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Risk for Alcohol Use Among Entering College Students: The Role of Personality and Stress.

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Risk for Alcohol Use Among Entering College Students: The Role of Personality and Stress.

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B. S., University of Minnesota—Twin Cities, 2016

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Abstract

Risk for Alcohol Use Among Entering College Students: The Role of Personality and Stress.

By Kathleen Martin

Excessive alcohol use amongst college students is associated with low grades, poor mental health, and risks to physical safety. Increased alcohol use during college years can be accounted for by a number of environmental influences in conjunction with preexisting personality traits. Neuroticism, characterized by emotional instability and anxiety, and self-reported stress have both been shown to be strong predictors of alcohol use, however, previous studies have shown that measures of stress and Neuroticism are frequently confounded. Given that personality is a robust predictor of alcohol misuse, this study tests the hypothesis that personality traits, and neuroticism in particular, predict harmful and hazardous alcohol use in matriculating freshmen above and beyond reported levels of stress. Data were collected as part of an IRB-approved longitudinal study, MAPme, examining behavioral health in college. Data are from the baseline assessment, collected during the first eight weeks of fall semester. Analyses examined recent alcohol consumption, problematic use, and misuse that were assessed using the 10-item Alcohol Use Disorders Identification Test (AUDIT). Personality was assessed using the Big Five Inventory (BFI) and stress was assessed using the Perceived Stress Scale (PSS). Overall, our initial hypothesis that domain-level Neuroticism would be positively associated with alcohol misuse above and beyond perceived stress was unsupported. Notably, the depression facet, Neuroticism—Depression, was positively associated with alcohol use/misuse. Likewise, stress was positively associated with alcohol use/misuse, and is modestly confounded with personality traits. Post hoc analyses demonstrated an interaction between the Neuroticism—Depression facet and stress: at low levels of the Depression facet, stress is negatively associated with alcohol use/misuse, but at high levels of the Depression facet, stress is positively associated with alcohol use/misuse. Taken together, our results shed new light into the role of Neuroticism as it relates to stress and harmful alcohol use.

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Risk for Alcohol Use among Entering College Students:

The Role of Personality and Stress

Excessive alcohol use amongst college students is associated with low grades, poor mental health, and risks to physical safety (Arria et al., 2017; Arria et al., 2013; Hingson, Zha, & Weitzman, 2009). Young adults remain at high risk of developing alcohol use disorders (AUDs), despite mounting administrative pressure for universities to minimize irresponsible alcohol use and binge drinking behavior (Brown-Rice, Furr, & Hardy, 2017; Wechsler, Kelley, Weitzman, San Giovanni, & Seibring, 2000; Wechsler & Nelson, 2001). Increased alcohol use during the college years can be accounted for by a number of novel environmental influences in conjunction with preexisting personality traits. Neuroticism, characterized by emotional instability and anxiety, and self-reported stress have both shown to be strong predictors of alcohol use (Allen, Vella, & Laborde, 2015; Cooper, Agocha, & Sheldon, 2000; Cooper, Russell, Skinner, Frone, & Mudar, 1992). However, previous studies have demonstrated that measures of stress and Neuroticism are frequently confounded (Carney, Armeli, Tennen, Affleck, & O'Neil, 2000; Hills & Norvell, 1991). The present study examines the unique and interactive effects of both stress and Neuroticism in undergraduate alcohol use/misuse.

College Alcohol Use

A 2005 survey of individuals between ages 12 and 20 reported that 28.2% of individuals endorsed drinking alcohol in the past month (Substance Abuse and Mental Health Services Administration, 2006). Alcohol use increases drastically between 15 and 25 years of age, then starts to slowly decrease (Substance Abuse and Mental Health Services Administration, 2006). About 50% of surveyed individuals between the ages of 18 and 20 report ongoing alcohol use,

compared to about 70% of individuals ages 21-25, necessitating a continued examination of these developmental periods to identify factors increased alcohol use (Substance Abuse and Mental Health Services Administration, 2006).

