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Social Media Use and Mental Health among Young Adults

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Abstract In recent years many parents, advocates and policy makers have expressed concerns regarding the potential negative impact of social media use. Some studies have indicated that social media use may be tied to negative mental health outcomes, including suicidality, loneliness and decreased empathy. Other studies have not found evidence for harm, or have indicated that social media use may be beneficial for some individuals. The current correlational study examined 467 young adults for their time spent using social media, importance of social media in their lives and tendency to engage in vaguebooking (posting unclear but alarming sounding posts to get attention). Outcomes considered included general mental health symptoms, suicidal ideation, loneliness, social anxiety and decreased empathy. Results indicated that social media use was not predictive of impaired mental health functioning. However, vaguebooking was predictive of suicidal ideation, suggesting this particular behavior could be a warning sign for serious issues. Overall, results from this study suggest that, with the exception of vaguebooking, concerns regarding social media use may be misplaced.

Keywords Social media · Mental health · Suicide · Empathy · Vaguebooking

Introduction

Social media use (interacting with others through online electronic forums such as *Facebook*, *Instagram*, *Twitter*, *Youtube*, etc.) has become an enormously popular tool for social interaction. Social media use is an important interactive tool for youth and young adults and, unlike more traditional media, users play an active role in creating and shaping the experience [1]. Moreover, social media use is an important element of the developmental process for youth and young adults as they interact with others and present their forming identities online [2, 3].

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Because of this growing presence of social media in young people's lives, some commenters have expressed concern about potential adverse effects. Could reliance on social media for social interactions pejoratively influence real-life social contacts, leading to isolation and loneliness? Could social media use isolate people from close contact and communication with others, thereby decreasing empathy? And could overuse of social media lead to larger problems with mental health including suicidal ideation? The current study aims to address some of these questions in a relatively large sample of young adults.

Social Media and Mental Health

Concerns about social media effects on mental health are often presented in stark terms. For instance, a recent press release of the American Association of Suicidology stated "...we do know that social media—in all forms—can have a significant impact on mental health, especially for young people [4]." Likewise, based on survey data from a large sample of adolescents in 2017, the Royal Society for Public Health reported evidence for links between social media use and mental health issues [5]. However, that report was criticized by some scholars [6, 7] for crude design, inconsistent results being overstated, and potential for demand characteristics (participants guessing the study hypotheses and responding accordingly) causing spurious results.

Many who are concerned about social media use point back to a 2011 report by the American Academy of Pediatrics (AAP) who claimed "Facebook Depression" could develop among youth who used social media too long [8]. However, the report itself became controversial when it was revealed that the AAP relied primarily on erroneous news reports rather than primary sources to document their claims [9]. One scholar—whose work was reported in a newspaper article and on which AAP had relied—specifically disavowed that her research could be used to support contentions of a Facebook Depression [10]. Thus, common issues with public overstatements of research results by advocacy groups have clouded the picture.

Research results from individual studies regarding social media impacts on mental health have, in fact, been mixed. Although much of the public narrative on the effects of social media implies that *mere exposure* is related to mental health issues, the best evidence suggests that quality rather than quantity of use is more crucial [11]. For instance, research indicates that one mechanism is the use of social media for negative social comparison which, alongside rumination, leads to later depression [12]. By contrast, other research has found that positive use of social media, such as through authentic self-presentation, is associated with positive well-being in users [13, 14]. The idea that *how* one uses social media may be more crucial than mere exposure differs from much of the warning-focused public dialogue and appears worthy of further consideration.

On one hand, past evidence suggests rumination reflects psychopathology, whereas authenticity is considered to be a positive quality. With that in mind, one phenomenon that has received little research interest thus far is *vaguebooking*. Vaguebooking refers to social media posts that contain little actual and clear information, but are worded in such a way as to solicit attention and concern from readers (e.g. "Sometimes I just feel like...I dunno, sigh..."). Vaguebooking may be considered a form of "cry for help" insofar as such behaviors are designed to elicit expressions of concern from others. In this sense, vaguebooking may be viewed as both rumination as well as the absence of authentic self-presentation (given the vagueness and potential manipulateness of such comments). It is possible, then, that vaguebooking could serve as a warning behavior for individuals who may be experiencing some mental health issues in the context of social media use.

The Present Study

The present study seeks to expand upon previous research by examining links between social media use and mental health related outcomes in a large sample of young adults. The results of this study will contribute to the literature by examining several aspects of social media use as well as multiple outcomes while controlling for theoretically relevant “third” variables.

Social Media Usage Social media use involves several different aspects, each of which is important in different ways. Confusion between different aspects of social media usage can result in confusion in how research results have been communicated to the general public. The first aspect is *mere exposure* or time spent with social media. Past research has indicated that mere exposure is a poor indicator of mental health. However, it will be included here given continued public claims that mere exposure is associated with decreased mental health.

Second, the *importance* of social media to an individual is a second component of social media usage. Different individuals may consider social media use to be more central to their core motivations than casual users as theorized by Self Determination Theory [15]. Last, the specific behavior of vaguebooking also will be measured and included for analysis.

