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Internalized Binegativity, Alcohol Consumption, and Expectancies Following an Experience of Binegativity: an Experimental Study

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by

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DEDICATION

To my loving family,

This thesis is dedicated to you. Your unwavering support, endless encouragement, and boundless love have been the foundation upon which I have built my academic journey.

To my parents, thank you for instilling in me the values of perseverance, hard work, and determination. Your sacrifices and belief in my potential have been my greatest motivation.

To my siblings, thank you for always being there to cheer me on and for providing me with laughter and support during stressful times.

This achievement is as much yours as it is mine.

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ABSTRACT

Individuals who identify as bisexual have repeatedly been found to consume alcohol at higher rates than individuals who identify as heterosexual or homosexual and are at greater risk for developing AUD. Per the Minority Stress Model, this heightened risk for bisexuals' poor alcohol outcomes may be attributed to experiences of bisexual-specific stressors (i.e., experienced binegativity) and beliefs about their own bisexual identity., which have previously been associated with increased alcohol use. To date, however, no studies have examined if experiences of binegativity are associated with changes in internalized binegativity and alcohol outcomes in an experimental design. The current study aimed to test an integrative model examining how experiences of binegativity are related to internalized binegativity, alcohol consumption, and associated alcohol expectancies. Results indicated that participants who experienced a binegative event had more positive, salient alcohol expectancies than those who did not experience a binegative event. A significant difference in the amount of alcohol consumed between conditions was not observed. Additionally, no effect of experienced binegativity was found on changes between baseline and post-manipulation levels of internalized binegativity, and positive and negative affect. These findings highlight the temporally sensitive impact experiences of bisexual-specific discrimination may play in bisexuals' heightened risk for adverse alcohol outcomes. Further, this study's novel implementation of of an experience of binegativity has additional methodological implications for future research assessing the role of bisexual-discrimination on adverse outcomes.

CHAPTER ONE: INTRODUCTION

Bisexuality is a sexual identity most commonly defined by a romantic attraction towards more than one gender (Angelides, 2001). The prevalence of individuals who identify as bisexual has been on a steady incline in the past 10 years, with 4% of adults self-identifying as bisexual in one nationwide poll in 2022, nearly double that of a similar poll conducted in 2012 (Inc, 2022). Among sexual minorities, bisexuality is the most commonly endorsed identity, with nearly 56.8% of individuals who endorse at least one sexual minority identifying as bisexual (Gallup, 2022). Previous research has indicated that in comparison to heterosexual and gay/lesbian individuals, bisexual individuals are at an increased risk for numerous mental health problems, including alcohol use disorder (AUD; Feinstein & Dyer, 2017). Although this disparity in negative health outcomes is well-studied in prior research, less research has been conducted regarding the role of bisexual-specific stressors such as discrimination and their self-reported levels of bisexual-specific minority stress processes may contribute to their alcohol consumption and drinking behaviors. Similarly, little research has examined if fluctuations in these aspects of a bisexual individual's identity may be associated with the same drinking factors. Thus, the purpose of this study is to test an integrative model examining how an experience of binegative discrimination may influence a bisexual's beliefs about their bisexual identity, alcohol consumption, and alcohol expectancies through an experimental lens.

Alcohol Use

Alcohol use disorder (AUD) is a debilitating psychological disorder that has a lifetime prevalence of 29.1% in the United States (Grant et al., 2015). In addition to significant negative behavioral and mental impact, AUD has been associated with higher rates of numerous negative health outcomes, including cancer, respiratory illness, and other medical conditions (Verplaeste et al., 2021). Even amongst individuals who do not meet the requirement for AUD, excessive drinking has been associated with negative outcomes across numerous prior studies. For example, episodes of binge drinking, generally defined as consuming five or more drinks on one occasion for men and 4 or more drinks for women (Wechsler & Austin, 1998), are widely associated with an increased risk of negative consequences, including injuries related to impaired driving, HIV transmission, and suicide (Borges & Loera, 2010; Taylor & Rehm, 2012; Wen et al., 2012). These negative consequences are often examined through a contextual lens to further understand the precipitation and maintenance of excessive alcohol use, including how differential exposure to stressors contribute to excessive alcohol use across different populations (Fairbairn et al., 2018).

A specific group of interest to examine these questions on is individuals who identify as bisexual. Bisexuals have repeatedly demonstrated having on average, higher levels of alcohol consumption compared to both heterosexual and homosexual individuals (Watson et al., 2019; Jackson et al., 2016; McCabe et al., 2009; Paschen-Wolff et al., 2019). A recent meta-analysis of bisexual alcohol use and heavy episodic drinking (binge drinking) found that bisexual individuals had higher levels of past-month drinking compared to both heterosexual and homosexual individuals, and additionally found that bisexuals were between 1.25 and 1.51 times more likely to experience at least one heavy drinking episode over the past month compared to

homosexual and heterosexual individuals, respectively (Shokoohi et al., 2022). These increased levels of alcohol consumption are complimented by bisexual individuals being at a greater risk for developing both alcohol-associated physical health problems (i.e., hepatic disorders, cardiovascular illness, and obesity; Dyar et al., 2019) and AUD overall (Kerridge et al., 2017; Medley et al., 2016) when compared to their heterosexual counterparts. Although these disparities among bisexual individuals are well-documented, research on how minority stress processes impact drinking behaviors are less understood.

