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## Interpersonal Guilt and Substance Use in College Students

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### Abstract

The college years are a time for developing independence and separating from one's family, and it is also a time in which substance use often escalates. This study examined the relationships between use of substances and interpersonal guilt, an emotion that can arise from feelings about separation, among 1,979 college students. Regular users of alcohol, cigarettes, cannabis, and other illicit drugs were compared with non-regular users of each substance. Sequential linear regression, controlling for confounding variables, examined relationships between regular use of each substance and scores on a guilt index. Risky drinkers and daily smokers had significantly more interpersonal guilt than their peers who did not regularly use these substances. In contrast, regular cannabis users had significantly less guilt than non-regular cannabis users. These data suggest that substance use among college students may be related to interpersonal guilt and family separation issues, and this relationship may vary across substances.

### Keywords

guilt; substance use; alcohol; college students

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College represents a time of independence and separation from family, during which young adults navigate a new social environment, in which alcohol and drugs are often used and perceived as a normative means of adjusting, socializing, and having fun.<sup>1</sup> The Substance Abuse and Mental Health Services Administration<sup>2</sup> reported young adults between the ages of 18 and 25 years have higher rates of use and abuse of alcohol and illicit drugs than any other age category. Some college students may use alcohol and illicit drugs to manage their emotional experiences.<sup>3</sup> Claros and Sharma,<sup>4</sup> for example, reported an association between the inability to regulate and manage emotions and alcohol and cannabis use.

Interpersonal guilt is a prosocial and altruistic emotion rooted in cognitions related to loyalty, empathy, and concern toward others.<sup>5</sup> The development of healthy guilt can stem from prior misdeeds and be prognostic of future positive choices. However, when concern for others becomes excessive, the emotional and psychological response may be laden by

chronic and maladaptive interpersonal guilt<sup>5</sup> and holds potential to result in decisions that result in harm to oneself, including excessive use of drugs and alcohol.

Although interpersonal guilt can arise from exposure to extreme traumatic events such as war<sup>6</sup> and concentration camps,<sup>7</sup> it usually develops in childhood amidst familial interpersonal dynamics and events.<sup>8-10</sup> For instance, if a young child perceives her parent as suffering and unhappy, the child may attempt to alleviate that suffering by changing her own behavior.<sup>5</sup> If these attempts do not work, the child may believe she is responsible for the parent's suffering and blame herself and feel guilty. This self-blame may then develop into dysfunctional cognitive structures. Eventually, the child may feel she does not deserve to be better off than her parent; success in life may be perceived to hurt the parent, resulting in even greater guilt and negative self-perceptions.

People with increased interpersonal guilt often suffer from psychological distress such as depression and anxiety,<sup>11</sup> and they may also abuse alcohol and drugs to cope with their guilt-related feelings and ideas. O'Connor and Weiss<sup>12(p286)</sup> reported upon common cognitions in their clinical work with people with substance use disorders such as: "To develop a successful life without drugs is to defy a parental dictate to be inadequate and out of control" and "To be happy, comfortable, and successful will make another family member (or members) feel inadequate and inferior, and thus will cause others' unhappiness." Thus, excessive interpersonal guilt may be involved in substance use.

Although theoretically conceivable, little empirical research has evaluated interpersonal guilt in substance abusing populations. Using the Interpersonal Guilt Questionnaire-45,<sup>13</sup> subscale scores related to Survivor Guilt, Separation Guilt, and Self-Hate Guilt were elevated among adults receiving residential treatment for substance use compared to a general community sample.<sup>14</sup> However, the two samples in that study were not matched on demographic characteristics that may be related to guilt, and that study did not report upon specific types of substance use and their association with guilt.

People use drugs for a variety of reasons, and different substances of abuse are associated with some distinct mood states and cognitions.<sup>15</sup> For example, drinking alcohol has been related to negative affects, including shame;<sup>16</sup> college students may drink to mitigate negative feelings related to interpersonal guilt. Public health campaigns clearly have linked cigarette use to morbidity and mortality, and college students who choose to smoke may have an unconscious desire for self-harm. Cannabis use, on the other hand, can lead to apathy<sup>17,18</sup> and interpersonal alienation.<sup>19</sup> Other illicit drug use, such as cocaine and opiate use, has been associated with increased levels of interpersonal guilt in recovering polydrug using adults.<sup>14</sup>

The purpose of this study, a secondary analysis of a dissertation project,<sup>20</sup> was to examine the relationship between use of different substances and interpersonal guilt in college students. Because alcohol and drug use may be associated with gender, racial identity, and other demographic characteristics,<sup>21,22</sup> analyses controlled for differences between users and non-users of each substance. The hypothesis was that use of alcohol, cigarette, and illicit drugs other than cannabis would be positively related to interpersonal guilt.

