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To cite this article: Tracy DeHart, Julie Longua Peterson, Jennifer A. Richeson & Hannah R. Hamilton (2014) A Diary Study of Daily Perceived Mistreatment and Alcohol Consumption in College Students, *Basic and Applied Social Psychology*, 36:5, 443-451, DOI: [10.1080/01973533.2014.938157](https://doi.org/10.1080/01973533.2014.938157)

To link to this article: <https://doi.org/10.1080/01973533.2014.938157>



Published online: 25 Sep 2014.



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A Diary Study of Daily Perceived Mistreatment and Alcohol Consumption in College Students

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A 30-day college student diary study examined daily perceptions of mistreatment, state ego-depletion, and evening alcohol consumption. We found that on days college students reported being ego-depleted, the more negative mistreatment experiences they reported during the day the more they drank that evening. In addition, negative mistreatment experiences were positively related to binge drinking on days students were high in ego-depletion but were negatively related to binge drinking on days students were low in ego-depletion. Perceiving mistreatment leads to increased drinking only on days that people do not have the cognitive resources to cope with being discriminated against more adaptively.

Perceiving mistreatment is a threat to the self that results in people feeling rejected (Smart Richman & Leary, 2009) and has a negative impact on mental and physical health (e.g., Clark, Anderson, Clark, & Williams, 1999; Meyer, 2003). One way that people tend to respond to stressful events is by drinking (e.g., Cooper, Frone, Russell, & Mudar, 1995; Hull, 1987). This tendency seems to be prevalent in college, where many students consume alcohol at levels that are typically associated with unhealthy physical and social functioning. The negative consequences of college student binge drinking include school difficulties, injuries, unplanned and unprotected sex, arguments with friends, property damage, and driving under the influence of alcohol (Wechsler, Davenport, Dowdall, Moeykens, & Castillo,

1994). Understanding the situations or interactions that lead to increased drinking may help inform interventions that target college student drinking.

Despite efforts to reduce binge drinking on college campuses, a recent study revealed that 54% of participants were classified as binge drinkers (Fillmore & Jude, 2011). Binge drinking has been defined in the literature on college student drinking as consuming five or more drinks in a row for men or four or more drinks in a row for women (Wechsler & Nelson, 2001). This 5/4 criterion, which accounts for gender differences in alcohol metabolism rates, represents a quantity of alcohol use that has been shown to increase the risk of experiencing alcohol-related problems.

Previous research has found that perceived mistreatment, such as being treated unfairly or poorly based on some personal characteristic, is associated with binge drinking for African Americans (Gibbons, Gerrard, Cleveland, Wills, & Brody, 2004; Martin, Tuch, &

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Roman, 2003), Whites (Broman, 2007), gay men and lesbians (for a review, see Meyer, 2003), and women (Zucker & Landry, 2007). This work has demonstrated that being treated differently based on one's race, gender, or sexual orientation is related to alcohol consumption. However, these studies have been able to demonstrate only that people who retrospectively report more perceived mistreatment also report more drinking. This previous research does not allow us to examine whether people drink more on days they experience more mistreatment. Given the practical importance of this relation, additional research is necessary that employs methods in which individuals provide reports of both mistreatment and drinking behavior in a more dynamic and proximal manner. In the present research, we adopt a prospective daily diary design to investigate whether people drink more in the evenings on days they perceive more versus less mistreatment.

A second aim of the present research is to investigate a potential moderator of the relation between perceived mistreatment and maladaptive drinking behavior. One potential moderator stems from Baumeister and colleagues' (e.g., Baumeister, Vohs, & Tice, 2007; Muraven & Baumeister, 2000) theory that self-regulation is a limited, albeit renewable, resource. Self-regulation is defined as the capacity to change or alter one's responses (such as not consuming alcohol or eating unhealthy foods). According to the strength model of self-control, psychological tasks that require self-regulation (such as threats to the self) draw down the resource, leaving individuals less able to perform subsequent tasks that also require self-regulatory resources (referred to as "ego-depletion"). Consistent with this theory, research has demonstrated that when people are ego-depleted they consume more alcohol (Muraven, Collins, & Nienhaus, 2002; Muraven, Collins, Shiffman, & Paty, 2005). Therefore, it seems likely that people may drink in response to perceived mistreatment when they lack the self-regulatory resources to cope with being discriminated against (i.e., when they are ego-depleted).