Minority Stress

Minority stress theory posits that sexual minorities experience a set of stressors linked to their stigmatized minority identity (i.e., minority stress), and are therefore at a higher risk of psychopathology and negative health outcomes, such as AUD (Figure 1; Meyer, 2003). Minority stressors can be understood as a set of environmental and cognitive factors that contribute to an individual's experiences and sense of self (Meyer, 2003). Environmental stressors are well documented contributors to a variety of negative mental and physical health outcomes (Goldbach et al., 2014; Hatzenbuehler, 2009). For example, a recent secondary data analysis of a nationally representative survey found that individuals who experienced a sexual orientation-based discrimination event in the prior week were 1.52 times more likely to excessively drink (i.e., consume more than 7 drinks in a week) than in weeks they did not experience a discrimination event (Slater et al., 2017). Less overt experiences of discrimination related to marginalization, or microaggressions (Nadal et al., 2016), have also been associated with increases in alcohol misuse (Scharer & Taylor, 2018), further supporting the notion that sexual minorities are at a higher risk for alcohol use as a result of environmental factors specific to their sexual identity.

Hatzenbuehler (2009) expanded on the idea that environmental stressors influence negative mental health outcomes by suggesting that experiences of minority stress render sexual minorities more vulnerable to maladaptive psychological processes (e.g., coping/emotion regulation, social/interpersonal, and cognitive factors) that are associated with psychopathology and related health outcomes, known as the psychological mediation framework (PMF) (Figure 2). These minority stressors are subjective processes that rely on perceptions and appraisals of one's own minority identity (e.g., internalization of stigma, rejection sensitivity, identity concealment) (Feinstein, 2020). Though previous studies have found associations between each of these cognitive stressors and alcohol use (Baiocco et al., 2010; Brennen et al., 2021; Pachankis et al., 2014), few studies have begun to expand on the idea that cognitive minority stressors may mediate the relationship between environmental minority stressors and alcohol use.

Minority Stress Model and Bisexuality

Sexual minorities often experience a unique set of stressors (e.g., homophobia and identity denial; Garr-Schulz & Gardner, 2021) that have previously been associated with increases in alcohol misuse and its associated consequences (Talley et al., 2016). Bisexual individuals face specific discrimination and stigmatization, referred to as binegativity, from both heterosexuals and other sexual minorities that reflect stereotypes unique to bisexuals (Dodge et al., 2016). Experiencing of these stereotypes (e.g., bisexuals are simply "confused" about their sexuality and bisexuals are promiscuous and undesirable as partners; Brewster & Moradi, 2010) are consistently associated with poor mental health outcomes (Brewster & Moradi, 2010; Dyar et al., 2017). For example, Molina and colleagues (2015) found that experiences of binegativity were associated with alcohol-related consequences and binge drinking among an online sample of bisexual-identifying women. These results also varied based on several individual sexual

identity factors: individuals whose partners are of the opposite gender experienced greater binegativity and had higher levels of binge drinking compared to those whose partner was of the same sex (Molina et al., 2015). Similarly, related identity constructs such as outness, or the degree to which an individual has disclosed their sexual identity to others (Mohr & Fassinger, 2000), have had mixed results as predictors of alcohol use in bisexuals, such that outness has been associated with both increased (Feinstein et al., 2017) and decreased alcohol use (Stall et al., 2001). Similarly, degree to which other bisexual-specific cognitive stressors and identity constructs such as identity affirmation and identity illegitimacy (i.e., prideful and negative feelings toward one's bisexual identity; Paul et al., 2014) are associated with alcohol use, have not been thoroughly examined in prior literature. The notion that these individual characteristics may influence the relationship between experiences of binegativity and alcohol use is supported by Meyer's MSM (2003), though the mixed results suggest further research into the mechanisms through which experiences of binegativity may influence alcohol use is needed.

Building upon Hatzenbuehler's (2009) PMF, Scandurra and colleagues (2020) proposed a moderated-mediation model suggesting that the relationship between experiences of binegativity and psychological distress (i.e., anxiety and depressive symptomatology) is mediated by cognitive bisexual-specific stressors. This model was supported by Scandurra and colleagues (2020) in addition to Dyar and colleagues (2021) in cross-sectional samples of bisexual individuals, where the association between anti-bisexual discrimination and psychological distress was mediated by bisexual-specific cognitive stressors. Although these studies were cross-sectional in nature and did not directly measure alcohol outcomes, they provide a promising framework for examining the relationship between cognitive bisexual-specific factors and alcohol use via more rigorous study designs (i.e., experimental manipulation).

The identity factor most strongly predictive of psychological distress (e.g., Scandurra et al., 2020), internalized binegativity (Firestein, 1996), refers to negative attitudes or feelings related to one's bisexual identity resulting from internalization of negative social attitudes regarding bisexuality. Internalized binegativity is posited to play a vital role in social identity processes and may be especially susceptible to environmental stressors such as bisexual-specific discrimination and stereotyping (Flanders, 2016). A longitudinal study examining the effects of individual experiences of binegativity on internalized binegativity found that experiences of binegativity in the week prior predicted subsequent increases in internalized binegativity at the end of the week, in addition to maladaptive coping strategies (Dyar, 2016). Indeed, one such maladaptive coping strategy, alcohol use, has been previously associated with increased internalized binegativity. For example, Molina et al. (2015) also found that internalized binegativity was positively associated with alcohol consequences, binge drinking, and experiences of binegativity. Taken together, internalized binegativity may play a key role in bisexual alcohol use as a possible mechanism in the relationship between experiences of binegativity and alcohol use.

