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Under the Influence: How Viewing Extreme Partying and Drinking on Social Media Shapes Group Perceptions

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ABSTRACT

Social media use is omnipresent among college students. The current study investigated how exposure to student risk-taking forms of alcohol use on social media shapes the perceptions of the prototypical student and drinking norms among students. A 2020, three time-point experiment was conducted that measured 208 (M age = 18.85, SD = 1.94; 160 female) participant's partying/drinking prototypes along with their perceived normative support of alcohol consumption. At Time 2, participants were randomly assigned to one of the four conditions, three video conditions and one non-video condition, with one video condition displaying risk-taking drinking behavior. A Mixed ANOVA revealed that within the risk-taking drinking condition, participants used more pro-alcohol words to describe the typical ingroup member and perceived an increase in normative support of alcohol consumption. Implications of this study suggest that risk-taking content from social media may pose barriers to developing social norms interventions to address problematic college student drinking.

"The extreme behavior of a few is likely to be much more salient and defining of a group than is the moderate behavior of many." (Miller & Prentice, 1996, p. 805)

Social media platform use is omnipresent among university and college students. Among the various content they are exposed to on these platforms, one of the most prevalent is alcohol use, in particular, extreme risk-taking forms of alcohol use (e.g., van Hoof et al., 2014). Lay people may assume that seeing a few examples of extreme risk-taking alcohol use cannot change how students think about alcohol consumption. However, previous work has revealed that when it comes to group perceptions, sometimes, a few examples are sufficient to change the perception of the group as a whole (e.g., Rothbart et al., 1978).

The perception that students have about alcohol use among their social group, specifically, how typical they think alcohol consumption is among their peers, is a key determinant (e.g., Perkins, 1997), if not the key determinant (Neighbors et al., 2007), of alcohol consumption by students. Thus, understanding if exposure to a few examples of extreme forms of risk-taking alcohol consumption derived from social media content can influence the perceptions of their social group among students is a fundamental question to address the seemingly ever-increasing problem of student risk-taking drinking. The aim of the present study was to examine how exposure to examples of extreme risk-taking drinking derived from social media shapes the views of students about their social group. Specifically, our research examined how exposure to social media shapes the perceptions of the prototypical member of a student's social group and how normal alcohol consumption is among their social group. Our main prediction was that exposure to high-risk, extreme forms of alcohol

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consumption would alter perceptions of group prototypes to be more risk-taking and increase the perception of the normative support for alcohol consumption.

Understanding group perceptions

Self-Categorization Theory is a comprehensive theory that focuses on the categorization of the self into social groups to explain human thoughts and behavior (Turner et al., 1987). Central to this process are the prototypical representations of group members that can become cognitively salient. A group prototype is an abstract understanding about the attitudes, attributes, and behaviors that best capture the average features of group members belonging to a given social category. Group prototypes are not stagnant, they are subject to polarization to extreme positions if the social context shifts (e.g., Mackie, 1986; Turner et al., 1987). Group prototypes shape the perception of multiple elements of a group and are one element of how people perceive what is normal among a group (e.g., Smith & Louis, 2008; Terry & Hogg, 1996; Turner, 1991).

The normative standards perceived to apply to a group are also an important component of the perceptions people have about social groups, which shape their behavior (see Smith & Louis, 2008; Turner, 1991). Self-Categorization Theory suggests that norms can be defined as rules for how behaviorally relevant in-group members *should* and *do* behave, and they are perceived rather than concrete truths about the world (see Turner, 1991). That is, akin to group prototypes, group norms are held cognitively and reflect a subjective group consensus rather than an objective known reality (see Turner, 1991). The powerful influence of group norms is well documented by a large body of work drawing on a range of methodology (see Smith & Louis, 2008; Smith, 2020). One key example of the influence of group norms is college student alcohol consumption. Indeed, group norms have been proposed as the main predictor of student drinking (e.g., Neighbors et al., 2007).

Norm and prototype communication

Group norms and prototypes are assumed to be inferred through observation of the behavior of members of a social category (e.g., Miller & Prentice, 1996). For example, Kashima et al. (2013) observed that when a person experientially engages with a category member by seeing them perform a behavior, they extrapolate the norm, as defined by what is perceived to be the most common behavior, to the rest of the group members. They suggest that individuals likely acquire cognitive representations of a category in the form of exemplars and when primed with a cue for that social category, they recall the exemplars to create an average representation of a prototypical group member and the perceived group norm. Thus, it is assumed that if you see a student from a specific institution partying and drinking heavily then you are more likely to perceive that these actions are common to the social category of students from that institution.