Mental Health Several behavioral indicators of mental health and well-being will be considered as outcomes. These will include general mental health symptoms as well as outcomes that have been theorized to be linked to social media use. These latter variables will include suicidal ideation, social anxiety, loneliness, and decreased empathy.

Control Variables It is now recognized that, for media effects research, it is essential to include theoretically relevant control variables [16]. For the present study, control variables will include gender because women and men may differ with respect to both social media usage and mental health issues. Histrionic personality symptoms will be included, given that such symptoms may be related to vaguebooking behaviors as well as mental health symptoms. Indicators of social functioning among friends in real life, perceived social support, conflict with parents and need to belong will also be included. Last, a measure of social desirability will be included to control for this type of response set.

Methods

Participants

The sample consisted of 471 undergraduate students attending a university from the southeastern region of the United States. Data from four participants were excluded from data analysis due to incomplete responses to at least 20% of items on the questionnaires, thus rendering our final sample size to 467 (335 females; 130 males; 2 unanswered). Their mean age (yrs.) was 19.66 ($SD = 3.92$). Regarding ethnicity, participants self-identified as 60.2% White, 16.5% Latino/a or Hispanic, 10.1% African American or Black, 6.6% Asian American, and 6.2% Other.

Measures

Unless indicated otherwise below, all measures used Likert-scale items.

General/Demographic Information Participants self-reported their age, gender, ethnicity, current grade-point-average (GPA), and time spent (face-to-face) with friends.

Vaguebooking Three questions for this study assessed vaguebooking behavior. A sample item was, “I post social networking updates that prompt friends to ask me what is going on.” Based on this sample of participants, this scale had acceptable reliability (Cronbach alpha = .79).

Time Spent on Social Media Exposure to social media was measured with a single-question to which participants estimated how many hours they spent during an average day on social media with friends.

Social Media Importance To assess the degree to which participants were emotionally connected to social media use, participants completed the *Social Media Use Integration Scale* (SMUIS [17]). The SMUIS consists of 10 items assessing the emotional value of social media in their lives (sample item: “I prefer to communicate with others mainly through social networking websites.”) Based on this sample of participants, the SMUIS had acceptable reliability (Cronbach alpha = .90).

Mental Health Symptoms The Brief Symptoms Inventory-18 (BSI-18 [18]) assesses three dimensions of psychological distress: somatization, depression, and anxiety. For this study, a total score (the global severity index [GSI]) calculated based on a summation of all three subscales. Based on this sample of participants, the BSI-18 had acceptable reliability (Cronbach alpha = .90).

Social Support To assess participants’ perceived social support from family, friends, and significant others, they completed the *Multidimensional Scale of Perceived Social Support* (MSPSS [19]). The MSPSS consists of 12 statements. Based on this sample of participants, the MSPSS had acceptable reliability (Cronbach alpha = .93).

Parent-Child Relationship

To measure participants’ perceptions of the quality of their relationship with their parents, participants completed the nine items constituting the Parent-Child Conflict component of the Family Dysfunction subscale from the Personality Inventory for Youth (PIY [20]). Based on this sample of participants, the Parent-Child Conflict scale had acceptable reliability (Kuder-Richardson alpha = .82).

Social Anxiety To assess social anxiety, participants completed the *Liebowitz Social Anxiety Scale-Self-Report Version* (LSAS-SR [21]). The LSAS-SR consists of 24 statements. Based on this sample of participants, the LSAS-SR had acceptable reliability (Cronbach alpha = .90).

Histrionic Symptoms To assess symptoms consistent with the Histrionic Personality Disorder (attention-seeking and seductiveness), participants completed the *Brief Histrionic*

Personality Scale (BHPS [22]). The BHPS consists of 11 statements. Based on this sample of participants, the BHPS had acceptable reliability (Cronbach alpha = .81).

Needing to Belong To assess participants' need for belonging to a social group(s), they completed the *Need to Belong* scale (NTB [23]). The NTB consists of 10 statements. Based on this sample of participants, the NTB had acceptable reliability (Cronbach alpha = .80).

Loneliness To assess loneliness, participants completed the *UCLA Loneliness Scale-3* (UCLALon-3 [24]). The UCLALon-3 consists of 20 statements. Based on this sample of participants, the UCLALon-3 had acceptable reliability (Cronbach alpha = .93).

Empathy To assess participants' ability to experience empathy, they completed the *Interpersonal Reactivity Index* (IRI [25]). The IRI is composed of 4 subscales that measure distinct cognitive and affective aspects of empathy. For our study, we only administered the empathy-concern subscale because we deemed it to be the most applicable to our study's purpose (assessing compassion and concern for others). This subscale consists of 7 statements. Based on this sample of participants, the IRI had acceptable reliability (Cronbach alpha = .80).