Alcohol Expectancies in Bisexual Individuals

Cognitive models of alcohol misuse and consequences often point to an individual's motivation to drink and expectations of alcohol use as risk factors (Brown et al., 1985; Cooper et al., 1995). An alcohol expectancy can be conceptualized as one's beliefs about how consuming alcohol will affect them and are reflective of processes involved in the anticipatory of future events, which plays a vital role in the reinforcement and maintenance of one's motivation and decision to consume alcohol (Goldman, 2002). Expectancies are often characterized by their emotional valence (positive-negative), implying how an individual believes consuming alcohol

will make them feel (Rather et al., 1992; Reich & Goldman, 2005). Thus, the expectation is that individuals who report more positive expectancies about how consuming alcohol will make them feel will consume alcohol more often and have worse alcohol outcomes (Coates et al., 2018; Dunham, 2020). However, individuals have multiple beliefs about the effects of alcohol consumption, and these beliefs have been demonstrated to be sensitive to different circumstances (Cox et al., 2014).

Prior studies examining an individual's expectancies on anticipated effects of alcohol consumption have predicted later alcohol consumption (Colder et al., 2014; Jester et al., 2014), such that these expectancies may guide and incentivize alcohol consumption and related behaviors (Goldman & Reich, 2013). Specifically, expectations that alcohol will reduce experiences of distress (i.e., tension reduction) have been found to moderate the relationship between psychological distress and alcohol use, such that individuals who experience psychological distress are more likely to consume alcohol if they have higher tension-reduction alcohol expectancies (Frone, 2016; Borges et al., 2018). Further, these patterns have been found to be exacerbated in sexual minority populations, where prior researchers have posited that differences in heavy drinking between heterosexual and sexual minority drinking patterns are accounted for by differences in alcohol expectancies (Fish & Hughes, 2018; McKirnan & Peterson, 1989; Hatzenbuehler et al., 2008). Differences in alcohol expectancies and how they change in response to bisexual-specific stressors may therefore be vital in understanding bisexual individuals' increased risk for AUD and drinking consequences.

Consistent with the PMF, experiences of binegativity have previously been associated with increased alcohol use indirectly through greater positive alcohol expectancies. For example, a recent survey study of 225 bisexual women found that the relationships between experiences of

binegativity and alcohol problems and alcohol consumption were each sequentially mediated by positive alcohol expectancies (Schulz et al., 2021). A more understudied area of research in this area, lies in the relationship between bisexual-specific identity factors, such as internalized binegativity, and alcohol expectancies. Currently, only a single, observational study has examined bisexual-specific identity factors in relation to alcohol use and expectancies (Dunham, 2020), showing that alcohol expectancies were associated with internalized binegativity, and that the relationship between internalized binegativity and alcohol consumption was mediated by greater positive alcohol expectancies. These results provide a promising framework for further exploration of the potentially causal relationship between internalized binegativity and both alcohol outcomes and associated alcohol cognitions.

Proposed Study

To date, no study has examined the relationships between binegative experiences, internalized binegativity, alcohol expectancies, and drinking behaviors using an experimental design. The current study aims to test an integrative model examining how internalized binegativity is related to alcohol outcomes and associated cognitive processes. Individuals who identify as bisexual and drink alcohol were recruited to take part in an experimental study where participants were randomized to a condition where they experienced a binegative event or a control condition with no expression of binegativity. Following the manipulation, changes in internalized binegativity were measured, as well as alcohol expectancies, and alcohol consumption during an ad lib drinking task. Several specific hypotheses were tested to provide support for this overarching model.

Hypotheses

Hypothesis 1**:** Bisexual individuals who experience a binegative event will report higher internalized binegativity than those who did not following an interview about sexuality, drinking, and relationships.

Hypothesis 2: Bisexual individuals who experience a binegative event will demonstrate stronger alcohol expectancies as well as higher alcohol consumption during an ad lib drinking task than those who experienced a non-bisexual-specific stressor.

Hypothesis 3 (exploratory): The relationship between experiences of binegativity and alcohol will be mediated by changes in internalized binegativity following a binegative event. Similarly, the relationship between experiences of binegativity and alcohol expectancies will be mediated by changes in internalized binegativity following a binegative event.

Power Analysis

A power analysis for the primary aims was conducted using G*Power 3.1 (Faul et al., 2007). Based on a prior study examining the effect of a stereotype suppression task on alcohol consumption we expected a medium effect of experienced binegativity on alcohol consumption during the TRT (f= .3) (Ketterman, 2005). Thus, 90 participants would be required to detect a significant medium effect across two groups at an alpha level of .05 with .80 power for hypothesis 2. For hypothesis 1, the required sample size to detect a medium effect across two groups with at an alpha level of .05 with .80 power is 34 participants. For hypothesis 3, according to Fritz and McKinnon (2007), to detect a mediation effect where the total effect of experienced binegativity on internalized binegativity and the indirect effect of internalized binegativity on alcohol use or expectancies are expected to be medium in a percentile bootstrap

test, a sample size of 78 is suggested. Due to the lack of previous work estimating the effect of binegativity on internalized binegativity, this may be underestimated for these analyses, and thus this hypothesis is deemed exploratory. Given the previously mentioned sample size of 61, the proposed N=60 (30 participants per condition) was deemed sufficient to detect a significant medium effect.