Past research has also examined alcohol use behaviors within the college student population. The National Institute on Alcohol Abuse and Alcoholism (NIAAA) reports 45-58% of college students report drinking alcohol, compared to 40-48% of other individuals of the same age (Substance Abuse and Mental Health Services Administration, 2006). Full-time college students are also more likely than non-full-time college students to report binge drinking (Substance Abuse and Mental Health Services Administration, 2006). Notably, college bound high school students report drinking alcohol at lower rates than their peers, demonstrating a significant increase in alcohol use during the college years. As a consequence, identifying risk factors for hazardous and harmful drinking associated with attending college remains a high priority.

College and Stress

Stress is a well described risk factor for hazardous alcohol use in undergraduates. A study by Kerr, Johnson, Gans, and Krumrine (2004) reported that self-described stress levels increase between high school and college, eventually decreasing in the first spring semester. Indeed, the transition period between high school and college is marked by increases in alcohol use and high stress levels, alongside new social circles and increases in school workload (Misra, McKean, West, & Russo, 2000; Ross, Neibling, & Heckert, 1999). Previous studies support a link between adolescent and college student stress and alcohol consumption. For example, adolescents who report high levels of stress tend to report more substance abuse (Galaif, Sussman, Chou, & Wills, 2003). Stress and alcohol also appear to be tightly linked; Park, Armeli, and Tennen (2004)

tracked college student's daily stress levels and alcohol consumption, showing that on days when students reported more stress, they also reported consuming more alcohol.

Personality and Alcohol Use

Personality is another robust predictor of both hazardous alcohol use and psychopathology in college students, with existing literature describing correlates of alcohol use behaviors across diverse measures of personality traits (Littlefield & Sher, 2010; Martin, 2011). The Big Five Inventory is widely used across psychology literature, with Conscientiousness, Neuroticism, and Openness to Experience often strongly associated with alcohol use behaviors (Goldstein & Flett, 2009; Luchetti, Terracciano, Stephan, & Sutin, 2018). A longitudinal study by Luchetti et al. (2018) found that low levels of Conscientiousness predicted more symptoms of alcohol dependence. Other longitudinal examinations have found that Neuroticism positively predicts alcohol consumption (Allen et al., 2015; Cooper et al., 2000; Loukas, Krull, Chassin, & Carle, 2000). High trait Neuroticism is generally associated with high impulsivity, with those who perform poorly on tasks of behavioral disinhibition often reporting more overall alcohol use and hazardous alcohol use (Carlson, Johnson, & Jacobs, 2010; Colder & O'Connor, 2002). Neuroticism is frequently reported as the most robust personality predictor of alcohol use (Goldstein & Flett, 2009), with other studies reporting a negative correlation between Conscientiousness and Agreeableness and alcohol use/misuse (Raynor & Levine, 2009).

The Multidimensional Personality Questionnaire (MPQ) (Tellegen, 1982) is another self-report questionnaire of normative personality. Nichols et al. (2019) examined the bidirectionality between alcohol use and personality traits in college students through a longitudinal study design. Researchers collected data at two time-points-- first year and second year of college. The researchers found that Constraint at Wave 1 (W1) was significantly correlated with AUD

symptoms at W1 and Wave 2 (W2) in female students, but not male students. This group did not find any other significant correlations between personality traits and alcohol use behaviors across waves, and suggests that this might be attributable to the constrained time-points.

