

The Effects of Social Support, Depression, and Stress on Drinking Behaviors in a College Student Sample

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Social support research contends that supportive interactions provide a buffer wherein individuals are protected from increased risk due to negative affect. The present study investigated the relationships between social support and college students' stress, depression, and alcohol use. A total of 54 students completed questionnaires in exchange for extra course credit. Results demonstrated that stress and depression were correlated with one another and that social support was negatively correlated with each of these outcomes. Depression, but not stress, was correlated with increased drinking behavior. Overall, social support was negatively correlated with alcohol consumption; however, depression moderated the effect of social support such that support and alcohol consumption were negatively correlated for participants with higher depression whereas support and alcohol consumption were positively correlated for individuals with lower depression. These findings partially confirm existing theories of alcohol use that hypothesize differences between self-medicating drinkers and social, sensation-seeking drinkers.

Keywords: Alcohol Use; College Students; Depression; Social Support

It is hard to imagine the American college experience without imagining the consumption of alcohol. Of the drugs available to college students, none is as pervasive or as widely accepted as alcohol (Presley, Meilman, & Lyerla, 1995). Data from the

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Monitoring the Future Study (Johnston, O'Malley, Bachman, & Schulenberg, 2008) indicate that over 83% of college students surveyed have drunk alcohol and over 71% of all college students have been drunk in their lifetime. Data from this report also revealed that 41% of college student respondents had engaged in heavy episodic drinking (commonly referred to as "binge drinking," defined as five or more drinks in one sitting) and 47% had been drunk within the two weeks preceding the interview. 2007 was the first year that the Monitoring the Future Study included data on "extreme binge drinking," defined by Johnston et al. (2007) as 10 or more drinks at a single sitting. Thirteen percent of respondents indicated that they had consumed 10 or more drinks in a single sitting in the two weeks preceding the interview, and an alarming 5% indicated that they had consumed 15 or more drinks at a single sitting at least once in the previous two weeks. Despite the prevalence of periodic episodes of heavy drinking, Johnston et al. (2008) reported that the rate of daily drinking among college students remained fairly low (4.3%).

The role that excessive alcohol consumption plays in problematic behavior is cause for concern at a number of college campuses. In a national study of student drug and alcohol use patterns, Presley et al. (1995) found that about half of all respondents reported that they drank to the point of becoming ill, 40% admitted doing something they later regretted, 30% missed class because of excessive drinking, and over one-quarter reported drinking so much they could not remember what happened to them. Not surprisingly, the study also revealed an inverse relationship between the number of drinks students consumed per week and their grade point average. Despite the problems associated with heavy alcohol use, students around the country continue to abuse alcohol. The majority of these students do not consider their drinking behavior to be problematic (Lederman & Stewart, 2005). For example, Lederman and Stewart found that approximately 36% of freshmen men regularly engaged in heavy episodic drinking but only 5% correctly identified themselves as such.

Reasons for Drinking

Previous work on the nature of alcohol consumption has identified two divergent pathways that regular drinkers tend to follow. Nagoshi and colleagues (Camatta & Nagoshi, 1995; Johnson, Schwitters, Wilson, Nagoshi, & McClearn, 1985; Nagoshi, Wilson, & Rodriguez, 1991; Wood, Nagoshi, & Dennis, 1992) have determined that individuals' motivations to consume alcohol seem to be fueled by fundamentally different drives: those that drink for social enhancement or sensation seeking and those that drink to remedy underlying psychological problems. Social drinkers view alcohol as a component of celebration and are likely to drink when they experience happiness, positive moods, or a celebration (Johnson et al., 1985). Although social drinkers might drink several drinks on any given occasion, they are not considered alcohol abusers because they do not experience significant social or personal problems as a result of their drinking. College students frequently report drinking for social reasons and to decrease their inhibitions (Wood et al., 1992).