A third goal of this study is to demonstrate that any effects of ego-depletion and perceived mistreatment on drinking are independent of the effects of negative affect on drinking. Negative affect is the feelings of sadness, anger, or guilt that may arise in response to negative experiences. There is a good deal of theory and some research suggesting that people drink in response to negative affect (e.g., Conger, 1956; Cooper et al., 1995; Simons, Gaher, Oliver, Bush, & Palmer, 2005). For example, the tension reduction theory of alcohol consumption posits that people drink to reduce a state of tension or arousal (Conger, 1956). In fact, drinking to cope with negative experiences (or emotions) is

associated with the relative absence of other more adaptive coping skills and problematic drinking (Cooper, Russell, & George, 1988). For example, Simons et al. (2005) used an experience sampling methodology and found that students who reported higher negative affect during the day consumed more alcohol that evening and were more likely to report alcohol-related problems (e.g., neglected responsibilities or got into a fight). Therefore, we wanted to demonstrate that it is the lack of the self-regulatory resources to cope with perceived mistreatment and not the negative affect associated with these types of experiences that predicts alcohol consumption.

Finally, we wanted to demonstrate that the effects of perceived mistreatment on drinking were unique and distinct from the effects of negative events on drinking. Perceived mistreatment is a type of threat to the self and people's social identity that results in people feeling rejected (Major & Sawyer, 2009; Smart Richman & Leary, 2009). In fact, perceiving negative evaluations by others can have a profound impact on perceived relational value (Leary, 2005; MacDonald & Leary, 2005), and as a result our motivations to enhance or protect our social worth. Therefore, perceiving mistreatment may require self-regulatory resources to cope with the threat to our social worth that other negative events may not elicit.

In the present study we used a daily diary design to examine the within-person contingencies among daily perceived mistreatment experiences, state ego-depletion, and evening alcohol consumption and binge drinking. We predicted that college students who were ego-depleted would drink more in the evening on days when they perceived more (vs. less) negative mistreatment. However, we predicted that college students who were not ego-depleted would not drink more in the evenings on days when they perceived more negative mistreatment. We also expected to see the same pattern of results for binge drinking, which is associated with more problematic health and social outcomes. In addition, we wanted to demonstrate that drinking in response to daily perceived mistreatment was independent of drinking in response to daily negative events and daily negative affect.

METHOD

Participants

A total of 212 (123 female, 89 male) students from Loyola University Chicago were recruited to take part in a Diary Study of College Student Daily Life. Participants were recruited through the psychology participant pool. Data were excluded from eight

participants who did not complete at least 15 daily surveys across the 30 days. In addition, 51 participants were excluded based on the analyses we conducted because they did not report any perceived mistreatment across the 30 days.¹ The final sample of 153 students (97 female, 56 male) completed an average of 26.61 days ($SD = 3.44$). Participants completed the diary study on 3,989 days of the potential 4,590 (153 participants \times 30 days) reporting days (87% compliance rate). The students' mean age was 19.8 years old ($SD = 1.01$). The sample was composed of 26 ethnic minority (five African American, three Asian American, 11 Latina/Latino, and seven biracial) and 127 (81 female, 46 male) White students. Of the 46 White male participants, 12 were first- through third-generation immigrants and 11 reported that they were gay or bisexual. Therefore, a majority of the final sample (85%) were a member of some group that is often a target of mistreatment (e.g., women, ethnic minority, sexual orientation). Participants received partial course credit for completing the background survey and monetary compensation for completing the daily diary surveys. Participants were paid \$1 for each daily diary they completed. To increase daily compliance, participants received a \$5 bonus for each complete week of daily surveys they completed and were entered into a \$25 lottery drawing for that week.