## METHODS

### Participants

Participants ( $n = 1979$ ) were 18-25 years of age and enrolled as undergraduates at one of three college/university campuses in two northeastern states. Institutional Review Boards on each participating campus approved the study, and participants signed written informed consent.

### Procedures

Eligible participants were recruited in the 2008-2009 academic year in student centers and classroom settings (with the instructor's permission). Participants received a candy bar and, in some cases, extra course credit for participating in this study.

### Measures

The questionnaire included basic demographic items, indices to assess alcohol, cigarette, cannabis, and "other" illicit drug use, and an interpersonal guilt measure. The Interpersonal Guilt Questionnaire-67 (IGQ-67)<sup>13</sup> codes responses to its 67 items on a 5-point Likert scale, ranging from "very untrue or strongly disagree" to "very true or strongly agree." Some items are reverse scored. The measure is composed of four subscales: Survivor Guilt, Separation Guilt, Omnipotent Responsibility Guilt, and Self-Hate Guilt.<sup>13</sup> Survivor Guilt captures the thoughts that acquiring good things, or pursuing normal goals, comes at the expense of harming others (22 items; e.g., "It makes me very uncomfortable if I am more successful at something than are my friends or family members" or "I can't be happy when a friend or relative is suffering a disappointment"). Separation Guilt is the belief that separating or having different ideas from important others, such as a parent, might have damaging effects on the relationship (15 items; e.g., "I feel bad when I disagree with my parent's ideas or values, even if I keep it to myself" or "It makes me anxious to be away from home for too long"). Omnipotent Responsibility Guilt relates to feelings of exaggerated and self-sabotaging responsibility and concern for the well-being of others (14 items; e.g., "I often find myself doing what someone else wants me to do rather than doing what I would most enjoy" or "I worry a lot about the people I love even when they seem to be fine"). Self-Hate Guilt is a general sense of badness, which may be directly or indirectly related to guilt and the fear of harming others (16 items; e.g., "If something bad happens to me I feel I must have deserved it" or "Other people have better lives because they are more deserving than I am"). The IGQ-67 subscales have construct validity with other guilt measures.<sup>13</sup> In our sample, internal consistency of items on total IGQ-67 score was 0.91, and 0.78, 0.78, 0.75 and 0.86 for each of the four subscales, respectively.

The Alcohol Use Disorders Identification Test (AUDIT),<sup>23</sup> a 10-item measure, assessed current alcohol use and problems. Scores range from 0 to 40, and a score of 8 signals hazardous or harmful alcohol use. The AUDIT is a valid and reliable screening device to detect harmful drinking in college students,<sup>24</sup> and internal consistency in this sample was 0.81.

Three items assessed current cigarette use, cannabis use, and “other” illicit drug use. The frequency of cannabis use was assessed by a 6-point scale (never, yearly or less, more than yearly but less than monthly, 1-4 times/month but less than weekly, 1-6 times per week, or daily). The same 6-point scale also inquired about the frequency of use of illicit drugs other than cannabis, such as cocaine, ecstasy, Oxycontin, etc. Cigarette use was assessed on a 5-point scale (none, occasionally but not every day, 1-5 cigarettes per day, 6-15 cigarettes per day, or 15 or more cigarettes per day).

### Data Analysis

Initially, participants were classified based upon substance use patterns. Participants who had an AUDIT score of 8 or higher were classified as risky drinkers, and participants with an AUDIT score of less than 8 were identified as non-risky drinkers. Individuals who reported smoking at least one cigarette per day were classified as daily smokers, and all others as non-daily smokers. For cannabis use and other illicit drug use variables, participants who reported at least monthly usage of cannabis or other illicit drugs were classified as regular users; participants with never or less than monthly use as non-regular users of the respective substances. These dichotomous classifications were selected as they included at least nominal numbers of participants in each substance using category. Independent *t*-tests and Chi-square tests tested for differences between each substance using group and the remainder of the sample on continuous and categorical variables, respectively.