Not all exemplars, however, may have the same degree of influence on social perceptions. Atypical extreme examples have been observed to have a greater influence on perceptions of the group as a whole compared to typical ones (e.g., Rothbart et al., 1978). Moreover, activation of atypical examples appears to lead to the misjudgment of the frequency and likelihood of example-related events within a group, making them appear more prevalent than they are (e.g., Sanbonmatsu & Fazio, 1991). Thus, examples of group members engaging in atypical extreme forms of a behavior, in this case alcohol consumption, should have a greater influence on the perception of the typical group member and of their typical normal actions – increasing the perceived prevalence of extreme risk-taking drinking. In addition, the influence of these atypical exemplars changing stored information about the group should have an influence that accumulates over time and thus have an impact on social judgment that is sustained (see Sherif & Hovland, 1961). Thus, the proposed asymmetrical process, in which viewing extreme atypical examples of drinking, will skew drinking beliefs toward more extreme

forms of drinking. By contrast, viewing moderate forms of drinking may not have similar effects due to lack of salience.

Social media and alcohol consumption

Social media is an umbrella term that represents many diverse platforms. Despite the diversity, there are three commonalities between all social medias: 1) most of the content is user generated, 2) individuals and groups create profiles that are user-specific to that social media service, and 3) the social media service curates a social network by connecting users/groups with other users/groups (Obar & Wildman, 2015). Social media provides readily accessible user generated exemplars presented in a high salience environment where individuals can focus on the exemplar and often view it multiple times over.

Extreme forms of at-risk alcohol consumption, such as binge drinking, have been associated with many negative social problems that compromise the health and well-being of individuals (GBD 2016 Alcohol Collaborators, 2018). One population where binge drinking is disproportionately higher than the general public is university students (Perkins, 2002). Perceptions of social groups, including group norms, are one of the strongest predictors, if not the strongest predictor, of alcohol consumption among students (e.g., Neighbors et al., 2007). Importantly, when it comes to alcohol consumption by students, these perceptions about the behavior of their peers among their social groups are often biased when compared to the actual typical alcohol consumption of students (e.g., Neighbors et al., 2007; Prentice & Miller, 1993). This bias appears to emerge after exposure to the behavior of fellow peer students (e.g., Prentice & Miller, 1993).

Most of the research examining exposure to alcohol consumption at university has focused on exposure to people's offline behavior (e.g., Neighbors et al., 2007; Perkins et al., 2005; Prentice & Miller, 1993). In recent years, however, young people have shifted to more interaction with others via online platforms (Auxier & Anderson, 2021). Through these platforms, students can gather first-hand accounts of the behavior of fellow students, including their alcohol consumption (e.g., van Hoof et al., 2014). Research examining the personal impact of exposure to alcohol-related content on social media is relatively new, and as such is limited. Exposure to social media has been shown to be positively correlated with drinking behavior (e.g., Boyle et al., 2016; Cabrera-Nguyen et al., 2016; Curtis et al., 2018; Geusens & Beullens, 2016; Huang et al., 2014). Viewers who are exposed to alcohol consumption behavior (e.g., binge drinking) are more likely to increase their alcohol consumption than those who are not exposed to it.

Although research has shown a link between exposure to partying/drinking social media content and an increase in personal alcohol consumption and perceived drinking norms, most of this research is correlational and does not link specifically any changes to the viewing of alcohol content. Therefore, the current research aimed to use an experimental approach to examine the influence of viewing social media depicting alcohol consumption by fellow students on perceptions about the typical drinking of group members.

Overview of research

The present research investigates the impact of viewing social media content displaying at-risk forms of alcohol consumption on students' perceptions of their social groups. We focused on group prototypes and group norms because those two types of cognitions are central to how people construct the social groups in which they participate and how these groups influence them (e.g., Smith & Louis, 2008; Turner, 1991). Specifically, it was proposed that exposure to social media videos depicting extreme risk-taking forms of drinking would cause participants to use more partying terms to describe the prototypical university student and increase their perceived support of drinking norms.

The study used a longitudinal experimental design with four conditions and three time points, which were approximately 1 week apart. The description of the group prototype and norm perception were assessed at all time points. At Time 2 (T2), participants were randomly assigned to one of the four

conditions: two experimental and two control. The two experimental conditions contained videos taken from social media, one condition consisted of extreme university videos displaying risk-taking partying/drinking and one of the moderate partying/drinking videos. One of the control conditions showed videos of student activities not involving drinking while the other control condition did not show any social media postings.

