Short communication

The use of social networking sites: A risk factor for using alcohol, marijuana, and synthetic cannabinoids?

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ABSTRACT

Background: The use of social networking sites (SNS) has become a central aspect of youth culture allowing individuals to explore and assert their identities. A commonly portrayed online identity is an "alcohol identity," and past research suggests such identities may contribute to one's risk of using alcohol. The present study builds on past research by examining the relationship between alcohol, marijuana, and synthetic cannabinoid use (e.g., Spice, K2) and time spent on SNS in a sample of college students.
Methods: Six hundred ninety nine undergraduates (62.4% female; $M_{age} = 21.0$, $SD = 8.56$) were recruited from a university on the U.S./Mexico border for an online study. Participants completed measures assessing demographics, substance use history, and amount of time spent on SNS.
Results: Participants reported spending 46 h per month on SNS. Seventy-one percent, 14%, and 3% of the sample reported past month use of alcohol, marijuana, and synthetic cannabinoids, respectively. Regression analyses revealed that hours spent on SNS in the past month were significantly associated with frequency of alcohol ($p < 0.001$) and synthetic cannabinoid use ($p < 0.001$). In addition, being male was associated with frequency of alcohol and marijuana use in the past month ($p < 0.001$ and $p < 0.001$, respectively).
Conclusions: These findings suggest that assessment of time spent on SNS is warranted in studies investigating drug use among college students.

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1. Introduction

The use of social networking sites (SNS) has increased dramatically with young adults, ages 18–29, representing the largest group of internet users (Pew Research Center, 2014). Notably, in a recent study, 89% of young adults reported using SNS (Duggan and Brenner, 2013). The ubiquity of SNS has allowed young adults another outlet by which to explore and assert their identities and a commonly portrayed identity on SNS includes an "alcohol identity" (i.e., being a "drinker"). Such alcohol identities may contribute to one's risk of using alcohol. Indeed, research suggests that spending time on SNS increases alcohol consumption in college students via increases in the degree to which individuals self-identify as alcohol users (Ridout et al., 2012). Specifically, past research has demonstrated that an alcohol identity, as measured by alcohol content

present in Facebook profiles, has been shown to be significantly associated with the average amount of alcohol consumed as well as binge drinking sessions in the past year (Ridout et al., 2012).

An experimental study conducted by Litt and Stock (2011) randomly assigned adolescents to one of two Facebook conditions: an alcohol user condition and a control condition. In both conditions, participants viewed 4 profiles (fabricated by the researcher) of older adolescents and were asked to rate them on various personality traits. In the alcohol user condition, participants primarily viewed profiles that depicted images of alcohol use and included "postings" from friends commenting on their alcohol use (also fabricated). In the control condition, participants primarily viewed profiles that did not depict alcohol use/include "postings" from friends commenting on alcohol use. Notably, adolescents in the alcohol user condition reported more favorable attitudes toward alcohol use, greater willingness to drink, and reduced perceptions of experiencing negative consequences of drinking when compared to adolescents in the control condition (Litt and Stock, 2011).

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Another study found that self-reported estimates of online pictures depicting one's own alcohol use and estimates of friends' postings commenting on alcohol use were significantly associated with past 30-day alcohol use (Stoddard et al., 2012). However, these latter studies did not examine the relationship between time spent on SNS and drug use outcomes. Such information may be important as past research has found an association between "problematic" internet use and use of drugs including marijuana (Liu et al., 2011).

The current study extends past research by investigating associations between alcohol, marijuana, synthetic marijuana use, and hours spent on SNS. Such an investigation is important because: (a) marijuana use is the most widely abused illicit substance among youth (SAMHSA, 2014), (b) synthetic marijuana use has increased dramatically in recent years (Johnston et al., 2013), and (c) young adults are more likely to devote more time using SNS relative to their older counterparts (Duggan and Brenner, 2013). The aims of the present study were twofold: to characterize use of SNS among college students and to investigate associations between SNS use and drug use outcomes in college students. We hypothesized that hours spent on SNS would be associated with the frequency of using alcohol, marijuana, and synthetic cannabinoids in the past month.