A sequential linear regression examined relationships between use of each substance as defined above and guilt while controlling for other variables. The IGQ-67 full-scale score, herein referred to as Total Guilt, was the dependent variable, and age, gender, campus site, and racial identity were entered as the first block of independent variables (age as a continuous variable and the others as categorical). The four dichotomous substance use variables (risky vs non-risky drinkers, daily vs non-daily/never smokers, regular vs non-regular cannabis users, and regular vs non-regular other illicit drug users) were entered in the second block of the model.

Similar regressions were conducted for IGQ-67 subscale scores when the relationship between a substance use variable and total scores was significant. Data were analyzed with PASW Statistics 17.0, and statistical significance was set at  $p < 0.05$ .

## RESULTS

Of the 1865 participants who completed the questionnaire, 48.8% were classified as risky drinkers, 7.1% as daily smokers, 21.0% as regular cannabis users, and 2.0% as regular other illicit drug users. Table 1 presents demographic and substance use characteristics of participants classified according to each substance use category. Each substance using group differed significantly ( $p < 0.05$ ) from their counterparts who did not use that substance on demographic characteristics (age, site, gender, racial identity) with a few exceptions. Daily cigarette smokers did not differ from non-daily/never smokers with respect to site, gender, or racial identity; regular cannabis users did not differ from non-regular cannabis users with respect to age and site; and regular other illicit drug users did not differ from non-regular

other illicit drug users with respect to age, site, or racial identity (data not shown; available from first author).

In the sequential linear regression analysis, Block One variables (age, gender, campus, and racial identity) were significantly associated with Total Guilt,  $F(8, 1848) = 9.37, p < .001$ . Female gender ( $\beta = -0.16, R^2 = 0.024$ ), Campus B ( $\beta = 0.05, R^2 = 0.003$ ), and race/ethnicity [non-Caucasian ( $\beta = -0.14, R^2 = 0.003$ ), non-African-American ( $\beta = -0.13, R^2 = 0.004$ ), and non-Latino ( $\beta = -0.09, R^2 = 0.002$ )] were all associated with Total Guilt.

After controlling for the above variables, the substance use variables, added in Block Two, significantly improved the model and increased the proportion of the variance explained in Total Guilt scores,  $F(4, 1844) = 3.92, p < 0.01$ , and the model as a whole was significant,  $F(12, 1844) = 7.59, p < 0.001$ . Table 2 displays the final regression model. Regular use of illicit drugs other than cannabis was not associated with Total Guilt scores, but risky drinking, daily smoking, and regular cannabis use were each independently associated with Total Guilt after controlling for other variables. Risky drinking and daily smoking were associated with increased Total Guilt, but regular cannabis use was associated with decreased Total Guilt.

Subsequent regression models tested the associations between risky drinking, daily smoking, and regular cannabis use and the four IGQ-67 subscale scores after controlling for other variables. Risky drinking was associated with Separation Guilt ( $\beta = 0.05, R^2 = 0.002$ ) and Self-Hate Guilt ( $\beta = 0.08, R^2 = 0.005$ ), and daily smoking was associated with Survivor Guilt ( $\beta = 0.07, R^2 = 0.004$ ) and Self-Hate Guilt ( $\beta = 0.09, R^2 = 0.007$ ); in each analysis the direction was as expected, with higher guilt subscale scores associated with participants who used more alcohol and cigarettes. However, regular cannabis use was negatively associated with Survivor Guilt ( $\beta = -0.05, R^2 = 0.002$ ) and Separation Guilt ( $\beta = -0.06, R^2 = 0.003$ ; data not shown; available from first author).