Two main hypotheses were examined. The first hypothesis contends that compared to Time 1 (T1), at T2 and Time 3 (T3) participants in the Extreme condition will alter their prototypic view of an undergraduate student to include more pro-drinking attributes. Specifically, within the Extreme condition, there will be a significant difference between T1 and T2, and T1 and T3 along with a small effect size and a 95% confidence interval that ranges from small to medium, based on Cohen's (1992) effect size cutoffs ($p < .05$, $d = .20$, 95% CI [.05–.50]). The second hypothesis states that compared to T1, at T2 and T3 participants in the Extreme condition will perceive greater normative support for alcohol consumption. Specifically, within the Extreme condition, there will be a significant difference between T1 and T2, and T1 and T3 along with a small effect size and a 95% confidence interval that ranges from small to medium, based on Cohen's (1992) effect size cutoffs ($p < .05$, $d = .20$, 95% CI [.05–.50]).

Method

Participants

An a priori power analysis was conducted using G*Power (Faul et al., 2007) to test the difference within four dependent group means at three time points using a one-tailed test, a small effect ($f = .14$), and an alpha level of .025. Results indicated that a total sample of 168 participants was required to achieve a power of .95.

Two hundred and thirty-three undergraduate students were recruited to participate in a study that examined social media and drinking behavior from a participant pool and offered course credit as compensation. Of the 233 participants recruited, 23 did not complete all three time points and were excluded from the data. Of the remaining 210 participants, 2 were removed from the data because their completion time was abnormally fast (>3 standard deviation above the mean time), leaving 208 (*M* age = 18.85, SD = 1.94; 160 female) participants in the final analysis (89% retention rate).

Of those 208 participants, every participant had at least one active social media account (i.e., Instagram and/or Snapchat). Additionally, 91% of the sample drank at least once in the past month with 66% of them consuming five to seven drinks in one sitting in the past month.

Procedure

T1: After the participants arrived at the lab, they provided signed consent to participate in the study. They then completed a Qualtrics survey on a lab computer. The T1 questionnaire contained questions about demographic information, measures to examine the present hypotheses along with some exploratory measures. T1 was used to establish a baseline measurement for participant's perceived student prototypes and perceived drinking norms. After completion of the T1 questionnaire, participants were thanked and reminded about the time 2 session a week later.

T2: At T2, participants were randomly assigned to one of the four conditions. Two of the conditions were experimental where the participants were exposed to 150 seconds of videos taken from social media.[1] Videos selected for the *extreme condition* were chosen from public social media accounts that advertised themselves as university or college party accounts. The researchers went through hundreds of public social media posts and selected 30 videos that reflected risk-taking partying behavior and alcohol consumption. Next, 3 undergraduate students blind to the purpose of the research rated the 30 videos on their perception of extreme risk-taking partying and alcohol consumption. Based on the mean video rank, gender of the people within the video, and video length, six of these videos were selected to make up the *extreme condition's* content, which consisted of eight videos total (for more

detail on this process and a description of all videos used, please see the Supplementary Material). In the *moderate condition*, participants were shown videos also selected from public social media posts where alcohol was present at social gatherings but was not the main focus of the video and no excessive drinking was shown or implied (e.g., friends dancing to music with red solo cups around them). In the *neutral behavior control condition*, participants saw videos from public social media posts of student life events where no partying or drinking was occurring. Lastly, in the *no video control condition*, no videos were shown to participants. For the video viewing conditions, the saliency of the social group was primed by telling participants that "you will see videos taken from various University of ___ social media pages." Participants were then asked to rate how likely they would see a similar video on social media platforms they use. Asking participants to rate the videos aimed to make them more cognitively engaged in the activity. All participants then filled out the perceived student prototype measure along with the perceived drinking norm measure.

T3: A week after T2, participants came back to the lab and were then asked to fill out the perceived student prototype measure and perceived drinking norm measure, among others. Participants were then fully debriefed by an experimenter and provided with their compensation.

Measures

Only the measures relevant to the current hypotheses are described below.