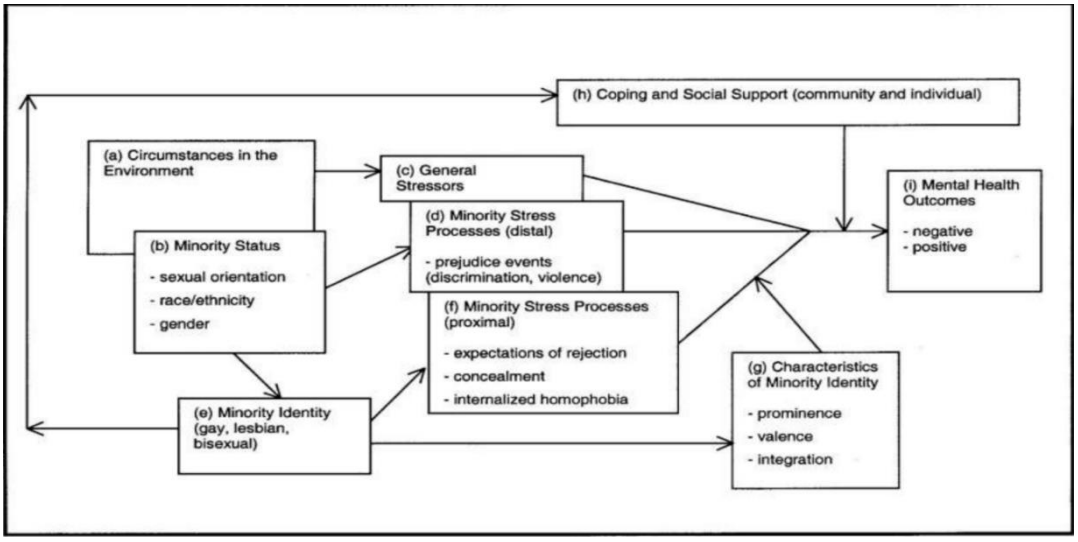

Figure 1. Meyer's Proposed Minority Stress Model

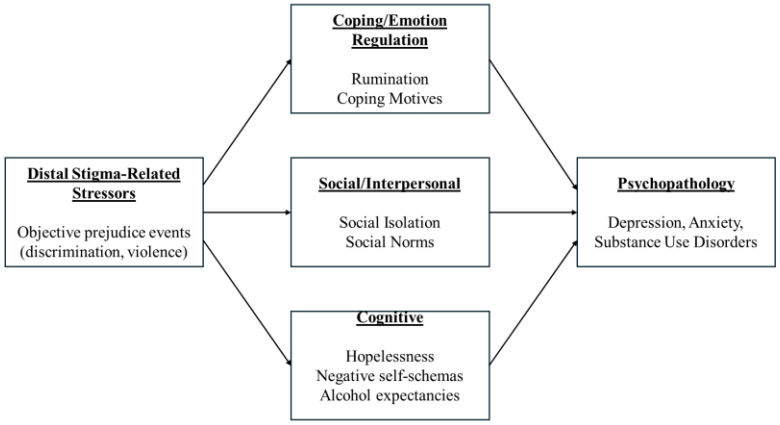

Figure 2. Hatzenbuehler's Proposed Psychological Mediation Framework

CHAPTER TWO: METHOD

Participants

College-aged individuals (n= 61) who identified as bisexual and indicated that they consumed alcohol in the last 30 days were recruited via SONA, internet advertisements, and fliers posted around local college campuses specifically targeted at local college students for participation in an in-person study examining the relationship between relationship status and alcohol preferences. Participants met inclusion criteria if they: a) Identified as bisexual, b) had consumed alcohol on at least one occasion in the past 30 days, and c) were aged 21 to 35 at the time of recruitment. Participants were excluded if they: (a) had an allergy to alcohol, (b) were seeking or receiving treatment for their alcohol use at the time of recruitment, or c) were currently pregnant or suspecting that they were currently pregnant at the time of recruitment. One participant was discontinued before completing baseline assessments due to erratic and disorganized behavior while obtaining informed consent, and dropped from the analyses, making the total enrollment in the study 60.

All participants indicated that they identified as bisexual during baseline (100%). Participants were 73.3% female with a mean age of 22.32 (SD= 1.682), 35% were White, 25% were White/Hispanic, 6.7% were Black/African American, 21.7% were Asian/Asian American, and 11.7% indicated they were multiracial. Most participants indicated they were single (55%), were a student at a college or university (95%), employed part-time (58.3%), and had an average annual income of $10,000-$40,000 (53.3%). Most participants indicated their most commonly

consumed alcohol beverage was a mixed drink (63.3%), consumed alcohol 2-3 times per month (51.7%) and consumed 2-4 drinks per drinking day (71.7%), and reported being drunk less than once a month or never (46.7%). (see Table 1 for summary of participant demographics and drinking behaviors).

Measures

Demographics. Participation demographic information was gathered, including gender, age, race, ethnicity, primary language, employment status, and income. Relationship status and partner gender were additionally collected for the purpose of secondary data analyses.

Drinking Behavior Questionnaire. Participant alcohol use was assessed using the Drinking Behavior Questionnaire (DBQ) (Cahalan et al., 1969). The DHQ is a 10-item survey that measures an individual's weekly quantity and frequency of current and past alcohol use in addition to their own experiences and beliefs about their alcohol use. The drinking frequency and quantity subscales have good reliability in a prior study examining bisexual drinking behaviors (Kelley et al., 2019). This measure was collected for providing descriptive information on typical drinking patterns within the current sample and for future analyses.

Comprehensive Effects of Alcohol Questionnaire. The Comprehensive Effects of Alcohol (CEOA; Fromme et al., 1993) questionnaire is a 38-item measure that assesses alcohol outcome expectancies. The CEOA contains 7 sub-scales regarding positive (i.e., sociability, tension reduction, liquid courage, and sexuality) and negative (i.e., cognitive and behavioral impairment, risk and aggression, and self-perception) expectancies. Participants indicated to what extent they agree (i.e., Disagree, Slightly Disagree, Slightly Agree, Agree) being under the influence of alcohol will cause certain effects to happen to them. This scale has previously been

supported having good validity and reliability as a measure of drinking effects (Ham et al., 2005). This measure was collected for the purpose of future exploratory analyses.