Overview of Procedure

Participants were recruited to take part in a web-based Diary Study of College Student Daily Life. At the beginning of the study, participants completed an online background demographic survey containing several measures of individual differences. Then, every day for 30 days, participants logged on to a secure (password protected) website to access the daily diary portion of the study and recorded the previous night's alcohol consumption, today's perceptions of mistreatment, today's negative affect, today's negative and positive events, and today's state ego-depletion (along with other measures not related to the current article). Participants were allowed access to the website between 3:00 p.m. and 9:00 p.m. These times were selected so that students were completing the surveys between the end of their classes and before they got too far into their evening's social activities (and drinking).

¹The measure of perceived mistreatment asked participants to report how negative the mistreatment experience was if they reported that it happened. Therefore, participants rated the event only if it occurred. By using these ratings of the mistreatment events, the analyses do not include anyone who did not report any perceived mistreatment over the 30 days.

Daily Diary Measures

Alcohol consumption. Participants reported the number of standard alcoholic drinks they consumed the previous evening. Participants were asked to "report the number of drinks they consumed last night *after* they completed the previous day's diary survey." They were instructed that "one drink equals one 12-oz. can or bottle of beer, one 4-oz. glass of wine, one 12-oz. wine cooler, or 1 oz. of liquor straight or in a mixed drink." From these data we were also able to determine whether participants engaged in binge drinking (0 = no binge, 1 = binge). Binge drinking was defined as 5+ (male) or 4+ (female) drinks (Wechsler & Nelson, 2001).

Daily negative affect. Six negative emotions (*angry, sad, dejected, nervous, ashamed, guilty*) were selected from Larsen and Diener's (1992) mood circumplex and Watson, Clark, and Tellegen's (1988) Positive and Negative Affect Schedule. Participants rated the extent that they felt each emotion at that moment on a 7-point scale from 1 (*not at all*) to 7 (*extremely*). These items were averaged together ($\alpha = .86$).

State ego depletion. Three items were taken from the State Ego Depletion Scale² (Ciarocco, Twenge, Muraven, & Tice, 2009; Janssen, Fennis, Pruyn, & Vohs, 2008). Participants responded to the items ("Right now my mind feels unfocused," "Right now my mental energy is running low," "Right now I am having a hard time controlling my urges") on a 7-point scale from 1 (*disagree very much*) to 7 (*agree very much*). These three items were averaged together ($\alpha = .80$).

Daily events. Each day, participants completed a daily event checklist containing 21 events (14 negative, seven positive) that occur frequently in the lives of college students (adapted from DeHart, Tennen, Armeli, Todd, & Mohr, 2009; Gable, Reis, & Elliot, 2000; Nezlek & Plesko, 2001). Four of the events were in the domain of school ("Received negative feedback on school work"), five events related to family ("Had an especially good interaction with a family member today"), six events related to romantic relationships ("Received criticism from a romantic partner"), and six events related to friends ("Had a disagreement with a friend"). Participants were instructed to check any events that occurred that day and rated how positive or negative the event was on a 7-point scale from 1

²We selected only three items from this scale because daily diary assessments need to be kept short to ensure a good daily compliance. These three items were selected because of good face validity to the construct being measured.

TABLE 1
Descriptive Statistics and Correlations for the Between-Person and the Aggregate Daily Variables

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. Gender	0.63	0.48	—						
2. Daily negative affect	2.12	0.93	-.05	—					
3. Daily positive events	5.04	2.98	.08	-.09	—				
4. Daily negative events	2.30	2.19	-.08	.23**	.07	—			
5. State ego-depletion	2.91	1.12	-.10	.52**	-.15	.21	—		
6. Daily perceived mistreatment	11.13	6.20	-.02	.03	.03	.51**	.03	—	
7. Nightly drinking	1.30	1.62	-.26**	.06	-.04	.05	.27**	-.04	—

Note. *N* = 153. Gender was coded such that 0 = male, 1 = female; thus, positive correlations denote higher values for women relative to men.

***p* < .01.

(*extremely negative*) to 7 (*extremely positive*). Negative events were those events rated as 1, 2, or 3, and positive events were those events rated as 5, 6, or 7. Positive events were recoded so that slightly desirable was rated 1 and extremely desirable was rated 3. We computed positive and negative events by separately summing the ratings for each event for each day and then we averaged the items.