Perceived student prototype

Participants were asked to complete a production task (Rosch, 1975) by choosing 10 words from a list of 20 that accurately depicted students at their university.[2] A Pro-Drinking Prototype taxonomy was created by summing up how many times a participant chose one of the five prototype taxonomy words for a total score of 5. The details of how this measure was constructed can be found in the Supplementary Materials. A score of 0 indicates the participant did not choose any target words and a score of 5 indicates a participant chose all five target words. A summed score was created for each participant at each time point.

Perceived descriptive drinking norm

The participant's perception of the descriptive drinking norm was assessed at all three time points by asking participants to indicate "how many drinks do you think the average student at your university drinks when he or she goes out?." This item was selected from the National College Health Assessment survey (National College Health Assessment, 2016), a widely used instrument in the U.S. and in Canada to assess the prevalence of alcohol consumption norms on campuses. This measure produced one number for each participant at each time point.

Results

Preliminary analyses revealed one data point further than 3 standard deviations from the mean for the perceived descriptive drinking norm at T2 and 3. These data were Winsorized (Tukey, 1962) to reduce it to the next most extreme data point that was within 3 standard deviations.

Hypothesis 1:   Prototypicality of Group Member

It was hypothesized that exposure to pro-partying and drinking social media content would alter participant's prototypes of an undergraduate student at their institution.

To test H1, a 4×3 Mixed Analysis of Variance (ANOVA) was conducted, with Condition (Control, Neutral, Moderate, & Extreme) as a between factor, Time (Time 1, 2, & 3) as a within factor, and prototype as the dependent variable (see Figure 1 for graphical representation and Table 1 for
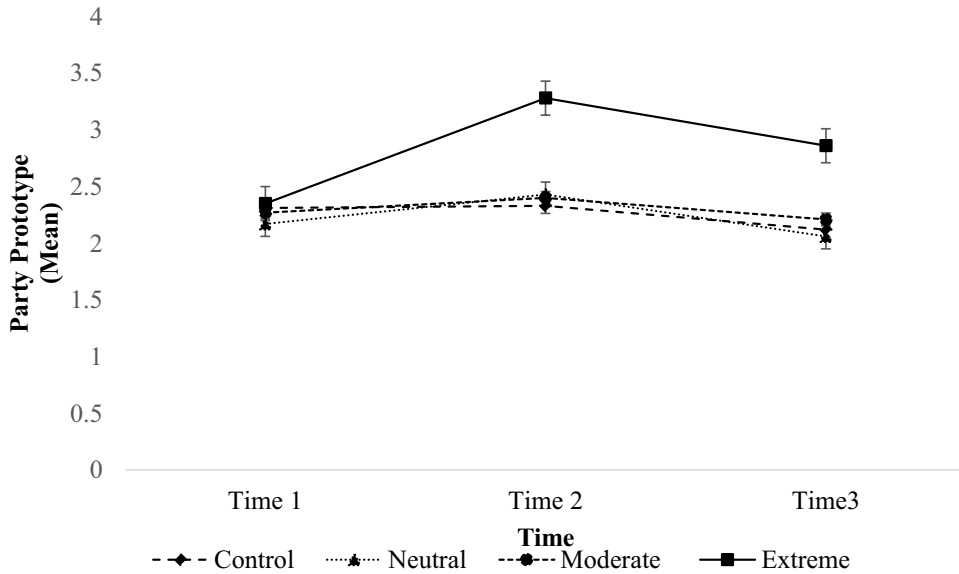
Figure 1. Party Prototype across time by condition. Each time point is 1 week apart, and each point on the line graph represents the condition mean for amount of party words chosen. The error bars represent the standard error of the mean.

Table 1. Time 2 & 3 condition Party Prototype means and confidence intervals, Perceived Drinking Norm means and confidence intervals, and Pearson r correlations.

Time 2			
Condition	Party Prototypes M 95% CI [LL, UL]	Perceived Drinking Norms M 95% CI [LL, UL]	Pearson Correlation
1. Control	2.33 [1.98, 2.67]	6.11 [5.54, 6.68]	0.11
2. Neutral	2.43 [2.18, 2.69]	6.10 [5.54, 6.67]	0.09
3. Moderate	2.40 [2.10, 2.71]	5.62 [5.06, 6.19]	−0.05
4. Extreme	3.27 [2.93, 3.62]	6.47 [5.70, 7.24]	0.01
Time 3			
1. Control	2.12 [1.73, 2.50]	5.98 [5.47, 6.49]	0.23
2. Neutral	2.06 [1.74, 2.37]	6.28 [5.75, 6.80]	0.20
3. Moderate	2.21 [1.85, 2.57]	5.52 [4.94, 6.10]	0.02
4. Extreme	2.86 [2.56, 3.17]	6.36 [5.74, 6.99]	0.00

