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“Have a drink, you’ll feel better.” Predictors of Daily Alcohol Consumption Among Extraverts: The Mediation Role of Coping

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Abstract

An abundance of information exists pertaining to individual differences in college drinking behaviors with much attention being provided to the role of personality. However, plausible explanations for what prompts engagement in or avoidance of these behaviors have remained largely ambiguous or underexplored, particularly with respect to extraversion. Research has since explored how coping behaviors contribute to these associations. The present study built on this research by evaluating differences in daily alcohol consumption as a function of coping choice. The mediational effects of two specific strategies frequently observed in high extraversion individuals (i.e., problem-focused coping and social support) were examined. Using a daily diary approach, 365 undergraduates reported their most stressful experience, how they coped with it, and the number of drinks consumed for five consecutive days. Resulting multilevel-models were consistent with hypotheses indicating the relationship between extraversion and alcohol consumption was partially mediated by problem-focused and support-seeking strategies. The use of problem-focused coping by high extraversion individuals was associated with lower levels of daily alcohol consumption, suggesting this strategy may play a protective role in influencing drinking behaviors. Conversely, the positive effect observed for social support approached significance ($p=.054$) and was indicative of a potential risk-factor for daily alcohol consumption.

Keywords

college students; alcohol consumption; coping; extraversion; daily diary

College students have been shown to consume more alcohol relative to similar age groups who did not attend college (Substance Abuse and Mental Health Services Administration, 2006) and may be at higher risk for several physical, psychological, academic, and social problems (Baer, 2002; Kushner & Sher, 1993; Stewart & Devine, 2000). Despite the abundance of existing information on individual differences in college drinking behaviors, plausible explanations for what prompts engagement in or avoidance of these risky behaviors have remained largely ambiguous or underexplored, particularly with respect to the dimension of extraversion (E) who may be susceptible to heavy alcohol use and other risky behaviors given the social and impulsive aspects of their personality (Jackson & Matthews, 1988). Researchers have since explored individual motivations behind drinking

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as a potential link between personality traits and alcohol consumption (Cooper, 1994; Cooper, Frone, Russell, & Mudar, 1995; Cox & Klinger, 1988), particularly the motivation to cope with stress (see Britton, 2004; Cooper, Russell, Skinner, Frone, & Mudar, 1992; Feil & Hasking, 2008 among others). Most studies linking personality and alcohol consumption, however have measured trait-based or dispositional coping behaviors (Connor-Smith & Flachsbart, 2007; David & Suls, 1999; Suls & Martin, 2005) and few (if any) have addressed on how these individuals cope with daily stressors and how the selection or choice of coping strategies may serve to inhibit or increase levels of daily alcohol consumption.

Coping and Personality

Coping has been defined simply as any attempt at regulating one's emotional state, regardless of the effectiveness of the attempts (Folkman et al., 1986). The transactional model of stress and coping views coping as a conscious process that varies with the demands of a given situation (Lazarus & Folkman, 1987) and places less importance on trait-based dispositional forms of coping, rather the process of how individuals attend, appraise, and react to a given stressor (Suls & David, 1996). Events perceived as controllable denote more proactive attempts towards stress reduction (problem-focused coping) while events seen as uncontrollable yield attempts to modify how one responds to a stressor (emotion-focused coping) (Carver & Connor-Smith, 2010; David & Suls, 1999; Lee-Baggle et al., 2005), highlighting the importance of situational and contextual determinants of behavior. However, consistency of the fit between appraisal and coping choice has been shown to vary significantly within persons, and may be more pronounced with problem-focused strategies (Park, Armeli, & Tennen, 2004; Park, Folkman, & Bostrom, 2001).

