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Evaluation of the Dualistic Model of Passion for Alcohol Consumption among Emerging Adults Engaged in Risky Drinking

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Abstract

Understanding factors influencing risky drinking among emerging adults could enhance interventions to reduce adverse outcomes. As a motivational construct, the dualistic model of passion (i.e., obsessive passion: drinking is compelling and conflicts with other life activities/values; harmonious passion: drinking is an important, but not overwhelming, part of life) offers a novel explanation for persistent alcohol use. Yet, the dualistic model of passion has not yet been evaluated in this at-risk population. Therefore, we examined whether the variables proposed by the dualistic model of passion were associated with sex, binge-drinking, and alcohol-related consequences among young risky drinkers. We analyzed cross-sectional baseline data collected as part of an ongoing randomized controlled trial of emerging adults ($n=327$; $M_{age}=22.6$, $SD=1.1$, range 21–24; 61% female; 76% White non-Hispanic) engaged in risky drinking (AUDIT-C score 4 females, 5 males) recruited nationally via social media advertisements. A path analysis revealed significant positive direct effects between obsessive passion and binge drinking and alcohol-related consequences, and significant negative direct effects between male sex and harmonious passion and binge drinking. There was also a positive direct effect between binge drinking and alcohol-related consequences. Male sex and obsessive passion were both indirectly related to alcohol-related consequences via binge drinking. Type of passion and male sex

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The authors do not have any personal financial interests related to the subject matters discussed in the manuscript here, with one exception. Dr. Walton is a minor shareholder in Facebook and has a conflict of interest plan approved by the University of Michigan.

differentiates risky drinkers who binge drink and who experienced alcohol-related consequences. Future research should examine whether targeting obsessive passion reduces binge drinking and negative outcomes.

Keywords

passion; alcohol; obsessive; harmonious

Introduction

Approximately 18 million emerging adults of legal drinking age (21–25 years) in the United States (US) consumed alcohol in the past year, 45% reported at least one episode of binge drinking (defined as 4+ drinks for females and 5+ drinks for males) in the past month, with approximately 1 in 10 reporting 5 or more binge episodes (SAMHSA, 2016). Binge drinking exposes emerging adults to risk for many consequences, including academic/occupational problems, sexual/physical assault, vehicle crashes and other unintentional injuries, fighting, blacking-out, hangovers, and alcohol-related sicknesses (Hingson, Zha, & Weitzman, 2009; Hingson et al., 2005; Blanco et al., 2008; Cleveland et al., 2013; Lau-Barraco et al., 2017). Binge drinking patterns also confer risk for developing alcohol use disorders, which occur in about 1 in 4 emerging adults (Grant et al., 2017), leading to additional alcohol use consequences into adulthood (Rohde et al., 2001; Sher & Gotham, 1999; Jackson, Sher, & Wood, 2000). Furthermore, the efficacy of brief interventions among young risky drinkers is mixed (i.e., typically modest, short-term effects: Foxcroft et al., 2014; Carey et al., 2010; Davis, Smith, & Briley, 2017), suggesting that there could be nuances in individual reasons for alcohol use that need to be addressed in order to help young people reduce risky use and associated consequences. Given that individual level factors are associated with substance use (Connell et al., 2010; Nargiso et al., 2015), we examined a novel construct, passion for alcohol use, in relation to binge drinking and consequences in order to inform future early interventions.

The dualistic model of passion (DMP; Vallerand, 2015, Vallerand et al., 2003) offers a potentially relevant framework to examine a novel potential reason for risky drinking. According to the DMP (Vallerand, 2015, Vallerand et al., 2003), the more one likes an activity (e.g., playing sports, reading) and the more time and energy someone dedicates to engaging in that activity, the more likely it is that he or she might develop a passion for it. Within this framework there are two types of passion, (1) obsessive passion, which occurs when an activity has become so compelling that it causes dissonance with other activities or creates conflict between the activity and one's values, and (2) harmonious passion, which occurs when an activity is experienced in ways that enhance and are integrated in one's life; the activity is also an important but not unmanageable aspect of one's identity. Applying the DMP to substance use implies that one could develop both an obsessive and harmonious passion, depending on the degree to which using the substance is central in one's life and how much control they retain over consumption.

