DOES ALCOHOL AND SUBSTANCE USE PREDICT LIFETIME AND PROSPECTIVE SUICIDAL BEHAVIORS IN BIPOLAR INDIVIDUALS?

Jessica D. Keyser, Rachel K. Gerstein, Richard Liu, Shari Jager-Hyman, Evan Kleiman, Patricia D. Walshaw, & Lauren B. Alloy
Temple University

INTRODUCTION

Bipolar disorder is associated with an elevated risk of alcohol and substance use problems as well as a greater risk for engaging in suicidal behaviors. Alcohol and substance use disorders have been shown to have a higher rate of comorbidity with bipolar disorder than with other mood or anxiety disorders (Conway et al., 2006; Grant et al., 2004). Data from the Epidemiologic Catchment Area (ECA) study suggest that, when compared to the general population and individuals with other psychological disorders, individuals with bipolar I and bipolar II disorders have the highest lifetime prevalence rate of alcohol abuse or dependence (46.2% and 39.2%, respectively). Similarly, the prevalence rate of substance use disorders in individuals with bipolar disorder is also elevated, with the results from naturalistic studies suggesting that 21-58% of individuals with bipolar disorder also having a comorbid substance use disorder (Brady & Sonne, 1995). In addition, bipolar disorder also is associated with a greater risk for engagement in suicidal behaviors. Research has shown that individuals with bipolar disorder have a higher rate of suicide than for the general population or individuals with depression and other Axis I disorders (Ahrens et al 1995; Chen & Dilsaver 1996; Harris & Barraclough, 1997 Lewinsohn et al 1995).

Research has also demonstrated a strong link between alcohol and substance use disorders and risk for suicide in the general population (Borges et al, 2000). Thus, it is important for researchers to evaluate whether alcohol and substance use relates to an increase in suicidal behaviors within a bipolar population. To date, few studies have examined the predictive influence of alcohol and substance use on suicidal behaviors in bipolar samples. Additionally, few studies have assessed predictors of suicidal behaviors in bipolar individuals prospectively (Hawton, Sutton, Haw, Sinclair, & Harriss, 2005). In this study, we plan to examine the relation of alcohol and substance use to past and future suicidal behaviors in individuals diagnosed with bipolar II disorder or cyclothymia. Specifically, we will examine whether alcohol and substance use is associated with lifetime history of suicidal ideation and attempts, as well as predicting prospective suicidal ideation and attempts.

METHODS

Participants and Procedures

• This study included 97 individuals diagnosed with either Bipolar II or Cyclothymia, who were drawn from the Longitudinal Investigation of Bipolar Spectrum Disorders (LIBS) project.

• At time 1, we screened participants using an expanded Schedule for Affective Disorders and Schizophrenia—Lifetime (SADS-L) diagnostic interview, which assesses lifetime history of several psychological disorders. If participants met criteria for Bipolar II disorder or Cyclothymia, they were invited into the study and were asked to also complete the Beck Depression Inventory (BDI; Beck, Steer, & Brown, 1996), The Michigan Alcoholism Screening Test (MAST; Selzer, 1971), and The Drug Abuse Screening Test (DAST; Gavin, Ross, & Skinner, 1989).

• For the prospective follow up, we interviewed the participants every 4 months using an expanded Schedule for Affective Disorders and Schizophrenia—Change (SADS-C) diagnostic interview. The average prospective follow up period was 37 months.

• Using scores from the MAST and the DAST, we created continuous variables to examine alcohol and substance use problems.

Variables

Depression. Depression was measured using the Beck Depression Inventory (BDI; Beck, Steer, & Brown, 1996).

Alcohol and Drug Use. Alcohol use in this study was measured using the Michigan Alcoholism Screening Test (MAST; Selzer, 1971). Drug use in this study was measured by the Drug Abuse Screening Test (DAST; Gavin, Ross, & Skinner, 1989). We examined Alcohol and Drug Use separately, as well as combined. To get a more complete understanding of Alcohol/Substance use patterns, we averaged participants' reported use across the first three time points in the study.

Retrospective and Prospective Suicidal Behavior. We coded the number of past suicide attempts as well as discrete periods of suicidal ideation from the SADS-L interview. Similarly, we coded the number of prospective suicide attempts and discrete periods of suicidal ideation from the SADS-C interviews. Because of the low occurrence of suicide attempts (n=2), we collapsed suicide attempts and suicidal ideation into one category, suicidal behaviors. We then examined retrospective and prospective suicidal behaviors separately as well as combined.