Modified Drinking Motives Questionnaire – Revised. Based on Cooper's 4-factor model of motivation for drinking (Cooper, 1994), the modified Drinking Motives Questionnaire – Revised (mDMQ-R; Grant et al., 2007) is a 28-item measure that assesses five different motivations to use alcohol (i.e., peer pressure to use alcohol, enhancing social experiences, enhancing positive emotions, coping with anxiety, and coping with depression. This measure was collected for future exploratory analyses. Psychometric properties of the MDMQ-R, including reliability and validity, were found to be strong within and between subscales when tested on a population of undergraduates (Grant et al., 2007).

Substance Use Risk Profile. The Substance Use Risk Profile (SURPS) was used to assess personality along 4 dimensions: anxiety sensitivity, hopelessness, impulsivity, and sensation seeking. (Woicik et al., 2009). This measure has previously demonstrated reliability and validity in a young adult sample (Woick et al., 2009). This measure was collected for future exploratory analyses.

Outness Inventory. The 11-item Outness Inventory, which is used to assess the degree to which non-heterosexual populations are open about their sexual orientation, was used to measure outness (Mohr and Fassinger 2000). The validity and reliability for this measure has been previously supported in sexual minority youth (DeLong et al., 2023). This measure was collected for future exploratory analyses.

Anti-Bisexual Experiences Scale. The Anti-Bisexual Experience Scale (ABES) asks participants to rate the frequency in which they experience bisexual-specific forms of discrimination (e.g., "People have not taken my sexual orientation seriously because I am

bisexual"; "People have treated me as if I am obsessed with sex because I am bisexual"). Participants were asked to report how frequently each experience has occurred for them separately for heterosexual referents and gay/lesbian perpetrators (Brewster & Moradi, 2010). Previous research has found the ABES to have good internal consistency, test–retest reliability, convergent validity, and discriminant validity (Brewster & Moradi, 2010). This measure was collected for future exploratory analyses.

Bisexual Identity Inventory. The Bisexual Identity Inventory is a 24-item self-report measure of cognitive, bi-negative-specific distress. Responses are rated on a 7-point Likert-type scale from 0 = strongly disagree to 6 = strongly agree. The BII includes four dimensions of bisexual identity distress: Illegitimacy of Bisexuality, Anticipated Binegativity, Internalized Binegativity, and Identity Affirmation (reverse scored). Scores are derived from summing responses for each subscale, and across the full questionnaire. Published internal consistency coefficients across the full scale and each of these subscales are in the acceptable to excellent ranges ($\alpha = 0.73 – 0.93$; Paul, et al., 2014).

Positive and Negative Affect Scale. The Positive and Negative Affect Schedule (PANAS; Watson et al., 1988) was used to assess affect. The PANAS is a 20-item self-report measure that assesses positive (PA) and negative (NA) affect. Participants indicated how much they are currently experiencing 20 emotions measured by the PANAS by rating each one on a 5-point scale ranging from 1 (very slightly or not at all) to 5 (extremely). The PA and NA subscales of the PANAS have been shown to be reliable (Watson et al., 1988), and the instrument may be used to assess different periods of time (e.g., in the moment, today, past few days, past few weeks, in general).

Free Associates. A Free Associates task was used to assess alcohol expectancies. Participants were instructed to "Think about the rest of your day," followed by "Fill in the blanks with the first word that you think of. Answer as fast as you can." They will respond five times in a row to "Drinking alcohol will make me _____," to obtain a maximum of five associates. Participants then rated each of their responses on valence (pleasantness) on a scale of 1-7. Higher values are indicative of more pleasantness and arousal while low values are indicative of unpleasantness and sedation. This method has been used to assess alcohol expectancies in numerous populations including college students (Reich & Goldman, 2005).

Alcohol Taste-Rating Task. Based on the work of Marlatt and colleagues (1973), participants were presented with two carafes labeled "A" and "B" filled with 12oz each of two different types of non-alcoholic cocktails and a taste rating form that captured opinions of the two cocktails in categories including taste ("How does this product taste?"), smell ("How appealing is the aroma of this product?"), and appearance ("How appealing is the color of this product?" and "How appealing is the consistency of this product?"). Non-alcoholic vodka was used to minimize participant risk and burden (e.g., females consuming alcohol when they are unknowingly pregnant or preventing participants from driving after the study); non-alcoholic alcohol has successfully been used as a proxy for beverages containing alcohol with minimal detection (i.e., 4-8%) by participants in prior research (e.g., Roehrich & Goldman, 1995; Tan & Goldman, 2015). Participants were instructed to pour the cocktails from the carafes to the corresponding glass and to sample as much of each cocktail as needed to accurately complete the rating form. The research staff member then left the room for 10 minutes while the ratings were completed, returning half-way through after 5 minutes to check in. After participants were

compensated and left the study area, the total volume of each cocktail consumed was measured in milliliters with graduated cylinders and used as the dependent variable for hypothesis 2.

Procedures

Participants were randomly assigned to either experience a binegative-event (experimental condition) or not (control condition) upon completing the informed consent process. Study staff were blinded to the condition membership of the participant until the participant was debriefed. After completing a baseline assessment battery consisting of self-report measures about their demographics, drinking behaviors, and experience as a bisexual individual, participants completed a measure aimed at assessing several different components of their bisexual identity (Bisexual Identity Inventory; BII; Paul et al., 2014) and a measure measuring their current affective state (Positive and Negative Affect Scale; PANAS; Watson et a., 1988).