Socially Desirable Responding To assess participants' tendency to respond to items in a way that portrays them favorably, participants completed the *Marlowe-Crowne Social Desirability Scale – Short Form* (M-C SDS-SF [26]). The 13-item M-C SDS-SF is an abbreviated version of the M-C SDS. Respondents indicate their level of agreement to the statements using a true-false format. Based on this sample of participants, the M-C SDS-SF had acceptable reliability (Kuder-Richardson alpha = .69).

Statistical Analyses

Separate regression analyses were run for outcomes related to total mental health symptoms (BSI), suicidal thoughts, social anxiety, loneliness and anxiety. Most analyses were conducted with hierarchical multiple regression using pairwise deletion for missing data. Age and gender were entered on the first step, school grades, time spent with friends in real life (FRL), parent/child conflict, BHPS, NTB, perceived social support and social desirability on the second step. The third step included social media variables of time online, vaguebooking and social media importance. Because suicidal thoughts were non-normal in distribution, similar analyses were run using Poisson regression.

Results

Table 1 presents the results for all regression equations. Note that Poisson regressions are non-hierarchical, thus ΔR^2 is not reported for this regression. Multicollinearity issues were absent with all VIF data well below 2.0. Estimates are reported in terms of standardized regression coefficients aside from the Poisson regression, for which Wald Chi-square is reported.

Results indicated that social media variables were poor predictors of negative outcomes. Exceptions were that vaguebooking slightly predicted both loneliness and suicidal thoughts. Time spent online was not a predictor of any outcome, nor was social media importance.

Table 1 Regression Results for Outcome Variables

Variable	BSI	Social Anx	Empathy	Loneliness	Suicidality
Female Gender	.074	.017	.253**	-.010	3.619
Age	-.046	.028	.067	-.021	2.437
ΔR^2	.009	.006	.070**	.000	
Grades	-.069	-.023	-.045	-.041	.110
Friends Real-Life	-.063	-.064	-.041	-.108*	.008
Parent/Child Conflict	.228**	.077	.090	.129*	10.464**
Histrionic	.035	-.215**	.032	-.196**	3.408
Need to Belong	.214**	.228**	.172**	.209**	.998
Social Support	-.143*	-.144*	.233**	-.421*	9.440*
Social Desirability	-.170*	-.230**	.303**	-.233**	2.070
ΔR^2	.222**	.193**	.159**	.415**	
Social Media Import	.043	-.024	-.008	.039	2.238
Vaguebooking	.039	-.053	-.012	.099+	6.547+
Hours Online	-.007	-.071	-.088	.006	.017
ΔR^2	.002	.007	.007	.007	

Note: All effect sizes are standardized regression coefficients aside for suicidality (suicidal thoughts) which report Wald Chi-Square

+ $p < .05$

* $p < .01$

** $p < .001$

Among other predictors, social desirability was consistently associated with less reporting of negative symptoms as expected. Social support was a consistent protective factor for all negative outcomes, including suicidal thoughts. Perceived parent/child conflict was predicted mental health symptoms, suicidal thoughts and loneliness. Need to belong was associated with most negative outcomes, aside from increased empathy and aside from suicidal thoughts. Histrionic personality traits were actually protective for social anxiety and loneliness, likely given the outgoing nature of such individuals, and were not associated with other mental health problems.

Discussion

Whether social media is responsible for mental health problems among young individuals remains an area of contention. Our study examined several aspects of social media use among young adults and their relationship with various mental health problems including loneliness, suicidal thoughts, decreased empathy, social anxiety and overall mental health. Our results revealed that, overall, social media use is a poor predictor of mental health problems and concerns about social media precipitating a mental health crisis may be unwarranted. The exception was vaguebooking, which predicted loneliness and suicidal thoughts. It is possible that some forms of social media use may function as a 'cry for help' among individuals with preexisting mental health problems.

Our results are generally consistent with previous work [10–13] which suggests that *how* individuals use social media is more critical than time spent online in regards to mental health. Other research has identified some characteristics of negative social media use which may be causative of further problems [10, 11] and our research adds the dimension of vaguebooking

which may be a sequelae of preexisting mental health problems and potentially serve as an identifiable risk marker for those problems.

Among other issues identified in this paper, perceived parent/child conflict appears to be one of the stronger predictors of many mental health issues. Need to belong is also associated with many problems (aside from increased empathy, though this may reflect an over-eagerness to identify with others to gain their approval). By contrast, perceived social support is a consistent protective factor.

Why the popular press, suicide advocates and policy makers continue to hone in on time spent online as a cause of mental health problems is an interesting question, particularly given lack of clear evidence for this relationship. It is possible that social media use may be experiencing the effects of moral panic common to many forms of media such as video games, comic books and rock music (all of which have also been blamed for mental health problems.) We do not disregard the potential for some online behaviors to be associated with mental health problems, rather propose that research focus on the behavior of individuals rather than assuming media is the root cause of all socio-personal problems.

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Compliance with Ethical Standards

Conflicts of Interest The authors have no conflicts of interest to declare.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all individual participants included in the study.

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