Daily perceptions of mistreatment. Participants were asked to indicate whether they had experienced five discriminatory events that day (e.g., “[You] were treated with less respect than other people,” “People acted as if they thought you weren’t smart,” “[You] were treated with less courtesy than other people,” “People acted as if they were better than you,” and “[You] received poorer service than other people at restaurants or stores”; adapted from the DAS-DQ; Taylor, Kamarck, & Shiffman, 2004). If participants reported that the event occurred that day, they were then asked to rate how negative the experience was on a 7-point scale from 1 (*extremely positive*) to 7 (*extremely negative*). These events were distinct from and did not overlap with any of the daily negative events. Because our sample represented many different groups that are often the target of mistreatment, we kept our perceived mistreatment items general and did not specify any particular target group. Participants’ negativity ratings of these five items were then summed to create a single rating of daily perceived mistreatment.³

RESULTS

Descriptive Statistics

Participants reported a total of 1,446 incidents of daytime mistreatment on 650 separate occasions across

the 30 days. Participants consumed at least one alcoholic beverage on 18.6% of the evenings, and on evenings they drank participants consumed an average of 5.97 (*SD* = 4.59) standard drinks (the scores ranged from 1–20 drinks per drinking evening, *Md* = 4.5). Students drank more on weekend days (*M* = 6.13, *SD* = 4.37) than they did during the week (*M* = 5.75, *SD* = 4.83). Table 1 shows the descriptive statistics and correlations for the between-person and the aggregate (mean across 30 days) daily variables. Women reported a lower average drinking level compared with men. People who reported higher average daily negative affect across the 30 days also reported higher average daily negative events and higher average state ego-depletion. People who reported more average daily negative events also reported higher average state ego-depletion and more average daily perceived mistreatment across the 30 days. Finally, average state ego-depletion was positively associated with average level of drinking, suggesting that people who reported more ego-depletion over the 30 days also reported consuming more alcohol. Aggregated levels of drinking consumption and binge drinking were moderately correlated across the 30 days, $r(182) = .59$, $p < .01$. This suggests that people who tended to drink more over the 30 days also tended to binge drink more. Given the moderate correlation between these drinking outcomes, we examined both drinking consumption and binge drinking.

Multilevel Regression Analyses

We conducted multilevel regression analyses using PROC MIXED and the Glimmix Macro within SAS v9.2. Multilevel regression models allow for the independent estimation of within-person and between-person effects (Kenny, Bolger, & Kashy, 1998; Nezlek, 2001). Our daily diary design contains two levels of data in which the repeated assessments of perceived mistreatment, state ego-depletion, and drinking (Level 1) are nested within participants (Level 2). Specifically, we examined the within-person intercept and slope

³This index of perceived mistreatment reflects both the quantity and severity (i.e., perceived negativity) of discriminatory events experienced/perceived that day.

TABLE 2
Multilevel Regression Results for Perceived Mistreatment and Nighttime Drinking as Moderated by State Ego-Depletion

	<i>Drinking at Night (DV)</i>			
	<i>Drinking</i>		<i>Binge Drinking</i>	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
	Perceived Mistreatment			
Intercept	2.02**	.390	4.35**	1.47
Gender	-.710	.331	-2.10	1.65
Negative Affect	.045	.098	2.27**	.316
Positive Events	-.061*	.026	-.432**	.062
Negative Events	-.062*	.023	-.212**	.054
Perceived Mistreatment	.014	.019	-.053	.041
State Ego Depletion	.011	.168	-1.19	.868
Negative Affect × State Ego Depletion	-.147	.098	-.005	.281
Negative Events × State Ego Depletion	.028	.028	.216*	.090
Perceived Mistreatment × State Ego Depletion	.057**	.021	.416**	.062

Note. Unstandardized regression coefficients are presented for the drinking DV and logits for binge drinking DV.

* $p < .05$. ** $p < .01$.

coefficients between state ego-depletion and daily perceived mistreatment and their level 1 interaction predicting nightly alcohol consumption. All of the Level 1 variables used in our analyses (daily perceived mistreatment and state ego-depletion) were person mean-centered (i.e., centered around each participant's average rating for that variable across the 30 days) to eliminate the effects of individual differences in the reporting of these variables. Therefore, a participant's coefficient for daily perceived mistreatment describes the relation between increases or decreases from that person's average level of perceived mistreatment score and increases or decreases from that person's average level of drinking.