M indicates mean. Values in square brackets indicate the 95% confidence interval for each mean. The confidence interval is a plausible range of population means that could have caused the sample mean.

descriptive statistics). The mixed ANOVA revealed a medium effect size and significant main effect of Condition on Party Prototype ($F(3, 204) = 4.58$, $p = .001$, $\eta^2_g = .05$) and a small effect size and significant main effect of Time on Party Prototype ($F(1.92, 391.90^3) = 11.90$, $p < .001$, $\eta^2_g = .02$). Additionally, there was a small, generalized effect size and statistically significant two-way interaction between Time and Condition on prototype selection ($F(5.71, 388.34) = 4.04$, $p < .001$, $\eta^2_g = .02$).

As per the planned analyses, a one-way, repeated measures ANOVA with a Bonferroni correction of the simple main effects for the Extreme Condition was conducted. The analysis revealed a medium generalized effect size and statistically significant difference ($F(1.68, 84.24) = 14.10$, $p < .001$, $\eta^2_g = .10$). Two pairwise comparisons were conducted as per the hypothesized effect.

A paired t-test between T1 and T2 revealed a statistically significant difference and moderate effect size with a 95% CI ranging from small to large ($t(50) = 4.57$, $p < .001$, $d = .64$, 95% CI [.38, .92]). After exposure at T2, participants used more pro-drinking words on average to describe the prototypical student than at T1.

Next, a paired t-test between T1 and T3 revealed a statistically significant difference and small effect size with a 95% CI ranging from small to large ($t(50) = 2.86$, $p = .018$, $d = .40$, 95% CI [.13, .70]). These results suggest that a week after exposure, participants still used more pro-drinking words to describe the prototypical student.

The results from the analyses comparing T1 with T2 and T3 support H1 such that exposure to extreme at-risk drinking video content from social media changed participants' description of the prototypical student.

Hypothesis 2:   Group Norm

It was hypothesized that exposure to pro-partying/drinking social media content would alter participants' reported perceived drinking norm.

To test H2, a 4×3 mixed ANOVA was conducted, with Condition (Control, Neutral, Moderate, & Extreme) as the between factor, Time (Time 1, 2, & 3) as the within factor, and Perceived Drinking Norm as the dependent variable (see Figure 2 for graphical representation). The mixed ANOVA revealed a small generalized effect size and non-significant main effect of Condition on Perceived Drinking Norm ($F(3, 204) = 0.936$, $p = .424$, $\eta^2_g = .01$) and a very small generalized effect size and marginally significant main effect of Time was revealed ($F(1.52, 309.82) = 2.900$, $p = .071$, $\eta^2_g = .002$). Additionally, there was a small generalized effect size and a marginally statistically significant two-way interaction between Time and Condition on Perceived Drinking Norm ($F(4.56, 309.82) = 2.158$, $p = .065$, $\eta^2_g = .01$).

As per the planned analyses, a one-way, repeated measures ANOVA with a Bonferroni correction of the simple main effects for the Extreme condition was conducted. The analysis revealed a small generalized effect size and statistically significant difference within the Extreme condition ($F(1.78, 85.10) = 6.61$, $p = .016$, $\eta^2_g = .02$). As per the hypothesis, two pairwise comparisons were conducted comparing time points for the Extreme condition.

A paired t-test between T1 and T2 revealed a significant difference and moderate effect size with a 95% CI ranging from small to large ($t(50) = 3.04$, $p = .011$, $d = .43$, 95% CI [.11, .82]). Compared to T1, after exposure to extreme risk-taking drinking videos, there was a moderate effect on participants' perceived drinking norms such that participants perceived a typical student consumed more alcoholic drinks when they typically consume alcohol.