Of the five major personality dimensions (see McCrae & Costa, 1987) one of the most intriguing but also misunderstood dimensions in the coping literature is that of extraversion (E). High E is often associated with positive emotionality, assertiveness, vibrancy, sociability, and optimism (McCrae, 1992; McCrae & Costa, 1987; Robinson, Solberg, Vargas, & Tamir, 2003). These high E individuals tend to appraise situations as challenging rather than threatening (Amirkhan, Risinger, & Swickert, 1995; Carver & Connor-Smith, 2010; Lee-Baggle et al., 2005), to engage in more proactive or problem-focused attempts at coping (Amirkhan et al., 1995; De Longis & Holtzman, 2005) as well as adaptive forms of emotion-focused coping (Lee-Baggle et al., 2005; McCrae & Costa, 1986), and tend to utilize fewer maladaptive and avoidant strategies (Amirkhan et al., 1995; Carver & Connor-Smith, 2010; Lee-Baggle et al., 2005). Moreover, high E individuals experience fewer stressors overall and do not react as strongly when they do (Connor-Smith & Flachsbart, 2007; Gunthert, Cohen, & Armeli, 1999; Suls & Martin, 2005).

Given their high levels of sociability (McCrae & Costa, 1987), it is no surprise that high E individuals approach others for support in times of duress (Amirkhan et al., 1995; Bolger & Eckenrode, 1991; Swickert, 2009; Swickert, Rosentreter, Hittner, & Mushrush, 2002). Social support has received significant attention in the coping literature regarding its role in the coping process; specifically as to which coping domain it falls under (problem or emotion-focused). In a recent review of personality and coping literature, Carver and Connor-Smith (2010) argued this distinction may be situationally-determined. Social support seeking may be considered problem-focused if the goal is to obtain advice regarding how to approach a problem/stressor, or emotion-focused if the goal is to obtain emotional support following a problem/stressor (Carver & Connor-Smith, 2010). Research has shown when the type of support provided does not match or is inappropriate given the stressor one is exposed to, social support may become ineffective or maladaptive, leading to certain risky behaviors including alcohol consumption (Cutrona, Shaffer, Wesner, & Gardner, 2007; Thoits, 1995).

Extraversion, Coping, and Alcohol Consumption

According to the Tension-Reduction Hypothesis (Conger, 1956), alcohol consumption allows for temporary relief from daily stressors, thereby reinforcing certain faulty coping strategies (Mohr et al., 2001). Furthermore, consuming alcohol in an attempt to regulate negative affect (i.e., to cope) has been linked with solitary drinking, heavy episodic drinking, avoidance drinking, and alcohol related problems. Among college students, research has not only observed more alcohol related problems among those who drink to cope than those who drink for enhancement or social motives (Kassel, Jackson, Shannon, & Unrod, 2000), but also higher quantities of drinks being consumed per occasion as well (Britton, 2004). Continued use of alcohol to cope with one's negative affect may deteriorate adaptive coping skills thereby predisposing them to drink more when stressed which can lead to future alcohol dependence (Cooper, 1994; Cooper et al., 1995; Field & Quigley, 2009; Gonzalez et al., 2009; Stewart & Devine, 2000).

The use of proactive coping strategies has been shown to be efficient methods by which individuals can reduce deleterious effects of stress on both health and well-being (Lazarus, 2006). Specifically as it relates to alcohol use, problem-focused coping has been linked with both lower levels of consumption (Feil & Hasking, 2008) and also reported problems (McCreary & Sadava, 1998). These direct forms of coping are among the most commonly employed by high E individuals (Amirkhan et al., 1995; Carver & Connor-Smith, 2010; Lee-Baggeley et al., 2005). This supports the idea that those high in E may be less likely to engage in stress drinking and are less likely to experience problems associated with heavy alcohol use. However, researchers claim that other features (i.e., sensation seeking and impulsivity; Baer, 2002; Grau & Ortet, 1999; Jackson & Matthews, 1988) observed in high E may lead to *increased* alcohol use. These individuals are motivated by social relationships (Hussong, 2003; Kuntsche, von Fischer, & Gmel, 2008), and tend to seek out others when stressed. Within the college drinking environments, support seeking among high E individuals may provide means by which they can avoid a potential stressor, and has been linked with greater alcohol consumption (Aldridge-Gerry et al., 2011). Moreover, research has shown those high in E tend to drink more heavily in environments where drinking is condoned and social interaction is expected (Cooper et al., 1992; Fischer, Smith, Anderson, & Flory, 2003; Hussong, 2003).