Steady, heavy drinkers use alcohol in ways that differ significantly from social drinkers. Whereas social drinkers' motivations to drink are driven primarily by excitement, exuberance, and positive mood, moderate and heavy drinkers report drinking when faced with a number of distressing situations, among them, tension, worry, guilt, anger, and sadness (Johnson et al., 1985). Moderate and heavy drinkers also report the greatest number of problems in their lives. Among college students, steady, heavy drinking is predicted by reports of high-quantity and frequency of alcohol consumption, the expectation that consuming alcohol will lead to impairment, and reports of consuming alcohol to deal with one or more pathological problems (Wood et al., 1992). For these heavy, problem drinkers, it seems that they use alcohol as a coping mechanism to manage daily stressors (Camatta & Nagoshi, 1995).

Social norms research conducted on college campuses has largely confirmed the personality research, particularly in terms of the social benefits of alcohol consumption. In one study, over half of the students surveyed stated that alcohol was essential for social life on campus, and the percentage was significantly higher for students in athletics or the Greek system (Lederman & Stewart, 2005). As expected, students reported that alcohol helped them relax, have fun and lose their inhibitions, but several students believed that alcohol was even more essential to their social development. For these students, alcohol actually facilitated deep, interdependent bonds that otherwise would not have been formed. For example, carrying a friend who had passed out earlier to their home was taken as a sign of true friendship. Other studies have suggested that many of the norms surrounding alcohol use, such as participation in drinking games, are tied in with students' impulsive behavior (Nagoshi, Wood, Cote, & Abbit 1994).

In addition to the social norms associated with alcohol consumption on college campuses, Lederman and Stewart (2005) also noted that a number of students felt that alcohol was used to cope with the stress associated with college life. In qualitative interviews, 14% of students agreed that alcohol consumption was a right of college students needing to "blow off steam" (p. 23). Empirical studies of typical college student stressors have demonstrated that college students face a number of challenges, many of which are completely unrelated to their coursework. One study found that college student stressors could be grouped into four categories: *intrapersonal stressors* (changes in daily routines, additional responsibilities), *interpersonal conflicts* (social activities, roommate conflicts), *academic stressors*, and *environmental stressors* (vacations, computer trouble) (Ross, Niebling, & Heckert, 1999). Other studies have confirmed that interpersonal challenges are a significant source of stress for college students (Edwards, Hershberger, Russell, & Markert, 2001). Edwards et al. found that negative social interactions and daily hassles both had strong, positive correlations with negative physical symptoms. Overall, negative social interactions accounted for the greatest proportion of variance in predicting respondents' experience of unwanted physical problems.

The findings reviewed to this point present two very different perspectives on the nature and scope of alcohol-use behaviors. One line of inquiry has reliably demonstrated that there are fundamentally two types of drinkers: those that drink as a

means of coping and those that drink to cope more effectively with problems and distress. The other line of inquiry has shown that the use and abuse of alcohol is part of the fabric of the college experience. Students believe that their peers use alcohol and as a result expect to use alcohol themselves. One factor that these two perspectives share is a focus on the influence of peer relationships on students' alcohol use decisions.

Social Support

Social support has been defined as the "verbal and nonverbal behavior that influences how providers and recipients view themselves, their situations, the other, and their relationship . . . and is the principal process through which individuals coordinate their actions in support-seeking and support-giving encounters" (Albrecht, Burleson, & Goldsmith, 2004, p. 421). Among the definitions and conceptualizations that exist for supportive interactions, a recent addition to this discussion was Floyd's (2006a) inclusion of supportive communication as a specific subset of affectionate communication. According to his affection exchange theory (AET), socially supportive interactions "convey affection indirectly, through acts of assistance, rather than through behaviors that directly denote affectionate feelings" (Floyd, 2006a, p. 34). The other two types of affectionate communication included in AET are direct verbal and nonverbal expressions of affection. Although the latter types of affection are quite unambiguous in the messages they communicate, expressing support and helping others, especially in times of distress, communicate a very deep level of affection for the other. Regardless of the type of affection involved, AET posits that giving and receiving affection is something innate to humanity that carries with it a host of psychological and physical benefits.