Several published studies have applied the DMP among various samples of young people who use psychoactive substances, including marijuana (Davis, 2017, Davis et al., 2018; Steers et al., 2015), MDMA/ecstasy (Davis & Rosenberg, 2015), and underage college student drinkers (Steers et al., 2015). Consistent with a conceptual overlap between obsessive passion and symptoms of a substance use disorder, evidence suggests that obsessive passion is consistently *positively* associated with frequency of alcohol and other drug use (e.g., for alcohol, marijuana, and MDMA/ecstasy), and use-related consequences (e.g., for marijuana and alcohol use). Harmonious passion is *positively* associated with frequency of alcohol use and with use-related consequences (e.g., among underage college student drinkers). There is no association between harmonious passion and frequency of other drug use (e.g., among a sample of frequent marijuana users and MDMA/ecstasy users); however, it has been *negatively* associated with marijuana use consequences. Thus, the findings for obsessive passion are consistent across studies, but not for harmonious passion. The inconsistent findings related to harmonious passion could be due to the composition of the samples, which include a range of people with use patterns that likely vary from risky to non-risky and/or the substance examined. There are also inconsistent findings regarding whether sex is associated with harmonious or obsessive passion for substance use. For example, statistically significant, albeit weak, correlations have been found between male sex and obsessive and harmonious passion for alcohol use among underage college students, but male sex and obsessive passion were only weakly correlated among students who consumed marijuana (Steers et al., 2015), and there was no association between sex and passion in a community sample of heavy marijuana users (Davis, 2017).

Current Study

Given the findings documenting the differential associations between obsessive and harmonious passion and substance use (Davis, 2017, Davis et al., 2018; Steers et al., 2015; Davis & Rosenberg, 2015), applying the DMP to better understand risky drinking among emerging adult legal drinkers may further our understanding of persistent and problematic alcohol use. Since there are inconsistent, and weak, findings related to the associations between sex and passion that might be due to the study of different substances (MDMA [Davis & Rosenberg, 2015]; marijuana [Davis, 2017; Davis et al., 2018]) and a younger cohort of college students (Steers et al., 2015), in the current study we explored whether sex was associated with harmonious and obsessive passion and alcohol use in a sample of legal drinking age college and non-college emerging adults.

Considering alcohol-related obsessive and harmonious passion are understudied (only one prior study focused on underage college student drinkers [Steers et al., 2015]), the current study extends and begins to fill a gap in the literature by using baseline data from a randomized trial of an online social media-delivered alcohol intervention, to evaluate associations of the DMP among emerging adult legal drinkers (ages 21–24) who met criteria for risky drinking. Consistent with prior studies (Davis, 2017, Davis et al., 2018; Davis & Rosenberg, 2015, Steers et al., 2015), we hypothesized a model of passion for risky alcohol use that included positive direct effects of obsessive passion and several markers of problematic alcohol use. Consistent with the application of the DMP in an online sample of cannabis users recruited via social media (Davis, 2017, Davis & Rosenberg, 2015), we

hypothesized that harmonious passion would be *unrelated* to frequency of binge drinking and to alcohol-related consequences whereas obsessive passion would be positively related to binge drinking and alcohol-related consequences. Due to inconsistencies in sex differences in association with passion (e.g., Steers et al., 2015; Davis, 2017), we explored whether sex was associated with harmonious and obsessive passion and alcohol use, which could inform tailoring of interventions.

Method

Procedure and Participants

Following approval from the <<masked for review>> Institutional Review Board, we recruited participants using targeted advertisements on Facebook (www.facebook.com) and Instagram (www.instagram.com) displayed to emerging adults in the US who were of legal drinking age. We specified the demographic characteristics (i.e., between the ages of 21 and 24, English-speaking), and online user characteristics (e.g., “liked” Facebook pages related to alcohol) of individuals to whom the advertisements should be presented and included images that varied in the representation of diverse populations (i.e., our ads featured pictures that included varying races of individuals engaged in drinking). Each advertisement featured text (e.g., “Drink alcohol? Participate in a research study; earn \$ \$ \$ for your time.”). After clicking an advertisement, potential participants were directed to the study survey site (housed on www.qualtrics.com), were provided with an informed consent document, and then invited to complete the screening survey with demographic items and the Alcohol Use Disorders Identification Test-Consumption (AUDIT-C; described below).