Advancements in personality taxonomy have also led to the utilization of lower-order facets nested within the Five Factor Model, said to increase the incremental validity and utility of the Big Five Traits and their ability to describe clinical symptomatology. The Revised NEO Personality Inventory (NEO-PI-R) is a measure of Big Five Personality Traits (Costa Jr & McCrae, 2008) that assess 30 total personality facets—6 factors per each of the Big Five factors. Hopwood et al. (2007) considered the NEO-PI-R's utility in in predicting alcohol use behaviors. They demonstrated that high impulsiveness and excitement seeking, low trust (within Agreeableness), and low and deliberation and dutifulness (within Conscientiousness) were predictive of elevated alcohol use. Other studies have suggested a role of Extraversion and Neuroticism sub-facets. For example, Stewart, Loughlin, and Rhyno (2001) found that depressive neuroticism was related to drinking in response to a stressful life event, or drinking to cope, even after controlling for the other five Neuroticism facets. Other literature suggests that gregariousness and excitement seeking, facets that load on the Extraversion domain, are also related to drinking behaviors (Stewart & Devine, 2000).

While there have been a number of studies examining personality domains related to alcohol use behaviors within undergraduates, few have examined these traits at the sub-facet level. Within a sample of 200 college students, Ruiz, Pincus, and Dickinson (2003) reported that high Neuroticism and low Conscientiousness predicted more alcohol use and alcohol-related problems. At the sub-facet level, high impulsiveness (Neuroticism sub-facet), and low competence, dutifulness, and deliberation (Conscientiousness sub-facets), were related to greater

alcohol use and problems. Altogether, it appears that more research is required to fully understand the role of personality, and Neuroticism specifically, as it relates to college students, given the unique requirements and pressures of undergraduates.

Personality and Stress

Personality factors have also been linked to stress levels, with previous studies identifying a strong positive correlation between stress and Neuroticism (Gunthert, Cohen, & Armeli, 1999; Schneider, 2004). Other research studies have exhibited negative correlations between Conscientiousness and stress (Martens et al., 2009) and Agreeableness and stress (Bibbey, Carroll, Roseboom, Phillips, & de Rooij, 2013; Chu, Ma, Li, & Han, 2015). Neuroticism, as measured by the Big Five Inventory (BFI), describes an individual's emotional instability and propensity to experience negative emotions (John & Srivastava, 1999). Definitions of stress within psychology generally agree that stress is an individual's emotional reaction to their circumstances (Andreou et al., 2011; Armeli, Carney, Tennen, Affleck, & O'Neil, 2000; Cohen, Kamarck, & Mermelstein, 1994; Dyson & Renk, 2006). Researchers have proposed that individuals high in Neuroticism might perceive the world as generally threatening and stressful, suggesting some confounding between these two constructs (Müller et al., 2013). Given the overlap between stress and Neuroticism, it is unclear if the association between stress and AUD is confounded by an individual's personality characteristics. Evidence for correlations between the five factor personality traits further suggests that examining the unique effects of personality and stress might elucidate the demonstrated associations between stress, Neuroticism, and alcohol misuse (Van der Linden, te Nijenhuis, & Bakker, 2010). Given that personality is a robust predictor of alcohol misuse, the present study tests the hypothesis that personality traits,

and neuroticism in particular, predict harmful and hazardous alcohol use in matriculating freshmen above and beyond reported levels of stress.

Methods

Sample and Procedure

Data were collected across the Atlanta (n=193) and Oxford (n=110) campuses of Emory University as part of Wave I of the MAPme Project, a longitudinal study of behavioral health and genetics in college students. Participants were recruited between late August to late October through fliers posted around campus and during frequent undergraduate events. Eligibility criteria included being a first-year student at the college and being at least 18 years of age (M_{age}= 18.58). Participants were administered an online survey of behavioral and health questionnaires, in addition to several cognitive assessments; altogether, the survey took approximately one hour to complete. The overall sample (n=303) consisted of 211 females and 90 males (two participants chose "prefer not to answer") with most completing the survey during the third of eight weeks of the study ($M_{completion\ week}$ = 3.17). Participants received a $15 gift card for completion of the survey. The study and study procedures were approved by the Institutional Review Board and all participants received informed consent.