Measuring Coping in Situ

Criticisms of prior conceptualizations of coping have been that most studies have focused heavily on the experience of major life stressors (Bolger, DeLongis, Kessler, & Schilling, 1989) or have looked primarily at dispositional measures of coping (trait-based coping) which do not accurately reflect the nuances and impacts of daily stressors, and relationships that should exist are often overshadowed (Connor-Smith & Flachsbart, 2007). Moreover, these models are most often derived from cross-sectional reports which forces one to recall prior stressful experiences and how one has coped; the accuracy of which diminishes rapidly (Armeli, Todd, & Mohr, 2005). Cross-sectional accounts may also fail to detect minor fluctuations which can occur between and also during onsets of stressful events (DeLongis & Holtzman, 2005).

Recent research has inspired a shift towards the adoption of a model coping which is a state-based, contextually dependent process (Lazarus, 2006; Lazarus & Folkman, 1986) and have attempted to disentangle these situational and contextual issues by measuring coping in situ using a daily diary methodology (e.g., DeLongis & Holtzman, 2005; Lee-Baggeley et al., 2005). Daily or minor stressors are not only more readily occurring than major life events, but also require more immediate attention (Bolger et al., 1989). Daily reports of stress and

coping allow for an in-depth examination into underlying processes associated with coping (Mohr et al., 2003), place less strain on participants having to recall previous coping attempts, thus systematically reducing retrospective bias and subsequently yield more accurate results regarding the relationship between coping and personality (Connor-Smith & Flachsbart, 2007; David & Suls, 1999; Suls & Martin, 2005). These daily assessments have helped clarify prior inconsistencies in the personality and coping literature such as E being unrelated to problem-focused coping (O'Brien & DeLongis, 1996) or adaptive emotion-focused coping (including social support; David & Suls, 1999; O'Brien & DeLongis, 1996).

Present Study

Consistent with transactional models of coping behavior, Bolger and Zuckerman (1995) reasoned that mere exposure to varying types of stressors does not allow for adequate prediction of outcomes; rather individual *reactions* to stressful experiences provide the most useful information (see also Bolger & Schilling, 1991). Evidence from their study supports a mediational model (i.e., coping choice) in which individuals (based on personality dimension) are predisposed to cope in certain ways, and those strategies lead to specific outcomes (Bolger & Zuckerman, 1995).

Using a daily diary approach, the present study tested the applicability of Bolger and Zuckerman's (1995) differential coping choice model in a sample of undergraduate college students. Focusing on the dimension of extraversion, we expected high E individuals (relative to low E) to be more likely to employ problem-focused strategies and seek the support of their social network when faced with stressful events. Additionally, measuring alcohol consumption as our primary outcome, we expected to find evidence that coping mediated the relationship between E and alcohol use. More specifically, we believe individuals high in E (relative to low E) who report using problem-focused coping will also report lower frequency of alcohol use. Conversely those high in E (relative to those lower in E) who use social support should report higher frequency of alcohol use.

Method

Participants

Participants were college students recruited from a large western university. Three hundred and sixty-six participants completed all target measures (described below). There were more female than male participants (68.5% vs. 31.5%) and ages ranged from 17 to 25 years ($M = 20.14$, $SD = 2.10$). This multiethnic sample was composed of Caucasians (37.6%), Asian Americans (30.6%), Hispanics/Latinos (20.7%), African Americans (9.1%), and individuals who were either biracial or some other ethnic group (2%). The sample also represented a cross-section of majors at the university, with larger percentages of Business (24.0%) and Psychology (15.9%) majors, respectively. Moreover, 51% of the participants were 1st year students.

Measures

Daily diary pages assessed three primary variables: Stress, coping, and alcohol consumption. Personality and demographic variables were completed at one administration point.

Perceived stress/controllability—Participants were asked to first describe the most stressful or bothersome event that had occurred during each day using an open-ended format. These events were classified according to type of stressful event (e.g., academic, peer relationship, parent relationship). Next the participants rated the perceived stressfulness of the event using a 5-point rating scale (1 = *very slightly* to 5 = *extremely*). Additionally,

participants were asked their level of perceived controllability over this stressful experience (“How much do you feel you can control the outcome of this event?”), on a 5-point scale (1 = *no control* to 5 = *absolute control*).