Next, a paired t-test between T1 and T3 revealed a significant difference and small effect size with a 95% CI ranging from small to large ($t(50) = 2.64$, $p = .033$, $d = .37$, 95% CI [.08, .80]), which suggest that at T3 there was still an effect on participants' perceived drinking norms 1 week after the exposure. The results of the pairwise comparisons comparing normative support at T1 to T2 and T3 offer support for
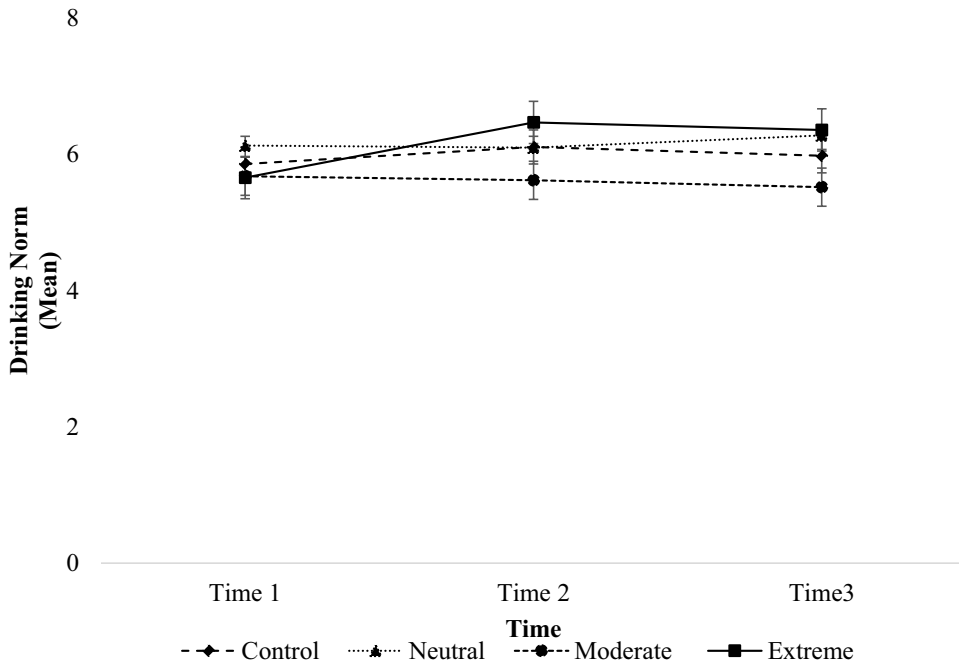
Figure 2. Drinking norm across time by condition. *Note.* Each time point is 1 week apart, and each point on the line graph represents the condition mean for the number of drinks participants perceived the average student drinks at their institution. The error bars represent the standard error of the mean.

H2 such that exposure to extreme at-risk drinking video content from social media increased participants' perceived drinking norms of a typical undergraduate student.

Exploratory analyses

The planned analyses involved comparisons across time points. Another approach to examining the effect that exposure to at-risk drinking video content from social media has on one's prototypes and normative perceptions is to examine the change in mean between conditions at each time point. For statistical completeness, pairwise comparisons examining the changes between the Extreme condition and the other three conditions in prototype perception at T2 and T3.

Pairwise comparisons with a Bonferroni correction at T2 revealed a medium to large effect size and statistically significant difference between the Extreme and Control conditions ($t(101) = 3.90$, $p = .001$, $d = .77$, 95% CI [.37, 1.17]), Extreme and Neutral conditions ($t(101) = 3.94$, $p = .001$, $d = .78$, 95% CI [.38, 1.17]), and the Extreme and Moderate conditions ($t(101) = 3.82$, $p = .001$, $d = .75$, 95% CI [.35, 1.15]).

Pairwise comparisons with a Bonferroni correction at T3 revealed a medium effect size and statistically significant difference between the Extreme and Control conditions ($t(101) = 3.07$, $p = .017$, $d = .60$, 95% CI [.21, 1.00]), Extreme and Neutral conditions ($t(101) = 3.72$, $p = .002$, $d = .73$, 95% CI [.33, 1.12]), and the Extreme and Moderate conditions ($t(101) = 2.78$, $p = .039$, $d = .55$, 95% CI [.15, .94]). These analyses suggest that the differences in perceived prototypes at T2 and T3 are due to the manipulation of seeing party/drinking videos from social media.

We also explored the effect that exposure to at-risk drinking video content from social media videos has on one's perceived drinking norms between conditions at each time point. To examine whether the change in perceived drinking norms was due to the manipulation, pairwise comparisons between

the Extreme condition and the other three conditions were conducted for T2 and T3 for the norm measure. All Pairwise comparisons at T2 and T3 revealed a non-significant effect of condition on group norm. Only the Moderate condition showed a small effect at T2 ($d = .35$, 95% CI [−.04, .77]) and T3 ($d = .39$, 95% CI [.00, .78]) when compared with the Extreme condition, but both did not reach statistical significance after Bonferroni correction.