Measures

The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) (WHO ASSIST Working Group, 2002) and The Alcohol Use Disorders Identification Test (AUDIT) (Saunders, Aasland, Babor, De la Fuente, & Grant, 1993) were used to assess alcohol use and misuse. Individuals who endorsed using alcohol one or more times on the ASSIST were administered the AUDIT. Total AUDIT (AUDIT-T) score was calculated as a measure of

hazardous, harmful, and excessive alcohol use. The AUDIT consists of 10 questions with a maximum possible score of 40, where higher scores indicate more alcohol misuse.

Stress was assessed using the Perceived Stress Scale (PSS) (Cohen, Kamarck, & Mermelstein, 1983), a 14-item self-report measure of stress. The PSS measures how often participants report experiencing any of 14 stress symptoms on a 4-point Likert scale, where 0= Never and 4= Very often (maximum possible score = 56). Items in the PSS showed strong internal consistency (Cronbach's alpha=.85).

Personality was assessed using the 44-item version of the Big Five Inventory (BFI) (John & Srivastava, 1999). The BFI measures five dimensions of personality (Openness to Experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism). Ten facet traits were also calculated to assess more specific personality characterization within the Big Five domains (Openness: Aesthetics and Ideas; Conscientiousness: Order and Self- Discipline; Extraversion: Assertiveness and Activity; Agreeableness: Altruism and Compliance; Neuroticism: Anxiety and Depression) (Soto & John, 2009). Subjects were asked to report how strongly they agree that a listed characteristic describes them well (5= Agree strongly, 4=Agree a little, 3= Neither agree nor disagree, 2= Disagree a little, 1= Disagree strongly). Cronbach's alpha for all dimensions were acceptable, with values between (range =.72 to .89). Cronbach's alpha for the facet traits were not assessed because some facets consisted of only two items.

Data Analysis

All analyses controlled for campus site, sex, and week of individual study completion as school obligations and potential stressors fluctuated between study weeks. Partial correlations controlling for covariates were used to determine the relationships between each of the measures.

The unique contribution of each personality and stress variable in the context of alcohol use/misuse was determined using a multiple regression analysis. All analyses were performed using R Studio (Version 1.2.5033). There were no significant differences between genders for AUDIT-T, personality traits, or stress levels. Analyses were performed both with and without gender as a covariate, with no significant differences between the model fits. While there were also no significant gender differences in alcohol use behaviors ($t(161) = -1.89$, $p = .06$), as previous research suggests that men report consuming more alcohol than women (Johnston et al., 2018), results are shown controlling for the effect of gender.

Results

Of the overall sample, 164 individuals (54%) reported using alcohol at least once in their lifetime. Descriptive statistics of the study variables (Table 1) suggested that skew and kurtosis levels were acceptable (≤ 3.0), with the exception of AUDIT-T (skew= 1.96; kurtosis= 5.75). A Shapiro-Wilk test showed a significant departure from normality (W=0.81, $p<.001$). To create a more normal distribution, data were transformed by taking the natural log of AUDIT-T, and while a Shapiro-Wilk test showed that the distribution of AUDIT scores was still not normally distributed (W= 0.93, $p<.001$), the distribution became less skewed and kurtotic with the correction (skew= 0.25; kurtosis= -0.80). Frequency statistics of all AUDIT items are reported in Table 2. Across our covariates, sex and week of study entry were modestly associated with AUDIT-T, while campus site was not.

On average, participants reported moderate levels of perceived stress (M= 25.88, SD= 5.38). BFI average domain scores ranged from M= 3.17 (SD= 0.80) to M= 3.86 (SD= 0.67). Our participants reported low levels of alcohol consumption ($M_{\text{AUDIT-C}}$ =3.50, SD= 2.38) and low levels of alcohol misuse ($M_{\text{AUDIT-T}}$ = 4.81, SD= 4.26).