The prevailing mechanism that scholars highlight in explaining the health-promoting benefits of social support is stress buffering. The stress-buffering model posits that one of the primary benefits of supportive communication is its ability to help people effectively appraise and to cope with stressful situations (S. Cohen, Gottlieb, & Underwood, 2000). At each stage in the stress appraisal process, individuals actively evaluate whether or not they possess the social resources to cope with and to manage the threat posed by the stressor. Although some scholars conceptualize this appraisal process as a purely cognitive event, Goldsmith (2004) situates the stress-buffering effects of social support squarely in the context of a specific communication event. Goldsmith's model of stress buffering involves four phases: the support conversation, evaluation of the effectiveness of support (i.e., did the "support provider" make the situation better or worse), coping, and finally improved psychological and physical well-being.

In experimental tests of AET, the presence of affectionate communication (particularly verbal and supportive affection) was a key predictor of participants' overall stress response such that those with the highest levels of supportive and verbal affection in their relationships were most likely to be buffered against the effects of stress (Floyd et al., 2007a).

Health outcomes

Empirical studies have linked the receipt of social support with a number of objective and subjective markers of health (Albrecht & Goldsmith, 2003). Although some of these studies have been inconclusive or even contradictory in identifying the health-related outcomes of supportive communication, the majority indicates that supportive communication promotes both the physical and mental well-being of individuals. Empirical studies of individuals' total health and their social networks have implicated social support in improved immune function (S. Cohen, Doyle, Turner, Alper, & Skoner, 2003; Esterling, Kiecolt-Glaser, Bodnar, & Glaser, 1994), more effective coping and stress management in the face of a potentially terminal illness (for review, see Albrecht & Goldsmith, 2003), and greater longevity overall (Robles & Kiecolt-Glaser, 2003).

In addition to studies related to physical health, research has consistently demonstrated a link between social support and mental health outcomes, specifically, stress and depression. In close relationships, the presence of a stressor is often enough to solicit emotional or tangible support from a relational partner (Bolger, Zuckerman, & Kessler, 2000; Iida, Seidman, Shrout, Fujita, & Bolger, 2008). In perhaps one of the most intriguing studies of social support in the last decade, Bolger et al. (2000) found that emotionally supportive interactions indeed buffered the stress that individuals faced before a major stressor (the bar exam), but this support was most effective when the recipient did not recognize the support. This concept, termed "invisible support," suggests that the most competent way to provide support is to do so without request and without making the provision of support obvious. This finding has also been supported in research featuring hypothetical examples of support provision (Cutrona, Cohen, & Igram, 1990). When individuals are forced to request support from others or when the provision of support is done very publicly, this might in fact do more harm than good (Landis et al., 2007).

Research examining the effects of social support on the occurrence and recurrence of depressive symptoms has been promising as well. In a meta-analysis of studies examining a number of psychosocial factors that contribute to depression, Burcusa and Iacono (2007) note that several studies have determined that social support might play a buffering role in the onset of depression. These studies have found that, when compared to individuals with one or fewer lifelong episodes of depressive symptoms, individuals with chronic or recurring depression receive lower quality support and have fewer members in their supportive networks. They note that these trends seem to be especially salient in female populations. Bolger, Zuckerman, and Kessler (2000) also found that "invisible support" succeeded in lowering the experience of stress-related depressive symptoms among individuals taking the bar exam. In addition, Reinhardt, Boerner, and Horowitz (2006) found that receipt of emotional support (positive wishes, good thoughts, etc.) was inversely correlated with self-reports of depression. This finding is particularly significant given that the receipt of tangible support and assistance was found to contribute to participants' depression in dealing with adjusting to vision loss.

A final area in which socially supportive relationships have been linked with improved health-related outcomes is the research on substance abuse recovery.

In one of the earliest studies in this vein, Westermeyer and Neider (1988) found an inverse relationship between the size of individuals' social networks and the severity of their alcohol abuse. Additionally, larger supportive networks buffered individuals from a number of common comorbidities, including depression, anxiety, and hostility; however, the size of individuals' supportive networks did not correlate with frequency of use or the length of successful abstinent periods posttreatment. It is certainly possible that many of these individuals consumed alcohol as an alternative coping strategy in accordance with the self-medication hypothesis. It is also possible that many of these individuals had one or more alcoholics in their social networks, important social forces that might have increased the likelihood of relapse following treatment. Other studies have determined that the single greatest predictor of eventual substance use, especially in a population of adolescents and young adults, is the presence of another substance user in an individual's social network (Allen, Donohue, Griffin, Ryan, & Turner, 2003).