Coping—Daily coping was assessed with 28 items reflecting 14 specific coping strategies using a 4-point scale (1 = *not at all* to 4 = *a lot*). These items were taken from the Brief COPE (Carver, 1997), the Children's Coping Strategies Checklist and the How I Coped Under Pressure Scale (Ayers & Sandler, 2000) and the Responses to Stress Questionnaire (Connor-Smith, Compas, Wadsworth, Thomsen, & Saltzman, 2000). Two daily coping variables were used based on a recent multilevel factor analysis (see Roesch et al., 2010 for a full exposition of the use of this technique and derivation of the factors): (1) Social Support (mean $\alpha = .77$; composed of problem-focused and emotion-focused support items; e.g., *talked to my friends about how I was feeling*); and (2) Problem-Focused Coping (mean $\alpha = .80$; composed of problem solving and cognitive decision making items; e.g., *thought about what I need to know to solve the problem*).

Alcohol consumption—The total number of standard drinks consumed per day was calculated from daily reports of the number of drinks consumed. The scale was modeled after Armeli and colleagues (2006) daily measure of alcohol consumption. Prior to initiating daily reports, participants were familiarized with the concept of a standard drink and instructed about the volumes of different beverages and their equivalents to a standard drink (i.e., 12-oz beer, 4-oz glass of wine, or 1-oz glass of spirits). For convenience, instructions were also provided to participants on the daily questionnaire.

Personality questionnaire—To assess the dimension of E, the 10-item E scale from the International Personality Item Pool (IPIP; Goldberg, 1999) was used. Instructions asked participants to rate how accurately each of the items described them using a 5-point scale ranging from 1 = *very inaccurate* to 5 = *very accurate* ($\alpha = .88$) using statements like “*I make friends easily*” and “*I have little to say*”.

Procedure

Participants were recruited via flyers, course/club presentations, and university seminars. Once an individual agreed to participate they received instructions (via email) on how to complete the web-based daily diary page over the course of five days. Web-based diary studies have been shown to yield similar results to both lab (Birnbaum, 2004) and paper-based studies (Green et al., 2006). Potential participants signed an electronic informed consent prior to participating in the study. Participants then completed the IPIP and the demographic questionnaire and were given instructions on how to complete the web-based daily diary page over the next 5 consecutive days. Participants were given a username and password (that they could change) to access the secured website in order to complete the diary page. These procedures are consistent with recent web-based daily diary studies (Nezlek, 2005; Park et al., 2004). Compliance with the diary page at the end of the day was high, with the modal response time of reporting being 9:43 PM and over 85% of observations reported after 7 PM. Participants were paid \$25 at the completion of the study.

Preliminary Data Analyses—After preliminary data screening and cleaning, multilevel modeling was used to analyze the data according to the particular hypotheses specified (see Nezlek, 2001; Raudenbush & Bryk, 2002). The primary analyses were conducted on two-level models. The measures of alcohol consumption, and coping from the daily diary page are considered lower-level (level-1) variables, whereas personality factors are considered higher-level (level-2) variables. Level-1 predictor variables were group-mean centered. Thus, aggregate versions of the target level-1 predictors were also added to the

intercept equation at level-2 to account for between-individual variance. Time of day, day of week, generational status, gender, and perceived stress (from the daily diary page) were evaluated for use as covariates in the target analyses. All analyses were conducted using HLM 6.06.

Results

Descriptive Statistics

A total of 1,760 daily diary observations were completed for the 365 participants, with close to 30% of observations falling on a weekend (defined as Friday through Sunday). Participants in this study had a mean extraversion score of 3.36 ($SD = .74$). Exposure to daily stressors yielded an average perceived stressfulness of 3.57 ($SD = 1.08$) while the mean perceived controllability of those events was 2.91 ($SD = 1.18$). Of the coping strategies of interest (i.e., problem-focused and seeking social support), participants primarily used problem-focused coping ($M = 2.63$, $SD = 0.84$) with lesser use of social support strategies ($M = 1.88$, $SD = 0.82$). One-hundred sixty five participants (approximately 45%) reported consuming alcohol at least once during the five reporting days. Students consumed alcohol 322 of the 1,760 total reporting days (approximately 18% of observed days) with an average number of drinks consumed per occasion of 3.73 ($SD = 3.26$).