Discussion

The present research provides experimental data to aid in understanding the dysfunctional influence of social media on student alcohol consumption. Specifically, the experiment provides evidence that viewing at-risk drinking video content from social media influences the perception of the prototypical group member and perceived drinking group norms of participants toward pro-drinking perceptions, and the influence was sustained a week later. This research provides important experimental insight into how extreme posts on social media can contribute to the ever-increasing problem of student alcohol consumption and its harms, which includes an estimated 1,500 deaths in the U.S. per year (Hingson et al., 2017).

Shaping group perceptions

The findings of the present study provide experimental data to inform how group perceptions are influenced by social media in the context of alcohol consumption. Specifically, our research helps understand how exposure to social media shapes the perceptions of the prototypical member of a student's social group and of how normal alcohol consumption is among their social group.

Prototypes are assumed to result from the averaging of existing exemplars (e.g., Medin et al., 1984). In the case of social groups, these representations have been assumed to be dynamically updated as individuals are exposed to new exemplars (Turner et al., 1987). The findings of the present study provide experimental evidence supporting this notion. As the results suggest, within the extreme risk-taking drinking condition, participants ended up choosing more characteristics that encourage problematic drinking to describe the prototypical student, and this effect was sustained a week later. Exploratory analyses examining the changes across conditions at each time point also supported the notion that following exposure to social media content at Time 2 participants in the extreme condition chose more pro-drinking characteristics to describe the prototypical student compared to the other conditions, and the effect remained at Time 3. Combined, these results suggest that the social media video example influences the group prototype and supports previous research that suggests exemplars shape prototypes (e.g., Medin et al., 1984).

Related to the prototypical representation of group members, group norms also play a key role in how social groups are perceived (see Turner, 1991). Although the powerful influence of social norms has been often argued for (c.f., Schultz et al., 2007), including in the context of alcohol consumption (see Neighbors et al., 2007), little research has examined how social norms are shaped and the available work tends to be correlational. The current findings provide experimental evidence to support a pattern observed in the limited available work (e.g., Kashima et al., 2013; Miller & Prentice, 1996). Specifically, the results of the present research suggest that observing the actions of fellow group members conveys the group norm, particularly when they are acting in notable ways. Furthermore, the results suggest that the influence of observing the actions of group members on social media can persist over time. The findings thus provide important insight in understanding the ever-increasing alcohol consumption problems on college and university campuses.

Where does the ignorance come from?

The notion that students experience pluralistic ignorance and overestimate social norms when it comes to alcohol consumption is well documented (e.g., Perkins, 2007; Prentice & Miller, 1993). This

discovery has spurred a wave of interventions to change normative perceptions in the hopes of addressing the ever-increasing problem of alcohol consumption by students (see Moreira et al., 2009). Some of these interventions have shown promise (e.g., Neighbors et al., 2011), others have failed (e.g., Russell et al., 2005), but worst some have backfired increasing problematic alcohol consumption by students (e.g., Werch et al., 2000). Thus, further understanding of how students estimate normative perceptions is central to helping develop effective interventions.

The current research informs a central question when it comes to pluralistic ignorance and student alcohol consumption: where does the misperception come from? The misperception of pluralistic ignorance derives from inferring the internal disposition of a group member(s) (i.e., how they feel toward a situation) based on their behavior, with a tendency to infer one's disposition based on salient behaviors over less-salient ones (Miller & Prentice, 1996). Salient behaviors tend to be those that are outward in nature like one's attitudes (e.g., favorability toward binge drinking) or frequency-based traits (e.g., how often they drink) compared to less outward behaviors like one's capacities (e.g., academic performance in school).

The findings from the current study provide a unique insight in pluralistic ignorance since they suggest that risk-taking alcohol consumption content on social media is more salient than the other types of drinking or social media content. As such, they have a greater influence on one's perceived group prototypes and norms pushing them toward risk taking alcohol consumption. Moreover, most of the previous research that established pluralistic ignorance among students and alcohol consumption was done before social media was ubiquitous (e.g., Prentice & Miller, 1993), meaning students needed to observe risk-taking alcohol consumption in direct proximity to others or from movies. Today, however, students have at their fingertips real-time, context-relevant examples of high risk-taking drinking, thus reinforcing the perceived prototypical and normal drinking behavior of their peers.