Supportive Relationships and College Students

The research on supportive relationships suggests that individuals with larger social networks who receive better, more functional support will be effectively shielded from a number of physical and psychological problems. Specifically, individuals with strong support resources should expect better overall immune function (predictive of better health) as well as a decreased probability of stress, depression, and other psychosocial problems. In a study of college students, Delistamati et al. (2006) confirmed that each of the above-named benefits of social support applied to their sample. Overall, students who scored in the highest third of received social support experienced fewer doctor visits in the preceding 30 days, reported fewer psychological problems and also reported the least stress of any group. In contrast, the group that scored in the bottom third of received social support experienced significantly more headaches and gastrointestinal problems and also reported relatively high levels of psychological problems and stress. These findings suggest that the buffering effects of social support are important to college students' overall well-being.

Hypotheses and Research Questions

The studies reviewed to this point have consistently confirmed the prediction of Floyd's (2006a) affection exchange theory that, as a form of affectionate communication, socially supportive interactions can produce tangible physical and mental health benefits for individuals. Furthermore, the work of Delistamati et al. (2006) demonstrated that these benefits are equally beneficial to college students. In the present study, we expect that those with high degrees of social support will report many of these same benefits. To the end, the following hypothesis is offered:

- H1: Social support is inversely correlated with levels of stress and depression among college students.

According to the *Diagnostic and statistical manual of mental disorders*, fourth edition (*DSM-IV*; American Psychiatric Association, 2000), depression is defined as two or more consecutive weeks of feeling “sad, hopeless, discouraged, or ‘down in the dumps’” (p. 349). Participants who suffer from a period of depression are likely to experience one or more comorbidities, which might include anxiety, guilt, worry, or stress. In fact, instances of Major Depressive Disorder are most likely to occur following a significant stressor such as the death of a loved one. Although somewhat less severe, the separation from parents, adjustment to adult responsibility, development and management of social relationships, and pressure to perform academically are likely to promote a great deal of stress in college students. We expect that, for college students, the experience of persistent stressors will be positively related to the experience of depression. As a result, the following hypothesis is advanced:

H2: Stress and depression are positively correlated among college students.

The *DSM-IV* also identifies increased use of substances (including alcohol) as a common comorbidity to both stress and depression. In some cases, stress and/or depression motivate individuals to consume alcohol or other drugs, an assertion consistent with the self-medication hypothesis. In other cases, substance use predates the experience of stress or depression, and the psychosocial illnesses are a result of habitual abuse. In either case, the *DSM-IV* identifies both stress and depression as common correlates of increased alcohol consumption:

H3: Stress and depression are positively correlated with reports of alcohol consumption among college students.

Given that social support should buffer the effects of both stress and depression for college students (H1), the following relationship between alcohol use and social support is hypothesized:

H4: Social support is inversely correlated with alcohol consumption among college students.

Finally, few studies have examined the ways that social support and psychosocial factors interact to influence individuals’ drinking behaviors. The social support literature seems to suggest that as the amount of support increases then the consumption of alcohol (and other drugs) should decrease. The receipt of support from loved ones should serve as a more functional coping mechanism, making the use of alcohol or other substances an undesirable coping strategy. Empirical studies suggesting that there are actually two discrete motivations that differentially affect individuals’ drinking behavior somewhat undermine this premise, though. This trend should in fact be true of self-medicators, but it is uncertain how impulsive, sensation-seeking individuals might respond to the presence of increased social support. These questions give rise to the following research question:

RQ1: Do social support and psychosocial factors like stress and depression interact in the way they influence college students’ drinking behavior?