Experienced Binegativity Manipulation. Following the administration of these measures, participants were told that they will participate in an interview regarding the broad topics of "friendships, dating, and social life". A confederate, who identifies as a white heterosexual male, who minorities have previously designated as being most likely to endorse prejudiced beliefs about minorities in prior research (Haslam & Levy, 2006; Sears & Henry, 2003), introduced themselves as the interviewer and began asking a pre-determined series of prompts to the participant:

1. What is your age, and gender?
2. What type of alcohol is your favorite to consume? Do you enjoy beer, wine, spirits, or another type of alcohol? (Pause for answer) During a typical drinking session, how much do you consume?

3. Tell me about your social life. Who do you spend most of your time with outside of work and class?
4. Describe how drinking plays a role in your social life. (Pause for answer) How often do you drink when socializing?
5. We all have multiple identities that shape who we are. What identities best define you?
6. What does the term sexuality mean to you?
7. Tell me about the dating scene in Tampa Bay? (Pause for answer) How often does a date include drinking alcohol?
8. Given at this age, people tend to date many different people. How important is someone's age when considering potential partners.
9. Aside from one's age, what for you are ideal qualities in a romantic partner? Do you have a preference of gender for your romantic partners?
10. Tell me about your most recent romantic or sexual relationship.

Following this prompt, for participants in the control condition, the interviewer thanked the participant for answering the questions and left the room to bring back in the research staff to complete the remaining study procedures. For participants in the experimental condition, following this prompt, the confederate thanked the participant for answering their questions, and then delivered the following prompt before leaving the participant and bringing back the research staff:

> "Hmm, you know, as someone who has only ever been in a traditional relationship, I'm surprised by the answers I receive when interviewing people like you. It seems like all bisexuals are just promiscuous and confused about their sexuality, it is very interesting."

The participants were then instructed to again complete the BII and PANAS to assess if there were any changes to their internalized binegativity and their affective arousal levels, respectively, in response to the experimental manipulation.

Following these measures, participants completed the free-associates task and the alcohol taste-rating tasks. The order in which participants completed these tasks was randomized. After completing both tasks, participants, as a manipulation check, were asked to indicate what percentage of alcohol each drink they consumed contained were asked to rate the confederate interviewer on six different metrics (i.e., professional, rude, kind, racist, empathetic, and biphobic) on a 1-5 scale. Participants were then debriefed about the study, and told that the cocktails they consumed contained no alcohol and that the words of the interviewer did not reflect their actual views or beliefs, and were provided an opportunity to ask questions. Participants received class credit for their participation (2 hours = 4 points) via SONA or paid $40 via amazon e-gift card. After they've left the lab, the total volume of each cocktail consumed was measured in milliliters with graduated cylinders and all equipment and surfaces used during the study were cleaned and disinfected.

Data Analytic Strategy

*Preliminary Analyses***.** Prior to analyses, all variables were examined for outliers and violations of normality. Outliers with values outside of the median +/- two interquartile ranges (IQRs) were reined and replaced with the value of the median +/- two IQRs. Additionally, those who indicated that the cocktails contained less than 1% ABV were excluded from analyses including alcohol consumption in Hypothesis 2 and Hypothesis 3. Further, a one-way omnibus (condition: experimental vs. control) ANOVA was conducted to compare the effects of the binegativity manipulation on participants' rating of the confederate's biphobia. Finally, a 2

(within-person: pre vs. post manipulation) X 2 (condition: experimental vs. control) mixed model ANOVA was performed to compare the effect of the experienced binegativity on participants' negative affect before and after the binegativity manipulation.

Several data analytic strategies were used in order to test our various hypotheses:

Hypothesis 1: A 2 (within-person: pre vs. post manipulation) X 2 (condition: experimental vs. control) mixed model ANOVA was performed to compare the effect of experienced binegativity on differences in internalized binegativity before and after an experience of binegativity. Specifically, sum scores of the internalized binegativity scale of the BII, pre and post manipulation, were entered as the within-person factor (and dependent variable), and condition was entered as a between-person factor. Regardless of a significant 2 (time) X 2 (condition) interaction, a priori follow-up tests examining pre-post changes within the experimental and control condition were conducted with Bonferroni-corrected p-values.

Hypothesis 2: Two separate, one-way omnibus (condition: experimental vs. control) ANOVA's were performed to compare the effect of experienced binegativity on alcohol expectancies and alcohol consumption. Specifically, the condition was entered as a between-person factor. Additionally, a 2 (task order: TRT first vs. TRT second) x 2 (condition: experimental vs. control) between-subjects ANOVA was conducted to determine whether there was a significant ordering effect between conditions for alcohol consumption and alcohol expectancy measurements.

Free associate alcohol expectancies were quantified by applying two scoring metrics in tandem. First, each associate was assigned a Smith's *S* index (Smith, 1993; Sutrop, 2001; Thompson & Juan, 2006), which represents a salience score. This salience score is intended to give more statistical weight to associates that were provided earlier in each list of five associates

that participants provided, as the order of retrieval reflects the immediacy of the associate to the given contextual circumstances (Nelson et al., 2000). The salience score is be calculated by taking the total number of associates provided by an individual, subtracting the position/rank of the associate. In addition to a salience score, the associates were rated on their valence. These ratings were obtained from a 5 year longitudinal study of roughly 600 college students and young adults (see Reich et al., 2015). Because we expect the associates given in this current study will match those given in the earlier study, we will apply the previous mean valence ratings to the expectancy associates solicited in this study. Lastly, a composite score that represented both valence and saliency was generated by multiplying the two indices and dividing by the number of associates presented to get an average total score.