Multilevel Regression Models

Bivariate analyses were conducted to test for significant covariates with the target outcome variable (alcohol). Level-1 predictors included the day of assessment, perceived control over stressor, perceived stressfulness, and a dummy-coded variable comparing weekday vs. weekend (weekday referent group). Level-2 included dummy-coded versions of gender (male as referent group), ethnic comparisons of minority groups (Asian, Hispanic/Latino, African American) to Caucasians, and also age. All continuous covariate variables were grand mean centered and treated as fixed effects. A multilevel Poisson model was used given that alcohol is a count variable with a positive skew ($M = 0.67$, $SD = 1.99$). A log-link function with an over-dispersion parameter was used due to the high standard deviation. Individual level results indicate that male gender and older age (event rate [ER] = 0.70, 95% CI [0.53, 0.94], $p = .017$; and ER = 1.11, 95% CI [1.04, 1.18], $p = .002$ respectively) are predictive of greater alcohol consumption among undergraduates whereas minority group membership was associated with lower levels of alcohol consumption relative to Caucasians (African Americans, ER = 0.46, 95% CI [0.31, 0.70], $p < .001$; Hispanic/Latinos, ER = 0.58, 95% CI [0.44, 0.78], $p = .001$; Asian Americans, ER = 0.55, 95% CI [0.37, 0.80], $p = .002$). Only weekend (vs. weekday) was significantly associated with daily alcohol consumption (ER = 3.42, 95% CI [2.84, 4.12], $p < .001$). These statistically significant covariates were included in all subsequent predictive models of alcohol consumption.

In order to reveal the mediational influence of coping on the extraversion/alcohol consumption relationship, a direct link was tested between extraversion and alcohol consumption controlling for the significant covariates. A significant direct effect for extraversion was found, such that those high in extraversion drank significantly more relative to those lower in extraversion, controlling for the significant covariates. This effect can be interpreted by evaluating the exponentiated log-link function of the regression equation.

$$\ln(\text{Alcohol}') = B_0 + B_1 E$$

$$e^{\ln(\text{Alcohol}')} = e^{(-.570 + .304E)}$$

This equation allows for the prediction of the quantity of alcohol an individual consumes based on their score from the extraversion scale. For example, a participant with an extraversion score of 4.1 (one standard deviation *above* the mean), is predicted to consume approximately two drinks per occasion (1.97), while someone with an extraversion score of 2.62 (one standard deviation *below* the mean) is predicted to drink approximately 1.25 drinks per occasion.

This same set of covariates was used to test the second portion of our mediational model, the association between our coping variables and extraversion (antecedent to mediator paths). While none of the individual-level predictors were associated with the use of problem-focused coping or social support, daily-level predictors such as higher perceived controllability ($B = 0.23, p < .001$) and higher perceived stress ($B = 0.12, p < .001$) were associated with *greater* use of daily problem-focused coping, whereas only higher perceived stress was associated with the use of social support ($B = 0.13, p < .001$). The use of problem-focused coping ($B = -0.05, p < .001$) and social support seeking ($B = -0.09, p < .001$) decreased over the five assessment days. Once E was added to the model, the antecedent to mediator paths from both E to problem-focused coping ($B = 0.12, p = .003$) and social support ($B = 0.14, p = .001$), respectively, were statistically significant.

Finally, to test whether the mediator to outcome relationships were statistically significant, a final model was tested. Both individual level coping variables were specified as predictors of alcohol consumption; the corresponding aggregate (mean-level) versions of coping were simultaneously entered into the model predicting alcohol consumption to remove any between-person variability. Thus, the individual level coping variables representing daily use (rather than aggregate use) of coping were included in these analyses. Daily coping variables were entered into the Level-1 equation (group-mean centered) while the corresponding aggregate variables were entered at Level-2 (grand-mean centered). E was also added as a level 2 predictor of alcohol consumption.