Method

Measures

Stress was measured using the 14-item Perceived Stress Scale (PSS; S. Cohen, Kamarck, & Mermelstein, 1983). This scale has been used in a number of studies examining the role of stress in communication-related contexts (e.g., Floyd, Mikkelsen, Hesse, & Pauley, 2007). The scale asks participants to identify how many times they have faced a number of stressors (frequency rated on a scale of 1 to 7) in the previous month. Overall, participants indicated a modest amount of stress ($M = 3.64$, $SD = .63$), and men and women significantly differed on reports of stress, $t(51) = -3.52$, $p = .001$, with women ($M = 3.90$) reporting slightly higher levels of stress than men ($M = 3.35$). In the present study, reliability was fairly low with $\alpha = .61$.

Depression was measured using the 11-item Beck Depression Inventory II (BDI-II; Beck, Steer, & Garbin, 1998). In accordance with the *DSM-IV* diagnostic criteria, the BDI-II asks participants to indicate how much they have felt a number of depressive symptoms within the last two weeks on a scale of 1 to 7. Sample items include, "How often do you feel like not eating/have a poor appetite?" and "How often do you dislike yourself?" Participants' scores on depression were fairly low ($M = 2.80$, $SD = .88$), and men and women did not differ in their reports of depression. Reliability for the BDI-II was good with $\alpha = .84$.

Social support was measured using a 30-item version of the Interpersonal Support Evaluation List (ISEL; S. Cohen & Hoberman, 1983). The ISEL asks participants to indicate, on a scale of 1 to 7, the likelihood that a member of their social network would be able to provide them assistance with a number of problematic situations such as assistance with a vehicle, listening to a problem, or discussing family issues. This measure has been used successfully in other college samples (Delistamati et al., 2006) with high reliability. In the present study, participants indicated a high degree of social support ($M = 5.83$, $SD = .93$), and men and women did not differ in their receipt of support. Reliability in the present study was excellent with $\alpha = .95$.

Alcohol consumption was measured with a single item that simply asked participants to indicate how many alcoholic beverages they consumed in an average week. There was a great deal of variability on this item; individuals reported drinking anywhere from 0 alcoholic beverages weekly to as many as 30 alcoholic beverages weekly. The mean number of drinks per week was relatively high given previous work on college students' alcohol consumption ($M = 6.57$, $SD = 6.01$). The modal response was that students consumed no drinks per week, and the median response was five drinks per week. Although men reported drinking slightly more alcohol each week ($M = 7.35$) than women ($M = 5.81$), this difference was not statistically significant.

Results

A total of 54 participants enrolled in interpersonal communication courses at a large, Southwestern university participated in the present study in exchange for extra

course credit offered by the first author. Participants' average age was 21.47 ($SD = 3.32$) and the sample was relatively balanced in the ratio of male to female participants (26 and 27, respectively). The majority of participants, 44 in all, reported that they were white (81.5%), followed by 5 participants who indicated that they were Latino/a (9.3%), 3 participants were black (5.6%), 3 were Asian (5.6%), and 1 each indicated Native American and other (1.9%). Ethnicities total more than 100% as participants were asked to indicate each ethnic group they identified with. One participant failed to complete the demographic portion of his or her questionnaire.

Hypotheses

Hypotheses one and two concerned the relationships that existed between the individual difference variables, stress and depression, and the experience of social support. Hypothesis one predicted an inverse relationship between social support and both stress and depression. To test this hypothesis, two one-tailed bivariate Pearson product-moment correlations were conducted. As predicted, results demonstrated an inverse relationship between stress and social support, $r(50) = -.422$, $p = .001$. A negative correlation was also found between depression and social support, $r(50) = -.581$, $p < .001$. Hypothesis one was supported. Hypothesis two predicted a direct association between stress and depression. Results of the Pearson product-moment correlation confirmed this hypothesis, $r(54) = .392$, $p = .002$. Hypothesis two was also supported.

Hypotheses three and four concerned the relationships that existed between stress, depression, received support, and drinking behaviors. Hypothesis three predicted that stress and depression would be directly associated with participants' drinking behavior. Results of the one-tailed correlations confirmed this relationship for depression, $r(53) = .232$, $p = .047$, but not for stress, $r(53) = -.104$, $p = .230$. Hypothesis three received modest, partial support. Hypothesis four predicted an inverse relationship between social support and alcohol consumption. Results of the correlation analyses confirmed hypothesis four, $r(49) = -.289$, $p = .022$. Overall, these results demonstrated that depression and amount of alcohol consumed were positively associated whereas the receipt of social support and amount of alcohol consumed were inversely related. Contrary to hypothesis three, stress was almost unassociated with the amount of alcohol individuals consumed.