Alcohol consumption was quantified by calculating the difference between the amount of each cocktail poured before the TRT and the amount left after the study, in milliliters (ml) for each cocktail, and then summing the total of all three cocktails. During calculation, it was discovered the consumption total for at least one of the cocktails was negative for five participants, and thus they were excluded from analyses (n=55).

Hypothesis 3: An analysis of mediation was conducted using the PROCESS macro developed by Hayes (Preacher & Hayes, 2004). In this analysis, experiences of binegativity was the independent variable, changes in internalized binegativity was the mediator and alcohol consumption levels was the outcome. A similar mediation analysis was additionally conducted where alcohol expectancies were the outcome rather than alcohol consumption levels. Following Hayes' (2013) Macro Process via bootstrapping method, to consider a mediator has mediational effect when (1) the indirect effect (IE) of experienced binegativity on alcohol expectancies or consumption during the TRT via changes in internalized binegativity (i.e., IE = path a x path b; a

= the effect of experienced binegativity on the mediator of changes in binegativity, b = the effect of changes on internalized binegativity on alcohol expectancies and alcohol consumption during the TRT) and (2) the bias corrected 95% CI around the IE from 10,000 bootstrap re-samples. We accepted the IE as statistically significant only if its bias corrected 95% CI excluded zero.

Table 1. *Descriptive Statistics for Overall Sample and by Condition*

Variable	Overall Sample (N=60)	Control Condition (N=30)	Experimental Condition (N=30)	*F*	*p*
	N (%)	N (%)	N (%)		
Age					
Mean (SD)	22.32 (1.682)	22.70 (1.860)	21.93 (1.413)	6.332	.387
Sex				0	1.000
Male	14 (23.3)	7 (23.3)	7 (23.3)	-	-
Female	46 (76.7)	23 (76.7)	23 (76.7)	-	-
Race				4.768	.312
White (Non-Hispanic)	21 (35.0)	14 (46.7)	7 (23.3)	-	-
White (Hispanic)	15 (25.0)	6 (20.0)	9 (30.0)	-	-
African American	4 (6.7)	1 (3.3)	3 (10.0)	-	-
Asian/ Asian American	13 (21.7)	5 (16.7)	8 (26.7)	-	-
Multiracial	7 (11.7)	4 (13.3)	3 (10.0)	--	-
Employment Status				2.500	..475
Employed Full Time	10 (16.7)	7 (23.3)	3 (10.0)	-	-
Employed Part Time	35 (58.3)	16 (53.3)	19 (63.3)	-	-
Unemployed	15 (25.0)	7 (23.3)	8 (26.7)	-	-
Annual Income				1.418	.701
$0 to $10,000	23 (38.3)	12 (40.0)	11 (36.7)	-	-
$10,001 to $20,000	18 (30.0)	7 (23.3)	11 (36.7)	-	-
$20,001 to $40,000	14 (23.3)	8 (26.7)	6 (20.0)	-	-
$40,001 to $60,000	5 (8.3)	3 (10.0)	2 (6.7)	-	-
Monthly Drinking Days					
Mean (SD)	4.8 (4.6)	5.2 (4.3)	4.4 (4.8)	7.278	.296
Drinks per Drinking Day					
Mean (SD)	3.417 (2.250)	3.400 (2.159)	3.433 (2.373)	10.000	.350

CHAPTER THREE: RESULTS

Descriptive Statistics

A total of 60 participants were recruited and completed the study. Thirty participants (n=30) were in each condition. Mean comparisons for all relevant variables were computed (see *Table 2*). Additionally, bivariate correlations between study variables were computed (see *Table 3*).

Manipulation Checks

Of the 60 participants who completed the alcohol taste-rating task, none guessed that the cocktails was less than 1% ABV, thus none were excluded from analyses used in Hypothesis 2 and 3. Results indicated there was a significant effect of condition on participants' ratings of the confederate interviewer's biphobia, $F(1,58) = 34.036$, $p<.001$, such that those in the experimental condition ($M= 3.27$, $SD= 1.552$) rated the confederate interviewer as more biphobic than those in the control condition ($M= 1.3$, $SD= .814$) (see *Table 3 & Figure 3)*. When examining negative affect, a significant interaction between condition and timepoint was observed, $F(1,58)= 6.204$, $p= .016$ (see *Table 4 & Figure 4)*. However, no significant within-person effect of timepoint, $F(1,58)= .013$, $p=.908$, nor effect between conditions, $F(1,58)= .009$, $p= .926$ was observed*).*

Hypothesis 1

It was hypothesized that bisexual individuals who experience a binegative event will report higher internalized binegativity than those who did not following an interview about

sexuality, drinking, and relationships. In contrast to our hypothesis, no significant interaction between condition and timepoint was observed in our results, $F(1,58) = .688$, $p = .410$, partial $\eta^2 = .012$. Further examination additionally revealed no significant main effect for timepoint, $F(1, 58) = 0.60$, $p = .808$, partial $\eta^2 = .001$, or condition, $F(1, 58) = .058$, $p = 810$, partial $\eta^2 = .001$ (See *Table 5* and *Figure* 5 for summary of results). This suggests that there was no significant difference in participants' reported internalized binegativity before and after the interview about sexuality, drinking, and relationships, and those who experienced the binegativity event did not experience a greater increase in internalized binegativity than those who did not.