If participants met inclusion criteria (i.e., past 3-month AUDIT-C scores ≥ 4 for females, and ≥ 5 for males), they were redirected to a brief web-form where they were invited to provide contact information including their Facebook URL, phone number, and electronic mail address. Using procedures adapted from prior work (Teitcher et al., 2015), study staff examined screening survey completion time excluding those taking <60 seconds to complete the screener (to identify and potentially exclude careless responders). Furthermore, surveys included a CAPTCHA (Completely Automated Public Turing test to tell Computers and Humans Apart) to detect and screen out “bots.” Research assistants (RAs) verified the existence of participants’ Facebook profiles in order to confirm their identities. RAs regularly checked for duplicate IP addresses to ensure that a person was not repeatedly taking the survey under different names. After initial verification, staff sent eligible participants a web link to an informed consent page for the randomized controlled trial followed by a baseline survey containing additional measures. Participants were required to submit a “selfie” which was matched to their Facebook profile picture to confirm identity. Participants received \$30 in compensation via electronic gift card for completing the baseline survey and selfie, which took approximately 45 minutes. The randomized controlled trial is ongoing; the present study reports on cross-sectional baseline data collected from January through August of 2017.

As Figure 1 shows, 5,800 people clicked one of the social media advertisements during recruitment and were directed to a web page with information about the study; 960 consented to participate and completed the screening survey. Of those screened, 782 were

eligible for the trial based on AUDIT-C scores (i.e., scores ≥ 4 females, ≥ 5 males), and 457 met initial verification criteria (provided contact information, age, a Facebook URL, lived in the US) and were sent the baseline survey; 327 consented, completed the baseline survey, and completed data verification (e.g., provided a selfie with date/time). The final sample was comprised of 327 emerging adults engaged in risky drinking.

Measures

Passion for alcohol use.—We modified the original 14-item Passion Scale (Vallerand et al., 2003) to assess two types of current passion for consuming alcohol (harmonious, obsessive). Specifically, using data from recent published studies on the use of the passion scale among people who use marijuana (Davis, 2017; Davis et al., 2018) and those who use MDMA/ecstasy (Davis & Rosenberg, 2014), we selected a subset of three items to measure harmonious passion and three items to measure obsessive passion (see Table 1). Items were selected based in part on theory and high inter-correlations in prior studies. Furthermore, for each item, the words “this activity” used in the original scale were replaced with the word “alcohol.” Participants were asked to rate each item on a 5-point Likert scale ranging from 1 = “Completely Disagree” to 5 = “Completely Agree.”

Because we modified an existing scale we conducted an exploratory factor analysis (Muthén & Muthén, 1998–2017) prior to our planned analyses. Results from this analysis revealed that a two-factor model was the best fitting model compared to a one or three-factor model, which is consistent with previous investigations of the DMP applied to recreational marijuana, alcohol, and MDMA use (Davis & Rosenberg, 2014; Davis, 2017; Steers et al., 2015). Moreover, the two-factor model showed that all three intended harmonious passion items loaded strongly on one factor and all three intended obsessive passion items loaded strongly on a second factor with no meaningful cross-loading between factors (see Table 1). The two-factor model was an excellent fit (e.g., $\chi^2(1, N=327) = 0.93, p=.920$). Additionally, the mean correlation between each obsessive or harmonious passion item, their respective subscale mean score was high (obsessive passion = .91; harmonious passion = .74; DeVallis, 2003), and the mean inter-item correlation of each 3-item set was in an acceptable range (obsessive passion = .74, harmonious passion = .32; Clark & Watson, 1995). The internal consistency reliability of the obsessive passion subscale was .89 and of the harmonious passion subscale was .58. Although the internal consistency of the obsessive passion scale was good (Clark & Watson, 1995), the harmonious passion scale had an internal consistency that was lower, which may be due to the item reduction technique or the use of only three items to measure this scale. Overall, we interpret this pattern of findings as supportive of using these subscales in the current analysis.