Research question one inquired about the interactions that existed between the social and psychological factors in determining the amount of alcohol consumed by participants. Given that only depression was significantly correlated with drinking behavior, depression was the only variable analyzed in the interaction analyses.

To test the interaction between depression and social support, a hierarchical linear regression analysis was conducted. Before being entered into the regression models, all variables were centered. In hierarchical regression analyses, especially those involving an interaction term, centering variables reduces problems associated with multicollinearity and suppression (J. Cohen, Cohen, West, & Aiken, 2003). The model contained the centered scores for social support and depression as the first step

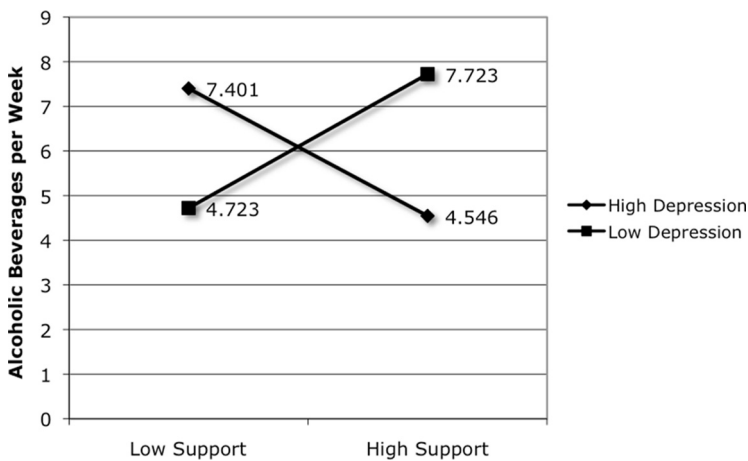
Table 1 Regression Coefficients

Variables	<i>B</i>	<i>SE B</i>	β	<i>t</i>	ΔR^2
Model 1					.085
Depression	.358	1.199	.052	.298	
Social Support	-1.719	1.148	-.259	-1.497	
Model 2					.109*
Depression	-.063	1.150	-.009	-.055	
Social Support	-.036	1.286	-.005	-.028	
Depression \times Support	-1.692	.686	-.441	-2.466*	

* $p < .05$.

and the interaction between these variables as the second step. The overall model containing these variables was significant, $F(3, 45) = 3.62$, $p = .02$, and accounted for nearly 20% of the variance in participants' alcohol consumption, $R^2 = .194$, adjusted $R^2 = .14$. The second block of the equation containing the interaction term accounted for an additional 11% ($\Delta R^2 = .109$) of the variance above and beyond the effects of depression and social support alone, a significant unique contribution to the model, $\Delta F(1, 45) = 6.08$, $p = .018$. The term containing the interaction effect between depression and social support was the only significant contributor to the model, $t(48) = -2.47$, $p = .018$. All information from the regression, including effect sizes, unstandardized coefficients, and β s can be seen in Table 1.

To analyze the magnitude of the interaction, the unstandardized coefficients were used to conduct a visual analysis of the interaction (Figure 1). Plotting simple slopes of the coefficient values in the model containing the interaction term is the simplest way to analyze and interpret the meaning of an interaction (J. Cohen et al., 2003).

**Figure 1** Interaction Between Social Support and Depression on Individuals' Total Alcohol Consumption (+/-1 SD).

As can be seen in Figure 1, the interaction between depression and social support was disordinal, indicating that depression was a significant moderator of the relationship between social support and alcohol consumption. For participants who experienced higher levels of depression, social support was negatively correlated with the amount of alcohol these individuals consumed. For individuals with low levels of depression, the receipt of social support was positively associated with the amount of alcohol these individuals consumed.