2. Methods

2.1. Participants

Six hundred ninety nine undergraduates (62.4% female; mean age = 21.0; SD = 8.56) were recruited from a University on the U.S./Mexico border for an online study. Eighty nine percent of the sample identified as Hispanic. The remaining proportion of the sample identified as White (14.3%), African American (4.3%), Asian American (1.3%), American Indian (1.35%), and the remaining participants identified as "other" category (1.6%). Participants could categorize themselves as belonging to more than one category and, as such, summing the percentages results in values exceeding 100%.

2.2. Procedure

Participants were recruited for an online study and provided online consent separate from the actual survey. Participants received course credit for their participation. Prior to conducting the survey the study protocol and data collection procedures were reviewed and approved by the university's human subjects committee.

2.3. Measures

A Demographic Questionnaire assessed basic demographics such as age, ethnic group and education level.

An Alcohol and Marijuana Use Survey, developed by the investigators, assessed past month, past year, and lifetime use of alcohol, marijuana, and synthetic cannabinoids (as well as other substances) using the following format: "Please indicate how many times you have used [the substance] in your lifetime. . .in the past year. . .in the past 30 days. Please give a number." This measure has been used in previous research (Gutierrez and Cooper, 2014).

SNS Use was assessed with the following question, "How many hours did you spend on social media sites such as Facebook, Twitter, and MySpace in the past month? Please give a number."

2.4. Analytic approach

Basic descriptive analyses were conducted to characterize the sample and to determine the proportion of the sample who reported past 30-day alcohol, marijuana, and synthetic marijuana use.

Table 1
Participant Characteristics.

Variable	%	M	SD
Age		21	8.56
Gender			
Male	37.6%		
Female	62.4%		
Past Month No. of Hours Spent on Social Networking Sites (SNS)		46.23	77.26
Past 30-day Alcohol Use	71%		
Past 30-day Marijuana Use	14%		
Past 30-day Synthetic Marijuana Use	3%		

T-tests were conducted to examine whether individuals who reported past month use of alcohol, marijuana, and synthetic marijuana (versus those who did not report past month use) differed in time spent on SNS in the past month. Given that there were multiple comparisons a Bonferonni correction was used and the p value was set to (p = 0.016).

Three linear regressions were conducted to examine whether time spent on SNS in the past month was associated with the frequency of alcohol, marijuana, and synthetic marijuana use in the past month. Age and gender were included as covariates. Data was analyzed in MPlus (version 7.2) using a zero-inflated negative binomial approach due to a large proportion of zeros (those reporting non-use) in the dependent variables: past month use of alcohol, marijuana, and synthetic marijuana.

3. Results

Demographic information is presented in Table 1. The average time participants spent on SNS in the past month was 46.23 h (SD = 77.26).

Seventy-one percent, 14%, and 3% of the sample reported past month use of alcohol, marijuana, and synthetic marijuana. Males reported a significantly greater frequency of using alcohol (8.14 times per month vs. 4.39 times per month, p = 0.001) and marijuana (2.14 times per month vs. 0.54 times per month, p = 0.001) when compared to females. No significant differences in synthetic marijuana use was observed between males and females (0.13 times per month vs. 0.04 times per month, respectively, p = 0.098).

Individuals who reported past month synthetic marijuana use spent significantly more time on SNS than those who did not (104.64 h vs. 43.86 h, respectively; p < 0.05). No significant differences were found between individuals who reported past month use of marijuana and those who did not on hours spent on SNS (60.56 h vs. 44.10 h, respectively; p = 0.094). Similarly, no significant differences were found between individuals who report past month use of alcohol and those who did not on time spent on SNS (47.67 h vs. 43.72 h, p = 0.606).

Hours spent on SNS in the past month was significantly associated with the frequency of alcohol and synthetic marijuana use in the past month (p's < 0.001; see Table 2). Being male was associated with the frequency of alcohol and marijuana use in the past month (p's < 0.001; see Table 2).

4. Discussion

The present study found an association between time spent on SNS and frequency of alcohol and synthetic marijuana use. Although this study was cross-sectional in nature, and thus causality cannot be assumed, the results are consistent with past research examining SNS and alcohol use (Ridout et al., 2012; Stoddard et al., 2012). The present study adds to a growing body of research examining the association between the utilization of SNS and drug use outcomes and builds on past research by including the use of