Because we were predicting evening drinking (which was reported the next day) from events that occurred during the day, the possible number of study days per person was 28. In addition, participants had to have consecutive days of data—skipping 1 day resulted in losing 2 days of data, so the average number of study days provided by our participants in the current study was 18.6 ($SD = 9.3$). We included six dummy variables modeled as fixed effects to represent the days of the week, to account for the difference in alcohol consumed on the weekend versus during the week. Because the number of standard drinks is a count variable, we ran nonlinear multilevel regression models using a Poisson sampling model with a log-link function and overdispersion when predicting the amount of alcohol consumed (see Bryk, Raudenbush, & Congdon, 1996, pp. 121–123).

In the analyses where we predicted binge drinking, we conducted multilevel logistic regression (binomial sampling model, logit-link function) analyses using GLIMMIX with SAS. We examined the within-person intercept and slope coefficients of daily perceptions of

mistreatment, daily ego-depletion and their interaction predicting the probability of binge drinking that night (Level 1). Table 2 reports logit regression coefficients for the appropriate logistic model. However, for clarity, in Figure 1 our results have been transformed back into probabilities.

Daytime Perceived Mistreatment and Evening Drinking

We examined whether state ego-depletion moderated the strength of the within-person association between negative mistreatment experiences during the day and the amount of alcohol consumed that evening. We wanted to determine whether any effects we observed for perceived mistreatment were distinct from negative affect and negative events, therefore we controlled for the Negative Affect × State Ego-Depletion and the Negative Event × State Ego-Depletion interactions in the analyses. The results are presented in the left side of Table 2. There was a marginally significant relation between gender and daily drinking, suggesting that women were less likely to drink compared with men. In addition, both positive and negative daily events were negatively related to drinking. Consistent with our predictions, state ego-depletion did moderate the within-person relation between daily perceived mistreatment and evening drinking.⁴ In other words, there was a significant interaction between perceived mistreatment and state-ego depletion (see Table 2). However, the Negative Affect × State Ego-Depletion and the Negative Events × State Ego-Depletion interactions were not significant. Therefore, these two interaction terms were

⁴Gender did not moderate any of the results.

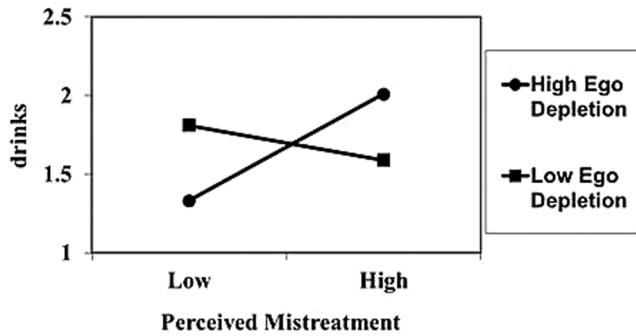


FIGURE 1 Predicting alcohol consumption from daily perceived mistreatment and state ego-depletion.

dropped from the model (which did not change any of the analyses presented).

We examined this Level 1 interaction by using the procedures outlined by Aiken and West (1991). Specifically, two variables were calculated to represent 1 standard deviation above (i.e., high ego-depletion) and 1 standard deviation below (i.e., low ego-depletion) each participant's mean level of ego-depletion. Then analyses were run in which the newly computed high and low state ego-depletion variables were separately entered into our multilevel regression equation replacing the original ego-depletion variable. As suggested by the regression lines depicted in Figure 1, the simple slopes test revealed that the within-person slope between daily perceived mistreatment and evening drinking was significant for days students reported being high in ego-depletion ($b = .05, p = .03$), indicating that participants reported they drank more in the evening on days they also reported feeling more ego-depleted. However, on days they reported being low in ego-depletion, the within-person slope between daily perceived mistreatment and evening drinking was not significant ($b = -.02, p = .51$). In other words, whether participants drank more in the evening on days in which they perceived more negative mistreatment experiences depended on their level of state ego-depletion. In addition, these effects were found controlling for the main and interactive effects of negative affect on evening drinking.