Table 1. Sample Demographic Information

Age
Range: 18-25 years
Mean: 19.71
SD: 1.74

Gender
Female: 64%
Male: 36%

Ethnic Background
Caucasian: 54.9%
African American: 20.9%
Hispanic 3.5%
Asian: 3.5%
Other: 13.9%

Table 2. Correlations between BDI and Suicidal Behaviors

Past Suicidal Behaviors	.237*
Prospective Suicidal Behaviors	0.166
All Suicidal Behaviors	.271*

*Significant at alpha < 0.05

Table 3. Controlling for BDI, correlations between MAST, DAST, and MAST/DAST combined and Suicidal Behaviors

	MAST	DAST	MAST/DAST Average
Past Suicidal Behaviors	1.565	-0.828	0.864
Prospective Suicidal Behaviors	0.683	-0.695	0.221
All Suicidal Behaviors	1.55	-1.061	0.74

METHODS (Continued)

Hypotheses

• We hypothesize that alcohol and substance use will be positively correlated with lifetime history of suicidal behaviors.
• We hypothesize that alcohol and substance use will predict prospective suicidal behaviors.

RESULTS

• BDI was positively correlated with past and combined suicidal behaviors (p = .05, Table 2).
• MAST, DAST, and MAST/DAST combined did not correlate with BDI.
• MAST, DAST, and the MAST/DAST combined did not relate to retrospective, prospective, or combined suicidal behaviors (Table 3).

DISCUSSION

Based on the results of this study, alcohol and substance use were not significantly related to prospective or retrospective suicidal behaviors. Additionally, combined alcohol and substance use did not relate to retrospective or prospective suicidal behaviors. These findings are inconsistent with past research. This may suggest a weakness in the MAST and DAST measures and/or a tendency for our participants to underreport alcohol and/or substance use. In fact, the rates of alcohol and drug use (mean 2.96 and 1.00, for MAST and DAST, respectively) were quite low in our sample relative to the alcohol and alcohol use of a typical college population. This may have prevented our ability to capture true effects.

Limitations:

• The study sample is limited by the fact that it consists solely of undergraduates, which although ethnically and socioeconomically diverse, may not be representative of a community sample.
• Additionally, this study is limited by its lack of a control group. Without this group, we are unable to compare whether the relation between alcohol use, substance use, and suicidal behaviors differs in bipolar individuals versus normal control individuals.

Acknowledgments

NIMH National Institute of Mental Health

This research was supported by National Institute of Mental Health Grants MH 52617 to Lauren B. Alloy and MH 52662 to Lyn Y. Abramson.

References

Ahrens, B., Berghöfer, A., Wolf, T., & Müller-Oerlinghausen, B. (1995). Suicide attempts, age and duration of illness in recurrent affective disorders. Journal *of Affective Disorders, 36,* 43-49.
Beck, A.T., Steer, R. A., & Brown, G. K. (1996). *Manual for the Beck Depression Inventory-II.* San Antonio, TX: Psychological Corporation.
Brady, K.T., & Sonne, S.C. (1995). The relationship between substance abuse and bipolar disorder. *Journal of Clinical Psychiatry, 56,* 19-24.
Chen, Y-W., & Dilsaver, S.C. (1996). Lifetime rates of suicide attempts among subjects with bipolar and unipolar disorders relative to subjects with other axis I disorders. *Biological Psychiatry, 39,* 896-899.
Conway, K.P. Compton, W., Stinson, F.S., Grant, B.F. (2006). Lifetime comorbidity of DSM-IV mood and anxiety disorders and specific drug use disorders: Results from the national epidemiologic survey on alcohol and related conditions. *Journal of Clinical Psychiatry, 67,* 247-257.
Gavin, D., Ross, H., & Skinner, H. (19890. The diagnostic validity of the drug abuse screening test in the assessment of DSM-III drug disorders. *British Journal of Addiction, 84,* 301-307.
Grant, B.F., Stinson, F.S., Dawson, D.A., Chou, P., Dufour, M.C., Compton, W. et al. (2004). Prevalence and co-occurrence of substance use disorders and independent mood and anxiety disorders: Results from the national epidemiologic survey on alcohol and related conditions *Archives of General Psychiatry, 61,* 807-816.
Hawton, K., Sutton, L., Haw, C., Sinclair, J., & Harriss, L. (2005). Suicide and attempted suicide in bipolar disorder: a systematic review of risk factors. *Journal of Clinical Psychiatry, 66,* 693-704.
Harris, E. C., & Barraclough, B. (1997). Suicide as an outcome for mental disorders: A meta-analysis. *British Journal of Psychiatry, 170,* 205-228.
Lewinsohn, P.M., Klein, D.N., & Seeley, J.R. (1995). Bipolar disorders in a community sample of older adolescents: Prevalence, phenomenology, comorbidity, and course. *Journal of the American Academy of Child & Adolescent Psychiatry, 34,* 454-463.
Selzer, M.L. (1971). The michigan alcoholism screening test: The quest for a new diagnostic instrument. *American Journal of Psychiatry, 127,* 1653-1658.