## DISCUSSION

These results suggest that substance use among college students is associated with interpersonal guilt, even when controlling for demographic characteristics that differ between regular and non-regular users of the substances. Risky drinking was positively related with Total Guilt score and the Separation and Self-Hate Guilt subscales, suggesting that risky alcohol use is related to guilt associated with developing independence from family and self-punishing thoughts. The causal direction of this relationship, however, is not known. Risky drinkers may develop increased guilt, or individuals with greater guilt may become risky drinkers to cope with guilt and feelings of self-hate. Alcohol use has been associated with poor coping in response to adverse moods in other samples,<sup>25,26</sup> but this is the first study to explicitly examine interpersonal guilt and its relationship to risky drinking.

Daily smoking was also positively associated with Total Guilt scores, and the Survivor Guilt and Self-Hate Guilt subscales specifically. This finding suggests that daily smokers may have more guilty thoughts about being better off than others as well as feelings of self-

punishment. Increased smoking has been associated with psychosocial stressors, adverse moods, and affect dysregulation,<sup>27,28</sup> but again, the direction of the relationship is unclear.

In contrast, Total Guilt scores were found to be inversely related to regular cannabis use; participants who smoked cannabis at least monthly had significantly lower scores on the Survivor Guilt and Separation Guilt subscales than their peers who did not use cannabis regularly. Compared to their non-cannabis using peers, regular cannabis-using college students were less likely to experience guilt related to feeling better off than others and separating from their families. Further, the inverse association between cannabis use and guilt suggests a different and unique intrapsychic dynamic among cannabis users than other substance users, at least in terms of their interpersonal guilt.

Cannabis use has been related to passivity, amotivation, and apathy.<sup>17,18</sup> In addition, regular cannabis use may blunt emotions<sup>29</sup> and contribute to interpersonal alienation<sup>19</sup> and anhedonia.<sup>30</sup> Thus, regular cannabis users may use cannabis to blunt emotions related to interpersonal guilt, and they may feel less guilt-related emotions than their non-cannabis using peers; alternatively or in conjunction, individuals with relatively low levels of guilt may be drawn to a substance that blunts emotional responses.

No relationship was noted between other illicit drug use and guilt. Only 2.0% ( $n = 37$ ) of respondents reported use of other illicit drugs at least monthly, and only 0.4% ( $n = 7$ ) reported using other illicit drugs at least weekly. The small number of students who reported other illicit drug use in this sample limited power to detect group differences in guilt. The prevalence rate of other illicit drug use appeared lower in this sample relative to other samples of college students. Mohler-Kuo, Lee, and Wechsler<sup>31</sup> and Johnston, O'Malley, Bachman, and Schulenberg<sup>32</sup> found rates of 6.6% and 8.2%, respectively, for past month illicit drug use other than cannabis. These prior studies inquired about specific other illicit drugs independently, while the present study did not differentiate other illicit drugs but asked about use of cocaine, ecstasy, Oxycontin, etc. all in the context of a single item. More thorough inquiries about specific drugs are likely to increase rates of reporting their use; this study intentionally minimized the number of items due to the brief nature of the questionnaire.

Rates of alcohol, cannabis, and cigarette use obtained in this study were similar to those reported in other samples of college students,<sup>32,33</sup> but the study has several limitations that must be considered in interpreting the results. Because participants were a nonrandom sample of students from three Northeast colleges, results cannot be generalized to all students on those or other campuses. Although the AUDIT is a valid and reliable instrument to assess risky drinking,<sup>24</sup> the assessment of cigarette, cannabis, and other illicit drug use was limited to a single frequency item. Objective indicators of substance use were not collected; all analyses relied on self-reports. Because this study used a cross-sectional design, conclusions cannot be drawn regarding the temporal or causal relationship between interpersonal guilt and use of these various substances. Further, this study was not conducted in a clinical sample, so the results may not hold to treatment-seeking substance using populations who may differ in terms of the associations between guilt and drug and alcohol use.

In sum, college represents a transitional period for most students, with the majority of students leaving their homes and families for the first time. The relationships found between interpersonal guilt and substance use suggest that some students may use substances to cope with emotional conflicts related to this transition from family dependence to independence. Research demonstrates that use of alcohol, cigarettes, and cannabis is highest among the 18-25 year old age group;<sup>33</sup> use of substances may be related, at least in part, to concerns about separation from the family and negative self-referential ideas. Substance use among college students can lead to dangerous and self-sabotaging consequences, such as medical emergencies, overdose, legal issues, and poor school performance.<sup>15</sup> A better understanding of how guilt leads to, or stems from, substance use may inform prevention and intervention strategies in this population.

## Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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**Table 1**

Group demographic and substance use characteristics.

Variables	Full sample	Risky drinkers	Daily smokers	Regular cannabis users	Regular other illicit drug users
<i>n</i> (%)	1865	910 (48.8)	132 (7.1)	392 (21.0)	37 (2.0)
Age, <i>M</i> (SD)	19.5 (1.4)	19.6 (1.4)	19.9 (1.7)	19.5 (1.4)	19.6 (1.2)
AUDIT score, <i>M</i> (SD)	8.1 (6.0)	13.0 (4.5)	12.0 (6.6)	12.8 (6.0)	16.9 (7.0)
Site, <i>n</i> (%)					
Campus A	637 (34.2)	346 (38.0)	49 (37.1)	145 (37.0)	9 (24.3)
Campus B	195 (10.5)	79 (8.7)	18 (13.6)	34 (8.7)	4 (10.8)
Campus C	1033 (55.4)	485 (53.3)	65 (49.2)	213 (54.3)	24 (64.9)
Male gender, <i>n</i> (%)	910 (48.8)	533 (58.6)	65 (49.2)	240 (61.2)	30 (81.1)
Race, <i>n</i> (%)					
Caucasian	1557(83.5)	815 (89.7)	116 (88.5)	335 (85.5)	34 (91.9)
African-American	112(6.0)	35 (3.9)	8 (6.1)	29 (7.4)	1 (2.7)
Latino	82 (4.4)	30 (3.3)	3 (2.3)	9 (2.3)	2 (5.4)
Asian American	79 (4.2)	17 (1.9)	4 (3.1)	10 (2.6)	0 (0.0)
Other	30 (1.6)	12 (1.3)	0 (0.0)	9 (2.3)	0 (0.0)
Risky drinker, <i>n</i> (%)	910 (48.8)	910 (100.0)	95 (72.0)	320 (81.8)	35 (94.6)
Cigarette use, <i>n</i> (%)					
Never	1596 (85.6)	705 (77.5)	0 (0.0)	258 (65.8)	13 (35.1)
Occasionally	137 (7.3)	110 (12.1)	0 (0.0)	66 (16.8)	7 (18.9)
1-5 cigarettes/day	80 (4.3)	59 (6.5)	80 (60.6)	40 (10.2)	7 (18.9)
6-15 cigarettes/day	45 (2.4)	31 (3.4)	45 (34.1)	25 (6.4)	10 (27.0)
> 15 cigarettes/day	7 (0.4)	5 (0.5)	7 (5.3)	3 (0.2)	0 (0.0)
Cannabis use, <i>n</i> (%)					
Never	1067 (57.2)	327 (35.9)	29 (22.0)	0 (0.0)	4 (10.8)
Yearly or less	177 (9.5)	102 (11.2)	19 (14.4)	0 (0.0)	1 (2.7)
< monthly	229 (12.3)	161 (17.7)	16 (12.1)	0 (0.0)	1 (2.7)
1-4 per month	175 (9.4)	138 (15.2)	13 (9.8)	175 (44.6)	6 (16.2)
1-6 per week	131 (7.0)	113 (12.4)	25 (18.9)	131 (33.4)	10 (27.0)
Daily	86 (4.6)	69 (7.6)	30 (22.7)	86 (21.9)	15 (40.5)
Other illicit drug use, <i>n</i> (%)					
Never	1709 (91.6)	773 (85.0)	84 (64.6)	284 (72.4)	0 (0.0)
Yearly or less	53 (2.8)	47 (5.2)	7 (5.4)	31 (7.9)	0 (0.0)
< monthly	63 (3.4)	54 (5.9)	22 (16.9)	46 (11.7)	0 (0.0)
1-4 per month	30 (1.6)	29 (3.2)	14 (10.8)	25 (6.4)	30 (81.1)
1-6 per week	5 (0.3)	4 (0.4)	3 (2.3)	5 (1.3)	5 (13.5)
Daily	2 (0.1)	2 (0.2)	0 (0.0)	1 (0.3)	2 (5.4)

Note. Numbers may not equal group sample size due to missing responses.

AUDIT=Alcohol Use Disorders Identification Test.