions to limit social media use. Given that Luqman et al. (2017) found excessive use, hedonic use, and cognitive use to be mediated by technostress and exhaustion, it is possible that this study would have found a similar mediation if technostress and exhaustion were measured. However, the Multidimensional Facebook Intensity Scale is meant to examine the strength of involvement of social media in everyday life, and results are likely to differ compared to scales looking exclusively at variables such as excessive or cognitive use. Therefore, even if technostress and exhaustion were included as mediators, results may vary from Luqman et al. (2017).

It's also possible that results would vary if the dimentions of the Multidimensional Facebook Intensity Scale were analyzed separately from one another. For example, it's possible that certain dimentions, such as boredom relief, are more predictive of intentions to limit social media use compared to other dimentions. A follow-up study should consider a more nuanced approach to studying the relationship between intensity and social media limiting intentions or behavior.

As suggested by Baker and White (2010) and Pelling and White (2009), norms play a key role in adolescents' social media use. This study hypothesized that social norms would mediate the relationship between intensity of use and intentions to limit social media use. Across platforms, social norms had a significant indirect effect on the relationship between intensity of use and intentions to limit social media use. However, none of these mediation models proved to have a significant total effect, indicating that social norms alone are a better predictor of intentions to limit social media use compared to social media intensity or social media intensity mediated by social norms. It's possible that a total effect could be teased out by measuring more specific or nuanced variables. For example, students who are intense social media users may be neglecting their professional or personal obligations on behalf of their social media use. Measuring these specific behaviors may provide additional insight into the mediation analysis. However, in this study, intensity did not add additional value to the overall predictability of young adults' intentions to limit social media use.

Implications

To the author's knowledge, this article is the first of its kind in exploring young adults' intent to limit social media use. Although a limited number of studies have examined Facebook discontinuation behavior (Luqman et al., 2017; Ragu-Nathan et al., 2008), this study examines intentions to limit, rather than discontinue, social media use. Furthermore, prior studies examining discontinuation have focused on the role of technostress and/or fatigue in explaining Facebook discontinuation. These studies are problematic for understanding social media limiting behavior for a variety of reasons. First, they do not take into consideration the multi-platform behavior habits of social media users. That is, the research only applies to Facebook users. Second, users are likely to switch to newer platforms (i.e., Instagram) when they are tired of older ones (i.e., Facebook). Therefore, discontinuing Facebook may be a result of a platform shift rather than a reduction of time spent on social media. Last, these studies are limited in their ability to understand how psychological variables such as attitudes and self-control impact behavior change. This study improves upon these issues by applying the theory of planned behavior to social media limiting intentions across three prominent social media platforms.

Like research by Alhabash and Ma (2017), this study found young adults' intensity of use to be greater for newer platforms (i.e., Snapchat and Instagram) compared to older ones (i.e., Facebook). Even though young adults tend to add new social media platforms to their media mix rather than replace old platforms with new platforms, it appears that newer platforms hold more meaning in the everyday lives of young adults. This finding holds true in this study despite using an updated social media intensity scale that breaks intensity of use into four dimensions: persistence of use, boredom relief, overuse, and self-expression. These findings suggest the importance for social media researchers to continue in extending their efforts beyond Facebook, especially when studying young adults.

The theory of planned behavior appears to be a good fit for predicting young adults' intentions to limit social media use whereas intensity offers minimal value. However, research should continue to explore how variables similar to intensity, such as addiction, predict social media limiting behavior. It is possible that young adults' perceived emotional connectedness toward social media is not strong enough to impact social media limiting intentions, except in the rare instance that an individual is experiencing addiction-like symptoms regarding their social media use. For example, Baumer, Guha, Quan, Mimno, and Gay (2015) explored variables that influenced individual's likelihood to revert to Facebook after taking a 99-day break. Among other predictive variables, Baumer et al. (2015) found participant's addiction-like experiences (e.g., withdrawal, sudden urges, limited self-control, etc.) to increase the likelihood that participants would revert to Facebook.

Similar to the addiction-like variables that Baumer et al. (2015) found to influence participants' Facebook revision, this study found PBC to significantly predict social media limiting intentions. Future studies may consider using an addiction scale, such as the social media disorder Scale (van den Eijnden, Lemmens, & Valkenburg, 2016), to gain a better understanding of how addiction plays a role in young adults' intentions to limit their social media use.

Limitations

This study used a sample of college students, with mostly White participants. College students are prone to social media overuse which makes them a population of

interest. However, limiting the survey participants to college students makes the results non-generalizable to the rest of the public.

Currently, there is conflicting evidence on the role of perceived behavioral control in its ability to predict social media use. Although this study found PBC to predict intentions to limit social media use, the original 4-item scale did not achieve a satisfactory reliability score and was reduced to 2-items that held significant correlation but low reliability. The insufficient reliability could be due to how the scale reversed directions, causing confusion for participants. Regardless, it is possible that the 2-item scale did not fully measure all the dimensions of PBC. Although this study suggests PBC can predict young adults' intentions to limit social media use, an additional study should test this variable with a more robust scale or pretest a scale, like the one used in this study, without switching scale directions.

Last, the theory of planned behavior is used to measure both intentions and actual behavior. Thus, this study would benefit from a follow-up study that measures if intentions predicted social media use limiting behavior. According to Armitage and Conner (2001), on average attitudes, social norms, and PBC predict approximately 39% of variance in behavior intentions and 27% of variance in actual behavior. Given that this study predicted 37% of variance in behavior intentions, it is possible that intentions would have predicted behavior similar to the average (i.e., 27%). However, this assertion needs to be justified with an experiment.

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