Next, we examined whether state ego-depletion moderated the strength of the within-person association between daytime perceptions of mistreatment and binge drinking that evening (from the same predictors as earlier). The right side of Table 2 also shows that both the Negative Events \times State Ego-Depletion and the Perceived Mistreatment \times State Ego-Depletion interactions were significant predicting evening binge drinking. We examined the nature of the Negative Events \times State Ego Depletion interaction (dropping the nonsignificant interaction term from the model did not change any of the analyses presented). The simple slope analyses

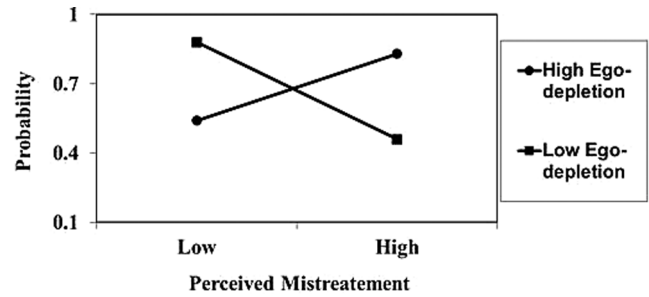


FIGURE 2 Predicting the probability of binge drinking from daily ego-depletion and perceptions of mistreatment.

suggested that students who were highly ego-depleted were less likely to report binge drinking that evening on days when they reported more (vs. fewer) negative events ($b = -.33, p < .01$). However, this effect was significantly stronger on days students were less ego-depleted and reported more (vs. fewer) negative events occurring that day ($b = -2.15, p < .01$). Thus, students were significantly less likely to binge drink on days they reported experiencing a greater number of negative events, and that was especially true on days when they were less ego depleted.

Finally, we examined the simple slope analyses for the Perceived Mistreatment \times State Ego Depletion interaction (dropping the nonsignificant interaction term from the model did not change any of the analyses presented). Consistent with the findings for amount of alcohol consumed, Figure 2 demonstrates that students who were highly ego-depleted were more likely to binge drink that evening on days when they perceived more negative mistreatment experiences ($b = .34, p < .01$) compared with days they perceived fewer negative mistreatment experiences. However, students who were less ego-depleted were less likely to binge drink that evening on days they perceived more (vs. fewer) negative mistreatment experiences ($b = -.45, p < .01$). These effects were found controlling for both negative affect and negative events predicting binge drinking. Taken together, these findings suggest that perceiving mistreatment leads to binge drinking only on days that participants are ego-depleted.

DISCUSSION

The current diary study is the first study to examine the within-person relations among daily perceived mistreatment, state ego-depletion, and alcohol consumption. Specifically, we found that on days when college students reported being ego-depleted, the more negative their mistreatment experiences during the day, the more they drank that evening and the more likely they were to

binge drink. In contrast, on days when college students reported that they were not ego-depleted, daily perceived mistreatment was unrelated to increases in evening drinking and negatively related to binge drinking. These effects were found controlling for both negative affect and negative events. In fact, in response to negative daily events, students were less likely to binge drink, although this effect was stronger on days students were not ego-depleted compared with days they were more ego-depleted. These findings suggest that perceived mistreatment leads to increased drinking only on days in which people do not have the cognitive resources to cope with this threat to the self.

A major contribution of this research is demonstrating that the self-regulatory resources people have available to them influences whether they will drink more in response to perceived mistreatment. In fact, our findings could not be attributed to drinking to reduce the negative affect that likely accompanies perceiving mistreatment or to other negative events. The current findings contribute to a growing body of research suggesting that how people regulate the self in response to perceived rejection, and the resources they have available to do so, precipitates drinking (e.g., DeHart, Tennen, Armeli, Todd, & Affleck, 2008; DeHart et al., 2009). Future research should examine whether people who are ego-depleted intentionally drink to reduce stress (e.g., Cooper et al., 1995) or whether they spend more time with friends (who are drinking) to cope with the rejection from perceiving mistreatment, and as a result end up drinking more themselves (DeHart et al., 2009).