As shown in Table 1, significant individual level predictors of alcohol consumption included gender, all ethnic comparisons, age, and extraversion (ER = 1.40, 95% CI [1.16, 1.69], $p = .001$), while mean-level problem-focused and social support coping were not significant ($p = .542$ and $.100$ respectively). There was a statistically significant and negative association between daily level use of problem-focused coping predicting alcohol consumption for this sample (ER = .79, 95% CI [.678, .921], $p = .003$). Conversely, the association of social support seeking with alcohol consumption was positive and approached significance (ER = 1.16, 95% CI [.998, 1.35], $p = .054$; see Figure 1 for a full description of effects).

Discussion

Results from this daily diary study add further to the literature suggesting a complex link between the personality dimension of extraversion, coping strategies, and alcohol consumption. While positive personality qualities of being optimistic, sociable and cheerful (Amirkhan et al., 1995; Lucas & Baird, 2004; McCrae, 1992; O'Brien & DeLongis, 1996) can typically predict positive outcomes, they may mask certain behaviors which leave those high in extraversion susceptible to risky behaviors. In the past, researchers have explained two primary traits of high extraversion which contribute to differing levels of alcohol consumption as well as the development of substance use: impulsivity and sociability (Acton, 2003). Moreover, impulsivity has been shown to be a vulnerability factor for alcohol use in both experimental and cross-sectional studies (Acton, 2003; Cooper, Agocha, & Sheldon, 2000; Grau & Ortet, 1999; Mezquita et al., 2010). Overall, results from this study coincide with previous research that individuals who reported higher levels of extraversion

consumed more alcohol per day relative to those reporting lower levels of extraversion (see also Acton, 2003; Baer, 2002; Fischer et al., 2003; Martsh & Miller, 1997).

Positive appraisals of stress (Amirkhan et al., 1995; Carver & Connor-Smith, 2010) and ample resources to defend against it suggest those high in extraversion are more likely to employ problem-focused coping strategies. As predicted, scores on the extraversion scale were positively associated with the use of these problem-focused strategies to cope with daily stressors. These strategies had a direct and negative association with alcohol consumption suggesting the use of problem-focused coping strategies at the daily level predict *lower* levels of same-day alcohol consumption. While evidence for full-mediation of the extraversion to alcohol relationship by coping was not supported in this study, results do suggest that problem-focused coping partially mediates this relationship and suggest that daily or ongoing use of this strategy may serve to buffer levels of alcohol consumption for high extraversion individuals.

Along with displaying more problem-focused strategies, researchers have consistently shown the importance of interpersonal relationships and support seeking among high extraversion individuals (Amirkhan et al., 1995; Connor-Smith & Flachsbart, 2007; Lee-Baggley et al., 2005; Swickert et al., 2002). Results from this study coincide with previous research, indicating that scores on the extraversion scale were positively associated with the use of social support seeking strategies to cope with daily stressors. Although the use of social support coping and social engagement have most often been associated with positive outcomes, including better health outcomes (Ozer & Benet-Martínez, 2006), this study found the association between social support and increased alcohol consumption was near significance. Although this effect failed to meet traditional statistical significance standards, this finding may be of practical importance as research has shown that peers provide a strong influence on drinking patterns, particularly among college students (Baer, 2002).

Limitations

Given the focused nature of the research questions asked in this study, several limitations should be addressed. While the primary focus of this paper was to present new evidence regarding how extraversion specifically relates to both coping and alcohol outcomes, future research may profit from evaluating all five dimensions of personality as research has shown that differences in how these dimensions present themselves and interact across situations may provide important substantive insight into the relationship between personality, coping, and alcohol use (DeLongis & Holtzman, 2005; Gunthert et al., 1999; Mezquita et al., 2010).

Another limitation arose from the single measure of alcohol consumption. Although the total number of standard drinks consumed per occasion was modeled after a validated measure of alcohol consumption (see Armeli et al., 2006), it may have benefitted from additional measures related to overall alcohol use. Despite this limitation, the current alcohol use measure was selected to specifically assess levels of daily alcohol consumption.