Alcohol Use.—We included the AUDIT-C (Bush et al., 1998) to measure alcohol consumption [frequency, quantity, and binge drinking (defined as ≥ 5 drinks on any one occasion for men and ≥ 4 drinks for women)] during the three months prior to screening (Bush et al., 1998; Chung et al., 2000; Knight et al., 2003). Because the AUDIT-C was used to define eligibility for the study (i.e., scores ≥ 4 for females, ≥ 5 for males [Dawson et al., 2005]), we used the item assessing frequency of binge drinking (rated as 0 = Never, 1 = Less than monthly, 2 = Monthly, 3 = Weekly, 4 = Daily or almost daily) in our analyses.

Alcohol consequences.—We included a modified version of the Brief Young Adult Alcohol Consequences Questionnaire (B-YAACQ) (Kahler et al., 2005) to assess the frequency of experiencing 24 specific alcohol-related consequences (e.g., behavioral changes, blackouts, hangovers) during the 3 months prior to baseline on a scale ranging from 0 = “None” to 3 = “More than 5 times”). We removed two items from the B-YAACQ which are infrequently endorsed (<10%: ‘My physical appearance has been harmed by my drinking’ and ‘I have felt like I needed a drink after I’d gotten up...’) and replaced them with two questions from the YAACQ (Read et al., 2006) which are more frequently endorsed (i.e., ‘I have damaged or lost property after drinking’ and ‘I have gotten into physical fights because of drinking’). Similar to the original B-YAACQ, we dichotomized responses (Yes/No) based on whether participants experienced each consequence and created a sum score (0–24) for total number of consequences experienced in the past 3 months. Internal consistency in the current sample was .90.

Demographic Characteristics.—We included questions about participants’ sex, race, and age adapted from prior studies (Bearman et al., 1997; Handelsman et al., 2005; Smith et al., 1996).

Data Analyses

First, we calculated descriptive analyses of demographic and background characteristics for all study variables. Pearson correlation coefficients were calculated to examine the degree to which the obsessive and harmonious passion subscales were related. We followed this with a paired t-test to examine whether obsessive and harmonious subscale means were significantly different. Next, a series of Pearson correlations were conducted among all primary study variables (sex, obsessive passion, harmonious passion, binge drinking, alcohol-related consequences). A path analysis was then used to test: (1) sex as a predictor of obsessive passion scores, harmonious passion scores, frequency of recent binge drinking, and frequency of recent alcohol-related consequences, (2) obsessive and harmonious passion scores as predictors of frequency of recent binge drinking and alcohol-related consequences, and (3) frequency of recent binge drinking as a predictor of recent alcohol-related consequences. Analyses were conducted using maximum likelihood with robust standard errors in MPlus version 7.0 (Muthén & Muthén, 1998–2017).

Results

Respondent Characteristics

As examination of Table 2 reveals, the majority of respondents were Caucasian non-Hispanic (76%) and female (61%), with a mean age of 22.6 ($SD = 1.1$). Additionally, 41% of the sample reported that they were full- or part-time students. The average AUDIT-C score reported in this sample was 6.9 ($SD = 1.9$).

Associations of Alcohol-Harmonious Obsessive Passion Scale scores, and correlations with binge drinking, alcohol-related consequences, and sex

Table 3 shows the means, standard deviations, and correlations of all primary study variables. Participants reported binge drinking an average of 2.3 ($SD = 0.8$) times and

experiencing an average of 9.1 ($SD = 5.8$) alcohol-related consequences, in the three months prior to screening/baseline. Harmonious passion was not significantly associated with obsessive passion, and a paired t -test revealed that participants had significantly lower obsessive passion subscale scores ($M = 1.7$, $SD = 1.0$) compared to harmonious passion subscale scores ($M = 3.3$, $SD = 0.9$), $t(326) = -23.57$, $p < .001$). Furthermore, Pearson correlation coefficients revealed that obsessive, but not harmonious, passion was associated with binge drinking and alcohol-related consequences. Additionally, males reported more harmonious passion, binge drinking, and alcohol-related consequences.