Partial correlations between personality ratings, PSS total score, and AUDIT-T score, controlling for all covariates (sex, campus, and week of study entry), are reported in Table 3. All personality traits were significantly correlated with each other at the domain level with two exceptions: Openness to Experience was not significantly correlated with Conscientiousness (r= .06, p= .30) or Neuroticism (r= -.07, p= .23; see Table 3 for the direction and magnitude of these correlations along with facet-level correlations). Our results indicate that AUDIT-T score was positively correlated with PSS (r= .17, p =.003) and Neuroticism (r= .31, p < .001), and negatively correlated with Agreeableness (r= -.12, p= .03). Stress was significantly correlated with all of the personality domain scores except for Openness to Experience.

In contrast to our correlational findings, multiple regression analyses between the Big Five domains, stress, and AUDIT-T (Adjusted R^2 = .15, F(9, 147) = 3.22, p = .003; Table 3). demonstrated that was no longer a significant association between Neuroticism and AUDIT-T or PSS and AUDIT-T. These findings do not support our initial hypothesis that Neuroticism, but not PSS total, would be positively related to AUDIT-T in the presence of PSS total and the other five factor traits. Post hoc analyses that used the Neuroticism facet traits (Depression and Anxiety) in place of the Neuroticism domain found that Neuroticism—Depression was positively associated with AUDIT-T above and beyond PSS and domain-level five factor personality traits (β= .21, p= .010; Adjusted R^2 = .11, F(10, 146) = 2.90, p =.002; Table 4). Exclusion of all personality traits except for Neuroticism—Depression did not explain more variance in AUDIT-T (Adjusted R^2 = .11, F(5, 152) = 5.05, p < .001). We tested for interaction effects and found that Neuroticism—Depression score moderated the relationship between PSS and AUDIT-T (β= 1.18, p= .020; Adjusted R^2 = .14, F(11, 145) = 3.22, p < .001) (Table 5) (*Figure 1*). Results of this interaction are plotted by three levels of the Neuroticism—Depression facet, where

participants were binned by standard deviations from the mean Neuroticism—Depression score. The results of our post hoc analyses demonstrate that at low levels of the Depression facet, stress is negatively associated with alcohol use/misuse, but at high levels of the Depression facet, stress is positively associated with alcohol use/misuse.

Discussion

Overall, our initial hypothesis that domain-level Neuroticism would be positively associated with alcohol misuse above and beyond perceived stress was unsupported. However, while the domain score of Neuroticism is not a significant predictor of alcohol use/misuse, when broken into facets with higher specificity, Neuroticism—Depression accounts for unique variance in harmful and hazardous alcohol use, above and beyond stress and other personality factors. Stress does not account for unique variance in harmful and hazardous alcohol use beyond personality traits. Our results demonstrate that while Neuroticism and stress are both correlated with alcohol use/misuse, when accounting for their shared variance and in the presence of other personality factors, stress is modestly confounded by personality. However, post hoc analyses demonstrate an interaction between the Neuroticism—Depression facet and stress when predicting alcohol use/misuse.

While previous work has not examined the unique contribution of stress or individual personality traits towards harmful/hazardous alcohol use in undergraduates, current literature supports some overlap between Neuroticism and stress (Carney et al., 2000; Müller et al., 2013). The Depression facet of Neuroticism consists of two questions about an individual's moodiness or tendency to feel "depressed" or "blue", compared to the Anxiety facet that include questions about an individual's tendency towards worry or stress. The results of our post hoc analyses demonstrate the construct overlap between Neuroticism and stress, with most redundancy arising

from the Anxiety facet. Most notably, when accounting for this shared variance, we found that the Depression facet of Neuroticism moderates the relationship between PSS and AUDIT-T; as Depression levels increase, the relationship between stress and alcohol use/misuse also increase.