The findings that students were less likely to binge drink in response to negative events (which was stronger on days students were less ego-depleted) and in response to mistreatment if they were less ego-depleted is consistent with previous research (Carney, Armeli, Tennen, Affleck, & O'Neil, 2000; DeHart et al., 2008). For example, Carney et al. found that on days when people experience more negative work and health events, they show decreased alcohol consumption. In addition, DeHart et al. found that people with high and low trait self-esteem both decreased their drinking and desire to drink on days they experience more negative work and health events. Although increases in work or school demands and deadlines may increase stress, they may not lead to increased drinking. Students may spend the week of midterms studying instead of increasing their drinking. That is, work, school, and social constraints may at times interfere with drinking in response to negative events. However, the current work suggests that when students experience increased mistreatment and are highly ego-depleted, they drink as a way to cope with these negative experiences.

One limitation of the current methodology was that we assessed our variables at one time point. Assessing

perceived mistreatment and negative affect that occurred during the day in a daily diary survey later that day may be influenced by retrospective recall. In fact, students' reports of how much they drank last night were assessed via the next day's daily diary survey. Assessing drinking the next day did allow us to conclude that mistreatment during the day leads to increased drinking that evening for students who are ego depleted. A methodology that assesses mistreatment and negative affect in an event-contingent fashion may elicit a different pattern of results (Stone & Shiffman, 1994). Another limitation of the current research was that our participants were mostly White (female) Americans and mostly freshman or sophomores in college.

It is important to remember that a majority of the students in our sample were a member of some group that may be a target of mistreatment (e.g., women, ethnic minority, sexual orientation). One might argue that a college student sample may experience less mistreatment compared to other groups that are typically the targets of discrimination. However, it is the perception that one was mistreated that has been linked to alcohol consumption in previous research (Broman, 2007; Gibbons et al., 2004; Martin et al., 2003; Meyer, 2003; Zucker & Landry, 2007) and in the current study. Therefore, even if our college student sample actually experiences less mistreatment compared with other groups, it is the perception that one was mistreated that likely plays a more important role in people's mental and physical health (e.g., Clark et al., 1999; Meyer, 2003).

Future research should examine whether racial minority group members may be exposed to more and/or more severe forms of mistreatment that may make them susceptible to maladaptive drinking on days that they perceive mistreatment, even if they are not ego-depleted. Alternatively, as a result of parental socialization, members of racial minority groups may be more proficient at effectively coping with mistreatment compared with their White counterparts. Therefore, ego-depletion may not predict increased drinking in the evening on days that racial minorities perceive mistreatment. Given the small number of minority students in the current sample (and the diverse groups they represented), we were unable to examine these interesting possibilities. In addition, because college provides an environment in which a lot of socializing includes drinking, the current findings should be examined in an adult community sample.

Future research should also incorporate variables that capture the antecedents of ego-depletion. For example, there is considerable evidence that school, work, and interpersonal interactions can deplete people's self-regulatory resources (Baumeister et al., 2007). In addition, research suggests that there are individual

differences in the extent that people experience ego-depletion in response to these events (Job, Dweck, & Walton, 2010). Of interest, interracial contact is one such interpersonal interaction that has been shown to predict ego-depletion in both White and Black college students (Richeson & Trawalter, 2005; Richeson, Trawalter, & Shelton, 2005). These findings suggest that minority students on predominantly White college campuses may be particularly susceptible to experiencing state ego-depletion and particularly susceptible to experiencing mistreatment and the identity threat spillover that may occur in other domains unrelated to the identity threat (Inzlicht & Kang, 2010). In other words, the findings of the present study may be particularly relevant for the health and well-being of some racial minority students and other underrepresented groups at most colleges (e.g., gays & lesbians).

When participants are taxed of the resources they need to cope with mistreatment (also see Hatzenbuehler, Nolen-Hoeksema, & Dovidio, 2009), the current findings suggest that they are more likely to engage in negative health behaviors such as binge drinking. Given the negative outcomes associated with binge drinking, including poor academic performance and risky sexual behavior (Wechsler et al., 1994), these data suggest that perceived mistreatment may contribute to disparities in mental and physical health between minority and majority group members. Consequently, future research should focus on the development of interventions that bolster individuals' self-regulatory resources and/or help individuals use more adaptive coping strategies in the face of mistreatment.

FUNDING

The first author was awarded a Loyola University Chicago Research Support Grant to help conduct this research.

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