Path analysis

As shown in Figure 2, harmonious passion scores were not associated with frequency of binge drinking or alcohol-related consequences, and sex was not associated with obsessive passion scores or alcohol-related consequences. Greater obsessive passion scores were associated with more frequent binge drinking and more alcohol-related consequences. Male sex was also associated with higher harmonious passion scores and more frequent binge drinking. Additionally, male sex was associated with more alcohol-related consequences via greater frequency of binge drinking ($\beta = -.05$, $SE = .02$, $p < .01$, 95% CI $[-.08, -.02]$), and obsessive passion scores were associated with a higher number of alcohol-related consequences via greater frequency of binge drinking ($\beta = .09$, $SE = .02$, $p < .001$, 95% CI $[.05, .13]$). No other relationships were statistically significant. Model fit was excellent, $X^2(1, N=327) = 1.23$, $p = .268$, root-mean-square error of approximation = .03, and standardized root-mean-square residual = .02.

Discussion

In the present study we examined the utility of measuring constructs proposed by the dualistic model of passion (DMP) applied to alcohol consumption among a national sample of emerging adults engaged in risky drinking. Consistent with prior studies involving the DMP among community samples of people who use marijuana or MDMA/ecstasy recruited similarly (Davis, 2017; Davis & Rosenberg, 2015), we found that obsessive, but not harmonious, passion was associated with several markers of problematic alcohol consumption, including frequency of recent binge drinking and alcohol-related consequences.

Our results were somewhat inconsistent with those from a sample of underage drinkers at a university in the US (Steers et al., 2015). Specifically, in this sample of legal-age drinkers, we found that harmonious passion was unrelated to alcohol-related consequences, which diverged from Steers et al. (2015). In part, these inconsistent findings may be due to differences in sample characteristics (e.g., our study included a national community-based sample of emerging adults who were not all attending college and were all of legal drinking age), and level of harmonious passion could change as a function of legal access to alcohol and/or differences in social norms between students and non-students (either who are not in college, or who have completed college). Additionally, we employed an analytic strategy that allowed us to test the direct and indirect associations between passion and binge drinking and consequences, possibly increasing our ability to detect meaningful differences

in this sample. These differences notwithstanding, results regarding obsessive passion are consistent with Steers et al (2015), wherein obsessive passion was associated with frequency of recent binge drinking and alcohol-related consequences, suggesting that these associations are consistent despite these differences in sample characteristics.

We also discovered that male sex was directly related to reporting greater harmonious passion, while also directly related to greater frequency of binge drinking. This finding could be explained by gender stereotypes related to masculinity and the acceptability of binge drinking among men in this age group (De Visser & McDonnell, 2012; Vaughan, Wong, & Middendorf, 2014), and as such men may report that risky alcohol use is consistent with their values and current life situation (i.e., harmonious). Moreover, both male sex and higher levels of obsessive passion were indirectly related to alcohol-related consequences via greater frequency of binge drinking, suggesting that both are markers of alcohol-related consequences among risky drinkers, which is consistent with the literature on sex and alcohol use (Erol & Karpyak, 2015). Given that our findings support the differential association of passion with alcohol-related consequences, it is possible that obsessive passion also predicts future problems associated with alcohol use. Indeed, recent evidence in a sample of young people who use marijuana (Davis et al., 2018) suggests that obsessive passion may be a more relevant construct than other motivational factors (e.g., enhancement, conformity, social) in terms of associations with substance use and consequences. Moreover, our findings suggest that the opposite association is possible, wherein the degree to which one's alcohol consumption is a harmonious passion may be a protective factor against the experience of negative consequences and the negative reinforcing effects of drinking. However, these hypotheses assume causality, which has yet to be established. Future research should test these hypotheses using longitudinal designs. For example, an examination of the passion construct using daily process data could establish stability or variability over time in relation to daily alcohol consumption, which could be used as part of precision medicine or just-in-time intervention approaches (Collins & Varmus, 2015; Lei et al., 2012).