In line with existing literature, we found that Conscientiousness and Agreeableness were negatively correlated with stress levels (Bibbey et al., 2013; Chu et al., 2015; Martens et al., 2009). However, in contrast with previous studies, we found that these traits were not associated with alcohol misuse in the multiple regression models or the correlational analyses. Previous literature has suggested that high levels of Conscientiousness and Agreeableness are associated with lower overall alcohol use, however they did not control for other personality factors (Malouff, Thorsteinsson, Rooke, & Schutte, 2007; Roberts & Bogg, 2004). It is possible that we did not detect correlations because of the low overall alcohol use/misuse in our sample, possibly attributable to inconsistent access to alcohol. Future examinations of this population, when the undergraduates have more access to alcohol, might identify a relationship between Conscientiousness and alcohol use/misuse. Overall, these findings provide unique insight into the role of personality as it relates to hazardous/harmful alcohol use in freshmen undergraduates.

Limitations and Conclusions

Several study limitations should be noted. The present study uses a single-domain self-report assessment of stress. A more comprehensive measure of stress levels might include physiological assessment, such as skin conductivity, heartrate, or cortisol measures which have shown be strongly associated with perceived stress (Barnes, Davis, & Treiber, 2007; O'Brien, Tronick, & Moore, 2013; Walvekar, Ambekar, & Devaranavadagi, 2015), and increase the validity of our results. While the PSS is a well-validated measure of stress perception, it is limited in its scope.

Further, our sample was recruited from a single university in the Southeastern United States and might not generalize to larger, more diverse populations. Future projects from this group plan to expand to other universities and populations, allowing broader applications of our findings. Third, the study participants reported low alcohol use/misuse. Few individuals reported high levels of hazardous/harmful alcohol use and it is possible that we did not have enough individuals reporting alcohol use to detect effects of stress or personality. However, data from this sample will continue to be collected until the students graduate, allowing longitudinal examinations into the associations between stress, personality traits, and hazardous/harmful alcohol use.

Despite these limitations, this study provided evidence for the role of personality in alcohol use, above and beyond stress levels. While stress and alcohol use are correlated, when personality is taken into account, stress did not account for any unique variance in alcohol use in college students, making Neuroticism—and the Depression facet specifically—the most robust predictor of alcohol use among incoming freshmen.

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Table 1. Descriptive statistics

Variable	n	M (SD)	Skewness	Kurtosis	Min	Max
Covariates						
Age	303	18.58(0.39)	1.17	2.50	18.01	20.39
Week	303	3.17(1.78)	0.47	-0.69	1.00	8.00
Independent variables						
Perceived Stress Scale (PSS) total	293	25.88(5.39)	0.07	-0.31	12.00	39.00
Openness	301	3.66(0.57)	-0.22	-0.45	2.20	4.90
Conscientiousness	303	3.62(0.63)	-0.22	-0.48	1.78	5.00
Extraversion	303	3.18(0.90)	0.03	-0.79	1.25	5.00
Agreeableness	302	3.86(0.67)	-0.55	-0.01	1.44	5.00
Neuroticism	303	3.17(0.80)	-0.24	-0.31	1.00	5.00
Dependent variables						
AUDIT-T	164	4.81(4.26)	1.96	5.75	1.00	28.00

Table 2. Partial correlations

	1.	2.	2a.	2b.	3.	3a.	3b.	…
1. PSS								
2. Openness	-.08	1						
2a. Aesthetics	-.02	-	1					
2b. Ideas	-.16**	-	.31***	1				
3. Conscientiousness	-.30***	.06	.04	.07	1			
3a. Order	-.22***	-.02	.01	-.04	-	1		
3b. Self-Discipline	-.30***	.07	.04	.11	-	.56***	1	
4. Extraversion	-.15**	.19***	.05	.26***	.19**	.06	.20***	
4a. Assertiveness	-.10	.14	.02	.23***	.78*	.01	.15**	
4b. Activity	-.20***	.24***	.07	.27***	.92***	.15**	.22***	
5. Agreeableness	-.25***	.13*	.06	.12*	.28***	.20***	.24***	
5a. Altruism	-.25***	.08	.02	.09	.29***	.20***	.24***	
5b. Compliance	-.17**	.11*	.05	.09	.14*	.10	.12*	
6. Neuroticism	.52***	-.07	-.02	-.08	-.32***	-.27***	-.27***	
6a. Anxiety	.43***	-.15	-.08	-.15*	-.27***	-.20***	-.24***	
6b. Depression	.50***	.04**	.08	-.02	-.30***	-.29***	-.26***	
7. AUDIT Total	.17**	.02	-.04	.08	-.02	-.02	-.01	