While the state-based effects of perceived stressfulness and controllability of stress were statistically controlled for in this study, the impact of their effects was not interpreted. These factors have been shown to play a role in the utilization of different coping strategies (David & Suls, 1999; Folkman et al., 1986; Park et al., 2004). Moreover, the type of stressor encountered may play a crucial role in the selection of coping strategy and its resulting effectiveness (Cutrona & Russell, 1990; Cutrona et al., 2007; Troits, 1995). Future research should be mindful of the impact of these factors and may benefit by testing for their role as potential moderators of the coping-alcohol relationship.

Although not measured directly, given the college environment, the effect of social support on levels of alcohol consumption may be at least partially indicative of a motivation to socialize with others rather than a desire to alleviate stress, per se, although investigation of this theory is beyond the scope of the present paper. Future research might also benefit from the inclusion of these state-based items assessing contextual as well as motivational factors with the goal of teasing apart individual motivations for drinking from actuarial coping habits. This focus on context and situation has been implemented by researchers like Mohr and colleagues (2008) who discussed how drinking at home or alone is linked with increased use of alcohol to cope with stress and one's own negative affect (see also Christiansen, Vik, & Jarchow, 2002; Cooper, 1994), whereas drinking elsewhere (e.g., at a party or bar) is most typically associated with enhancement and social motives for drinking (Cooper et al., 1992; Cooper, 1994; Hussong, 2003; MacLean & Lecci, 2000).

Another potential source of bias in this study was its use of self-report measures. However, according to Chan (2009), these reports are necessary to evaluate self-referential perceptions (e.g., how one has coped) although could be supplemented by additional measures. Finally, the generalizability of these results to different samples should also be considered. Participants in this study represent a limited age range and demographic, and thus cannot be generalized to the population at large.

Conclusion

Overall, these findings add to the growing literature measuring coping on a day to day basis. While there is an abundance of literature pertaining to college drinking patterns, there is less information available regarding how these patterns are influenced by how one copes with daily stressors and even less as to how this relates to those who score high on extraversion specifically. Personality traits are enduring features which influence individual outlooks, beliefs, and behaviors. These “social-butterflies” have been depicted in a relatively positive light in personality and coping research, and indeed, according to this study effective use of problem-focused strategies towards diminishing stress may serve to reduce alcohol consumption among college students high in extraversion. However, those who tend to seek out the company of friends while stressed may be predisposed to engage in certain risky behaviors, including increased alcohol consumption. Results from this study may be used to inform interventions and programs geared toward reducing college drinking. Particularly as it relates to those higher in extraversion, interventions should emphasize and promote problem-focused coping skills such as planful problem-solving or proactive coping strategies to diminish stress-related drinking. Interventions should also seek to provide individual support and guidance for regulating more impulsive behaviors which may supersede adaptive behaviors and lead to more stress related drinking.

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Figure 1. Mediation pathway: Extraversion predicting alcohol mediated by problem-focused and social support coping.

* Significant at the .01 level

** Significant at the .001 level

Table 1

Predictions of alcohol consumption from coping and extraversion in bivariate multilevel models.

Predictor	<i>B</i> (<i>SE</i>)	<i>p</i>	Event rate [95 % CI]
Weekend vs. Weekday	1.27 (0.10)	<.001	3.54 [2.93, 4.28]
Gender	−0.40 (0.15)	.009	0.67 [0.50, 0.90]
Ethnic comparisons (vs. Caucasian)			
Af. American	−0.72 (0.20)	.001	0.48 [0.33, 0.72]
Hispanic/Latino	−0.48 (0.14)	.001	0.62 [0.47, 0.81]
Asian American	−0.58 (0.19)	.003	0.56 [0.39, 0.82]
Age	0.14 (0.03)	<.001	1.15 [1.07, 1.23]
Extraversion	0.34 (0.10)	.001	1.40 [1.16, 1.69]
Daily Problem-Focused Coping	−0.24 (0.08)	.003	0.79 [0.68, 0.92]
Daily Social Support	0.15 (0.08)	.054	1.16 [1.00, 1.35]
Person-level problem-focused coping	−0.08 (0.13)	.542	0.92 [0.72, 1.19]
Person-level social support	0.17 (0.10)	.100	1.19 [0.97, 1.45]