The current study has several limitations that should be considered when interpreting the generalizability of our findings. Although using Facebook advertisements made it easy to recruit a large national sample of emerging adults from the US, it is possible that some declined to participate because of this methodology and possible doubts about the security and anonymity of online research. Importantly, we verified the identities of participants. Still, generalizability to all emerging adults in this age range and who engage in risky drinking is unknown. The majority of participants were White non-Hispanic, with additional studies needed to examine these constructs among minorities. Because advertisements used in this study referred to drinking alcohol, it is also possible participants misrepresented their alcohol use to take part in the study. We also found that the internal consistency reliability (i.e., Cronbach's alpha) of the harmonious passion scale was low, which may have been due to the item reduction technique or the use of only three items to measure this scale. Although we cannot rule out that this low alpha estimate could have influenced study findings, the exploratory factor analysis and other reliability estimates suggested we retain the scale in the present study. Lastly, the cross-sectional nature of these data limit causal interpretations of the relations among passion and alcohol consumption and related consequences. Although

we conceptualize passion for alcohol use as a precursor of such use and to drinking-related consequences, it is also possible that one's experience of alcohol use, and the dynamic elements that contribute to persistent consumption, lead one to endorse descriptions of alcohol use as harmonious or obsessive. Future research should examine the longitudinal associations of passion for alcohol and consumption variables in order to assess the developmental trajectory of these associations.

Conclusions

The current findings regarding passion for alcohol consumption among emerging adults engaged in risky drinking highlight the need for further study in this population. Specifically, one's passion for alcohol use, either obsessive or harmonious, appears to distinguish frequency of binge drinking and alcohol-related consequences among risky drinkers. Interestingly, the items assessing obsessive passion parallel symptoms of alcohol use disorder, though we believe that they may not directly overlap with DSM-5 symptoms. Hypothetically, obsessive passion and alcohol use disorder should be correlated, as individuals with high scores on the obsessive passion scale would have a persistent, preoccupation with their alcohol use resulting in difficulty controlling consumption and having urges to engage in drinking. In fact, in this study binge drinking and consequences were positively associated with obsessive passion. However, we found that harmonious passion was not associated binge drinking or consequences, and could indicate less problematic alcohol use, suggesting that this measure could differentiate risky drinkers who may (obsessive drinkers) and may not (harmonious drinkers) need more intensive interventions. Nevertheless, because this construct has been understudied in the alcohol use literature, further research is needed to understand the relation between passion and alcohol use disorder symptomology.

The DMP could also be a worthwhile way to conceptualize use, and the alcohol passion scale could provide a useful way to measure and discuss drinking in early interventions, in terms of whether use is consistent with one's values and other life activities, regardless of whether someone meets criteria for an alcohol use disorder. Such an approach is consistent with acceptance and commitment-based approaches and motivational interviewing, which may be especially helpful for emerging adults who are often ambivalent about changing their alcohol use and may be less likely to identify with having an alcohol use disorder. Future research is needed to determine whether targeting passion in early interventions diverts further problems associated with use.