All analyses control for sex, campus site, and week of study entry; * p <.05, ** p <.01, *** p <.001

Table 2 (continued). Partial correlation

…	4.	4a.	4b.	5.	5a.	5b.	6.	6a.	6b.
1. PSS									
2. Openness									
2a. Aesthetics									
2b. Ideas									
3. Conscientiousness									
3a. Order									
3b. Self-Discipline									
4. Extraversion	1								
4a. Assertiveness	-	1							
4b. Activity	-	.55***	1						
5. Agreeableness	.19**	.06	.34***	1					
5a. Altruism	.28***	.16	.38***	-	1				
5b. Compliance	.02	-.10**	.22***	-	.58***	1			
6. Neuroticism	-.24***	-.18**	-.25***	-.38***	-.33***	-.33***	1		
6a. Anxiety	-.24***	-.20***	-.21***	-.22***	-.18**	-.21***	-	1	
6b. Depression	-.20***	-.13*	-.28***	-.43***	-.43***	-.34***	-	.89***	1
7. AUDIT Total	.10	.11	.04	-.12*	-.10	.12*	.24***	.78	.28***

All analyses control for sex, campus site, and week of study entry; * p <.05, ** p <.01, *** p <.001

Table 3. AUDIT total regressed on PSS total and BFI personality domains

Dependent Variable	Independent Variable	*B*	*SE B*	*β*
AUDIT total (*n*=157)[a]	Perceived Stress	0.01	0.01	.12
	BFI - Openness	-0.06	0.09	-.05
	BFI - Conscientiousness	0.04	0.09	.04
	BFI - Extraversion	0.10	0.06	.15
	BFI - Agreeableness	-0.09	0.08	-.09
	BFI - Neuroticism	0.14	0.08	.17

[a] Relationship between perceived stress, personality, and alcohol use;
All analyses control for sex, campus site, and week of study entry;
B indicates the unstandardized regression coefficient and *β* indicates the standardized regression coefficient;
* $p < .05$, ** $p < .01$, **** $p < .001$

Table 4. AUDIT total regressed on PSS total and BFI personality domains, including neuroticism facets

Dependent Variable	Independent Variable	*B*	*SE B*	*β*
AUDIT total (*n*=157)[a]	Perceived Stress	0.01	0.01	.10
	BFI - Openness	-0.08	0.10	-.07
	BFI - Conscientiousness	0.03	0.09	.03
	BFI - Extraversion	0.10	0.06	.14
	BFI - Agreeableness	-0.07	0.08	-.07
	BFI – Neuroticism, Dep	0.15	0.07	.23*
	BFI – Neuroticism, Anx	-0.02	0.07	-.03

[a] Relationship between perceived stress, personality, and alcohol use;
All analyses control for sex, campus site, and week of study entry;
B indicates the unstandardized regression coefficient and *β* indicates the standardized regression coefficient;
* $p < .05$, ** $p < .01$, **** $p < .001$

Table 5. AUDIT total regressed on PSS total and BFI personality domains, including neuroticism facets and interaction

Dependent Variable	Independent Variable	*B*	*SE B*	*β*
AUDIT total (*n*=156)[a]	Perceived Stress	-0.05	0.03	-0.42
	BFI - Openness	-0.08	0.09	-.07
	BFI - Conscientiousness	0.04	0.09	.04
	BFI - Extraversion	-0.09	0.06	.14
	BFI - Agreeableness	-0.09	0.08	-.09
	BFI – Neuroticism, Anx	-0.04	0.07	-.06
	BFI – Neuroticism, Dep	-0.37	0.23	-.57
	BFI – Neuroticism, Dep x PSS	-0.02	0.01	1.18*