Social media and bias toward risky drinking

Cialdini et al. (1990) introduced a distinction between two main types of norms, injunctive norms (what most people should do) and descriptive norms (what most people do). Decades of research by Cialdini and his colleagues, among others, has suggested that descriptive norms offer powerful influence on behavior (e.g., Cialdini, 2003), including health behaviors and alcohol consumption (see Giguere et al., 2019). Social media posts provide a unique medium to relay information about descriptive norms. Indeed, they expose users to the behavior of others, and as such have the potential to influence the perceptions of social groups, including the common actions of prototypical group members and the descriptive norms of the group. As the results of the current study suggest, viewing social media posts that display risk-taking actions, in this case risky drinking, has the potential to influence the perceptions of viewers.

The possible impact of social media in skewing perceptions of viewers is particularly troubling given that there is increasing consensus that social media platforms facilitate the viewing of extreme and risky behaviors. Research by Bigley and Leonhardt (2018) has demonstrated that social media tends to display content that is more extreme than what would typically be observed offline or in a non-media context. Examples of extreme and risky behaviors in terms of drinking and partying have also been well documented among American and Canadian Instagram accounts that are dedicated to displaying college and university student partying. For example, news articles have reported on a popular American Instagram account called "I'm Shmacked" and a popular Canadian Instagram account called Canadian Party Life (CPL), which combined have over 1 million followers, for posting extreme, risky behavior of drunk students jumping from roofs onto tables (Berman, 2018), swinging from power lines (Mazur & Semple, 2019), vandalizing vehicles or punching police officers (Lorenz, 2019; Mazur & Semple, 2019), and drinking harmful amounts of alcohol in a short period of time (Lorenz, 2019; Noory, 2019). Moreover, both these accounts have affiliate accounts with specific colleges and universities in their respective countries that depict risky drinking and partying behavior at those institutions, further reinforcing this risky behavior at that student's institutions.

Implications

Our findings may help understand why some norm-based interventions are ineffective in terms of changing drinking among university and college students. The results of the present study suggest that viewing extreme risk-taking alcohol consumption content facilitates pro-drinking group perceptions. The results also suggest that exposure to moderate alcohol consumption on social media did not have a comparable influence on pro-drinking group perceptions. Thus, interventions that attempt to present information that supports moderate alcohol consumption may struggle to alter group perceptions among students toward a concordant direction. The results suggest that interventions may need to more extensively consider the competing influence of social media content when it comes to changing beliefs about alcohol consumption among students. For example, in addition to presenting norms that encourage moderate alcohol consumption among students perhaps campaigns on campuses could also encourage students to stop following certain sources of content on social media such as I'm Shmacked and Canadian Party Life.

Limitations and future direction

Among the various limitations of the present work, one limitation pertains to the ecological validity of the study. The researcher went to great lengths to gather real social media videos. In this regard, the main content that participants were exposed to (i.e., the videos) was quite accurate to what would be seen in a non-lab setting. However, the display of these videos was not accompanied by the typical options of social media platforms. For example, participants were not able to comment on the posts they viewed or exchange about them with other users. Future research may benefit from a more extensive examination of ecological validity, such as examining the content on live social media platforms on which users can interact with others.

Finally, the aim of the present study was to examine the impact of social media on group perceptions. Future research may benefit from examining how such changes in cognition impact behavior, in this case alcohol consumption.

Conclusion

The present research aimed to examine the impact that social media had on the perceptions of social groups, specifically group prototypes and norms regarding drinking among university and college students. It was observed that viewing content from social media displaying risk-taking alcohol consumptions influenced group perceptions in concordant directions. As such, the findings of the present research aid in understanding the ever-increasing trends in problematic alcohol consumption norms among university and college students.

Notes

1. Some videos for the non-experimental conditions had to be recreated to match content found online because the content of the needed length or type of behavior was non-available and/or because of copyrights.
2. The list of 20 words was created by a pilot study that asked undergraduate students to list up to 20 stereotypical attributes of students at their university. The list of stereotypical student attributes in the current study was created by the most stereotypical student characteristics from the pilot study. Within the list of 20, there were 5 pro-drinking characteristics.
3. Degrees of freedom appear with decimals due to Greenhouse-Geisser correction, which corrects for any potential deviation of the sphericity assumption (Greenhouse & Geisser, 1959). Girden (1992) recommends the use of this correction for all repeated measures analyses as an approach that balances between the Huynh-Feldt correction, which is often viewed as too liberal, and the lower bound approach, which is often viewed as too conservative.

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Data availability statement

The data and materials described in this article are openly available in the Open Science Framework at https://osf.io/6gjde

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