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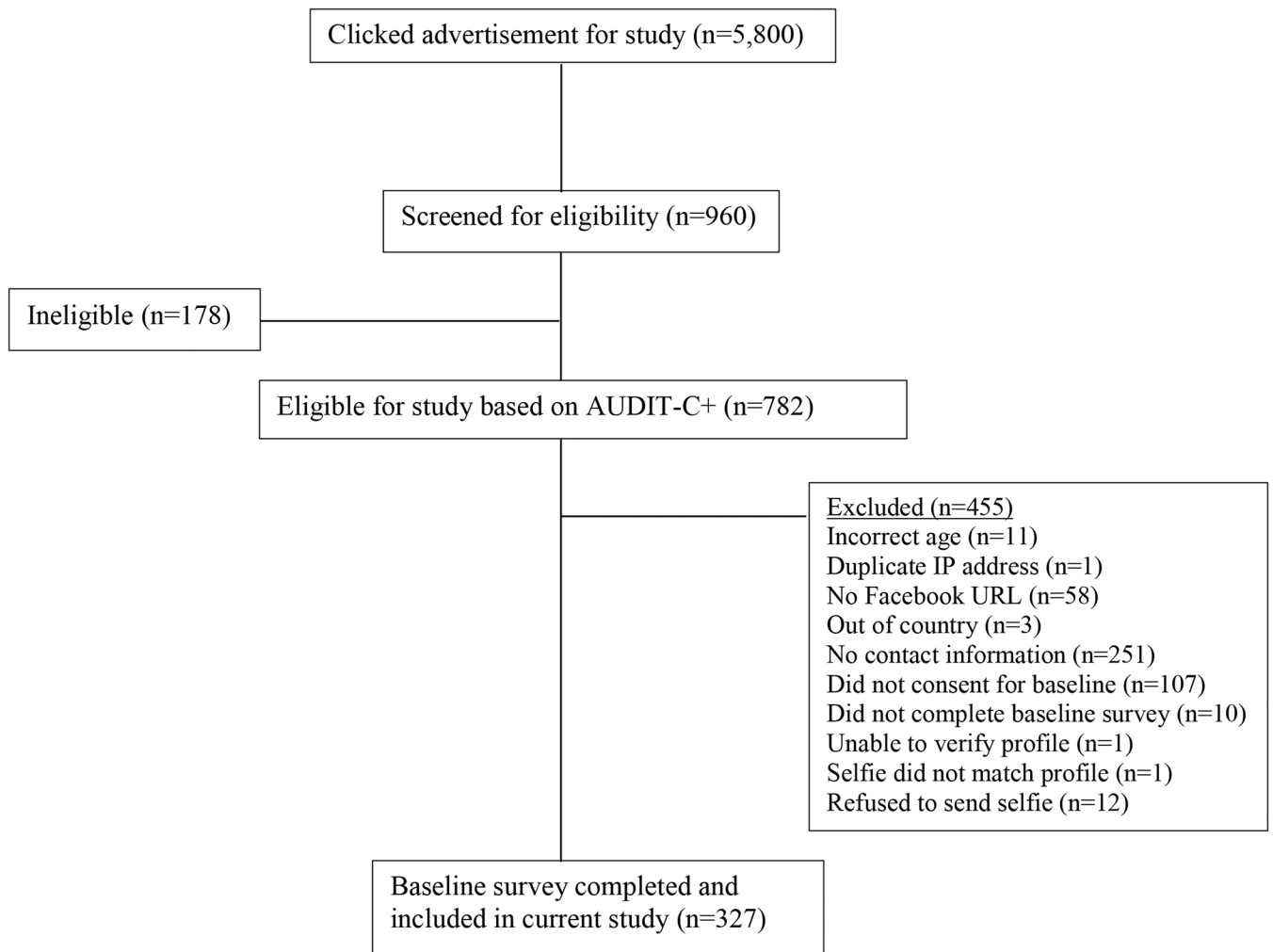


Figure 1.
Flow chart showing recruitment for the study.