[a] Relationship between perceived stress, personality, and alcohol use;
All analyses control for sex, campus site, and week of study entry;
B indicates the unstandardized regression coefficient and *β* indicates the standardized regression coefficient;
* $p < .05$, ** $p < .01$, **** $p < .001$

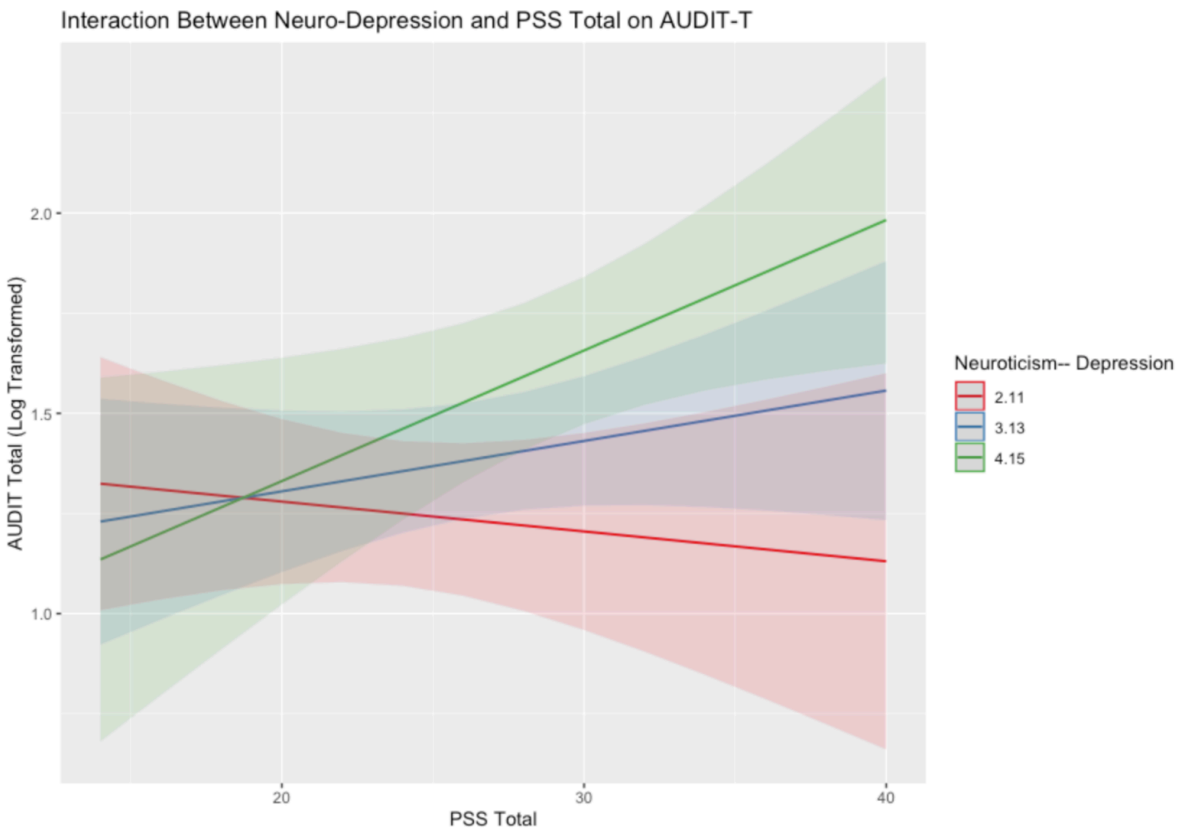

Figure 1. In a multiple regression of Big Five personality traits and perceived stress on AUDIT-T, PSS Total is moderated by Neuroticism-- Depression score. Neuroticism--Depression scores were plotted in three different groups based on standard deviations from the mean.