Discussion

The findings of the present study confirm much of the work that has examined the role of social support in helping individuals cope with a number of physical and psychological conditions. In the present study, we analyzed the ways that social support and affectionate communication influenced the amount of stress, depression, and alcohol consumption reported among a group of college students. As has been widely established in the psychological literature (Carroll et al., 2007), depression and stress were significantly correlated in this sample. Furthermore, stress and depression were each negatively correlated with the amount of social support individuals received.

Overall, the findings related to social relationships and individuals' experiences of stress and depression lend support to the theoretical positions taken by affection and social support scholars. In the scope of affectionate communication, Floyd's (2006a) affection exchange theory posits that affectionate interactions, including those involving supportive behaviors, help protect the physical health of individuals in a variety of ways. The physiological system most commonly examined in studies of AET has been the body's stress response. In a series of studies, Floyd and colleagues (Floyd, 2006b; Floyd et al., 2007a,b) have shown that both the receipt and the expression of affectionate communication have noticeable effects on individuals' stress responses. These studies have demonstrated greater regularity in stress hormones and decreased reaction to acute stressors for individuals who receive greater amounts of affection as well as greater efficiency in returning the body to prestress levels for individuals who engage in affectionate communication following an acute stressor. Although the present study utilized only self-reported measures of stress, the findings are consistent with AET's hypothesis that supportive, affectionate communication is useful in its ability to buffer individuals from the experience of stress.

Other empirical studies have suggested that a similar buffering process might be at work in the ways individuals cope with depression (Burcusa & Iacono, 2007). One particular study that demonstrated the efficacy of social support in reducing both stress and depression was the previously mentioned "invisible support" study by Bolger, Zuckerman, and Kessler (2000). Although results from the present study validate the claims that social support helps shield individuals from the experience of both stress and depression, it is unclear whether or not individuals were acutely aware of the amount of support they received from their closest relationships. The primary finding from this study was simply that individuals' scores on the all-cause measure of perceived availability of social support had a strong, negative relationship

with self-reports of stress and depression. This is consistent with previous research that has demonstrated that the mere perception of support availability is more important to individuals' well-being than the actual receipt of support (Kaul & Lakey, 2003). In future studies, it would be interesting to see whether received or perceived support was more beneficial in helping students' overall health and influencing their drinking behaviors.

In terms of the amount of alcohol participants consumed, depression was correlated with an increase in drinking behavior. The hypothesized correlation between stress and increased alcohol consumption was not supported in this study. This might be attributable to the fact that reliability estimates for the measure of stress used in this analysis were fairly low. Some recent studies have demonstrated the efficacy of using diaries to track ongoing events like life stress and the amount of affection derived from relationships (Floyd, Hesse, & Pauley, 2009). Future studies examining college students' life stress might incorporate such a method to summarize college students experience with ongoing life stress.

In accordance with previous research on social support, the receipt of support from others was negatively correlated with the amount of alcohol consumed. The relationship between alcohol consumption and social support is especially important in light of the relatively high rate of psychological comorbidities that occur with alcohol abuse. According to the self-medication hypothesis (Wood et al., 1992), consuming alcohol is a maladaptive coping technique that individuals use to decrease the negative affect brought on by the experience of stress, depression, and other types of psychological distress. The findings from this study add to a large body of research that has found that socially supportive relationships are helpful in managing the simultaneous problems associated with negative affect and drinking. Understanding the type and scope of the supportive messages individuals give and receive might provide an additional lens through which researchers are able to explore motivations to drink.

Perhaps the most interesting result to emerge from the present study is the interaction effect that occurred between depression and the amount of social support received in determining the amount of alcohol participants consumed. For those participants with higher levels of depression, socially supportive relationships functioned as would be expected based on previous research; that is, the receipt of social support was correlated with lower levels of alcohol consumption. For participants with fairly low levels of depression, the opposite effect was observed: increased social support was actually associated with *increased* alcohol consumption.