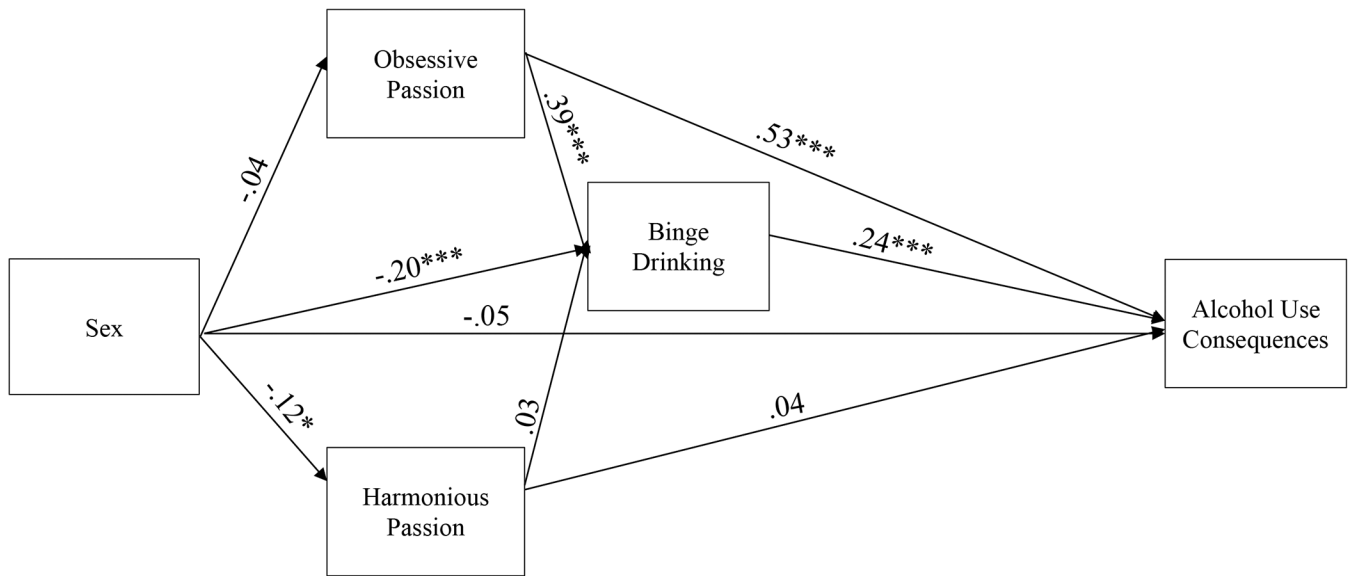


Figure 2. Path analysis examining predictors of alcohol-related consequences among emerging adults engaged in risky drinking. * $p < .05$; ** $p < .01$; *** $p < .001$. Males = 0; Females = 1.

Table 1.

Factor loadings and means (standard deviations) for each item of the Alcohol Harmonious and Obsessive Passion Scale (n = 327)

Scale Item	Factor Loadings		M (SD)
	1	2	
1. The urge is so strong, I can't help myself from drinking alcohol	.90	.02	1.6(1.0)
2. I have a tough time controlling my need to drink alcohol	.92	-.02	1.7(1.1)
3. I have almost an obsessive feeling for drinking alcohol	.77	.07	1.7(1.1)
4. For me, drinking alcohol is a passion that I still manage to control	.02	.61	3.6(1.3)
5. Drinking alcohol is in harmony with the other activities in my life	-.09	.59	3.8(1.1)
6. Drinking alcohol reflects the qualities I like about myself	.22	.51	2.7(1.2)
Eigenvalue	2.6	1.6	

Note. Respondents were asked to rate each item on a 5-point Likert scale ranging from 1 = *completely disagree* to 5 = *completely agree*.

Note. Items 1–3 comprise the obsessive passion subscale and items 4–6 comprise the harmonious passion subscale.

Table 2.Demographic characteristics of sample ($n = 327$)

Characteristic	<i>M(SD)</i> or %
Age	22.6 (1.1)
Sex	
Female	61%
Male	39%
Race/Ethnicity (could select more than one) ^a	
Caucasian non-Hispanic	76%
Caucasian Hispanic	7%
African-American non-Hispanic	5%
African-American Hispanic	1%
Native Hawaiian non-Hispanic	<1%
American Indian/Alaskan Native Hispanic	<1%
Asian Non-Hispanic	2%
Other race Hispanic ^b	3%
Other race non-Hispanic	7%
Highest level of education completed	
High School or less	7%
Technical School/Associates/Some College	53%
College or higher	40%
Currently in school (full- or part-time)	41%
Marital Status	
Never married	89%

^aExcluding 4 participants who did not report their race/ethnicity (total $n=323$).

^b“Other” race included multi-racial, other race, and unknown race.

Table 3.Means, standard deviations, and correlations among study variables ($n = 327$)

Variable	1	2	3	4	5
1. Sex	-	-.04	-.12*	-.22***	-.13*
2. Obsessive Passion		-	.07	.40***	.63***
3. Harmonious Passion			-	.08	.10
4. Binge drinking				-	.47***
5. Alcohol-related consequences					-
<i>M</i>	0.61	1.65	3.33	2.29	9.07
<i>SD</i>	0.49	1.00	0.90	0.80	5.78

Males = 0; Females = 1

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