Although this finding seems contradictory in the realm of social support literature, this is not the first study to demonstrate that increases in the size and scope of individuals' social networks are associated with increased alcohol consumption. In a study of 214 freshmen women, LaBrie, Thompson, et al. (2008) found that, compared to students with low-quality social networks, students with stronger social ties and more community involvement were more likely to increase both the quantity and frequency of alcohol consumed. Despite the increase in drinking, the authors reported that those with the greatest social support were also the least likely to experience social or legal

problems as a result of their alcohol consumption. In light of the findings from the present study, we can infer that these college women with strong social networks were likely social drinkers whose drinking decisions were fueled by members of their social networks. More research focused on the specific affective and behavioral consequences of consuming alcohol must be conducted before this relationship can be confirmed.

One potential explanation for this interaction can be derived from the personality theories of alcohol use mentioned earlier. A series of studies have consistently demonstrated that individuals' motivations to use alcohol are influenced by their psychological states: some people consume alcohol excessively when they experience positive emotions whereas others consume alcohol to cope with negative emotional experiences. The interaction between depression and social support confirmed this relationship. Communication scholars could present two potential explanations for the nature of this relationship. First, it might be that people with high levels of depression experience a buffering effect against the presence of negative affect, a prediction consistent with AET and other theories of supportive interaction. Another possible explanation is that alcohol consumption might be inextricably linked to the communication of support among college students. That is, college students are more likely to seek and provide support among their peer relationships when they have been drinking. Future studies will be necessary to determine which of these hypotheses accurately describes the complex relationship between negative affect, social support, and alcohol consumption among college students.

Limitations

These findings must be interpreted with caution because of a few key considerations in the present study. Compared to the theoretic midpoint on each scale, this sample was relatively high in the amount of support they received and relatively low in the amount of depression and stress reported. Although these patterns might be typical of college students (Delistamati et al., 2006), caution must be used when extending these findings to other populations, especially those with clinical diagnoses for depression and/or anxiety disorders. Furthermore, the findings presented in this study are derived exclusively from cross-sectional, correlational data. Implications about the causality of the relationships cannot be inferred from the present study. Future research must be done that addresses these questions using longitudinal research that is able to assess the concurrent development of psychological distress, close relationships, and students' drinking behaviors. Another consideration is the fairly high amount of alcohol participants in the present study reported consuming. The mean number of drinks consumed per week was over six and the median number of drinks per week was five, both significantly higher than the mean of four drinks per week reported elsewhere (Presley et al., 1995). A final limitation of the present study was the relatively small size of the sample. These data were collected as part of a larger study examining the physiological effects of communication and emotion on stress. For physiological studies, a sample of 54 is appropriate (indeed, fairly

large); however, for a questionnaire study, 54 is a small sample. The number of significant findings derived from this sample suggests that the effects found in this study are likely large, but the generalizability of these findings is hampered by the issue of sample size.

Implications for Future Research

In terms of alcohol use and abuse, these findings suggest that socially supportive relationships actually play two very different roles depending on individuals' social and emotional states. These dual roles suggested by this and other recent studies of college students' drinking patterns provide greater complexity to the study of social support. Whereas previous studies have suggested that increased support might help heavy drinkers reduce their alcohol consumption, but this same support might encourage alcohol use among social drinkers. Particular attention needs to be given to the underlying reasons that college students engage in excessive alcohol consumption. In a follow-up to their motivations for drinking study, LaBrie, Huchting, et al. (2008) found that a one-session motivational enhancement training program targeted at women's specific motivations to drink effectively reduced both the quantity and frequency of participants' alcohol consumption over the 10-week trial. Likewise, Lederman and Stewart (2005) developed an hour-long simulation activity that allowed students to discuss their motivations to drink and their decisions in response to hypothetical alcohol-related problems.

For communication scholars, these findings raise important research questions that subsequent studies must address. Given the potential implications of relational health in both helpful (for self-medicators) and harmful (for social drinkers) decisions to drink, careful attention should be given to the progression of these relationships. That is, how and why do individuals seek out influential others who will ultimately affect their alcohol use behaviors? It is likely the nature of these relationships and the messages transmitted between relational partners will vary as a function of whether they discourage or encourage alcohol use. Furthermore, attention should also be given to the construction of college students' social networks. By determining which individuals are pivotal in students' decisions to drink, health communication scholars might be able to "influence the influencers" on the importance of promoting reasonable drinking behaviors.

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