Hypothesis 2

Bisexual individuals who experience a binegative event will demonstrate stronger alcohol expectancies as well as higher alcohol consumption during an ad lib drinking task than those who experienced a non-bisexual-specific stressor. In concordance with our hypothesis, results indicated there was a significant, medium effect of condition on alcohol expectancies, $F(1,59) = 4.453$, $p = .039$, partial $\eta^2 = .071$ (see *Table 6* and *Figure 6* for summary of results). Participants in the experimental condition reported a greater anticipatory valence of alcohol ($M = 4.572$, $SD = 2.08231$) than those in the control condition ($M = 3.1781$, $SD = 2.58598$), suggesting their alcohol expectancies were more positive, and these positively valanced expectancies were more salient following an experience of binegativity. No main effect of task order was observed on alcohol expectancies, $F(1, 56) = 1.540$, $p = .220$, partial $\eta^2 = .027$. Similarly, no interaction effect between condition and task order was observed, $F(1, 56) = .072$, $p = .790$, partial $\eta^2 = .001$.

After excluding n=5 participants for having negative consumption totals, the experimental condition consisted of n = 27 participants, and the control condition consisted of n=

28 participants. Results indicated no significant effect of condition on alcohol consumption during the TRT, $F(1, 54) = .353$, p= .555, partial $\eta^2 = .007$ (see *Table 7* and *Figure 7* for summary of results). An examination of means found that those in the experimental condition (*M*= 225 mL, *SD*= 215.77 mL) consumed a non-significant amount less than those in the control condition (*M*= 258.89 mL, *SD*= 207.385 mL). Additionally, although a significant main effect of task order was not found, $F(1, 51)= .048$, $p= .827$, partial $\eta^2 = .001$, a marginally significant interaction effect between condition and task order was observed, $F(1, 51)= 3.468$, $p= .068$, partial $\eta^2 = .064$. However, these results should be interpreted with caution due to methodological difficulties observed during administration of the TRT (*see Limitations)*.

Hypothesis 3 (exploratory)

The relationship between experiences of binegativity and alcohol expectancies will be mediated by changes in internalized binegativity following a binegative event. Similarly, the relationship between experiences of binegativity and alcohol consumption during the TRT will be mediated by changes in internalized binegativity following a binegative event. Because the relationship between condition and changes in internalized binegativity was non-significant (path a; *see Hypothesis 1* results), a requirement of mediation outlined by Baron & Kenny (Baron & Kenny, 1986) was not met and thus the mediation analysis does not need to be run. We instead examined if baseline levels of internalized binegativity moderated the relationship between experienced binegativity (condition) and our alcohol outcomes (total alcohol consumption and AESV). These analyses of mediation were conducted using the PROCESS macro developed by Hayes (Preacher & Hayes, 2004). In the first test, condition was entered as the independent variable, grand-mean centered baseline internalized binegativity was the moderator and AESV was the outcome. The results revealed a non-significant moderating effect of baseline levels of

internalized binegativity on the relationship between condition and AESV (b= -.215, t= -.475, *p*= .636). The second test was conducted identically to the first test, with grand-mean centered alcohol consumption during the TRT as the outcome. The test revealed a marginally significant moderating effect of baseline levels of internalized binegativity and alcohol consumed during the TRT (b= -19.150, t=-1.984, *p*=.053). Results of simple slope analysis conducted to better understand the nature of the moderating effects are shown in Figure 8. As can be seen in Figure 8, individuals in the control condition tended to consume more alcohol as their baseline levels of internalized binegativity increased, whereas participants in the experimental condition's alcohol consumption remained constant regardless of baseline levels of internalized binegativity.

Table 2. *Descriptive Statistics for Study Variables*

Variable	Control Condition	Experimental Condition	Overall Sample
	Mean (SD)	Mean (SD)	Mean (SD)
Confederate Interviewer Biphobia Rating	1.4 (.814)	3.27 (1.552)	2.33 (1.548)
Pre-Interview Negative Affect	15.433 (6.495)	14.133 (5.178)	14.783 (5.860)
Post-Interview Negative Affect	13.933 (3.999)	15.500 (7.487)	14.717 (6.003)
Pre-Interview Internalized Binegativity	11.100 (6.51)	10.967 (7.271)	11.033 (6.847)
Post-Interview Internalized Binegativity	11.467 (6.202)	10.767 (7.166)	11.117 (6.539)
AESV Mean	3.178 (2.586)	4.457 (2.082)	3.818 (2.415)
Cocktail Volume Consumed (mL)[a]	258.893 (207.385)	225.500 (215.775)	242.255 (210.271)

Note. N= 60 (n= 30 for each condition).

[a] *N= 55 (n= 28 participants for control condition and n=27 for experimental condition*

Table 3. *Means, Standard Deviations, and Correlations Between Study Variables*.

Variable	*M*	*SD*	1	2	3	4	5	6
1. Confederate Interview Biphobia Rating	2.33	1.55						
2. Pre-Interview Negative Affect	14.78	5.86	.03					
3. Post-Interview Negative Affect	14.72	6.00	.23	.69**				
4. Pre-Interview Internalized Binegativity	11.03	6.85	.14	.49**	.40**			
5. Post-Interview Internalized Binegativity	11.12	6.65	.06	.49**	.40**	.92**		
6. AESVMean	3.82	2.42	.24	.09	.07	.18	.18	
7. Cocktail Volume Consumed	242.25	210.27	-.01	.42**	.29*	.00	-.02	.03

Note. *M* and *SD* are used to represent mean and standard deviation, respectively.

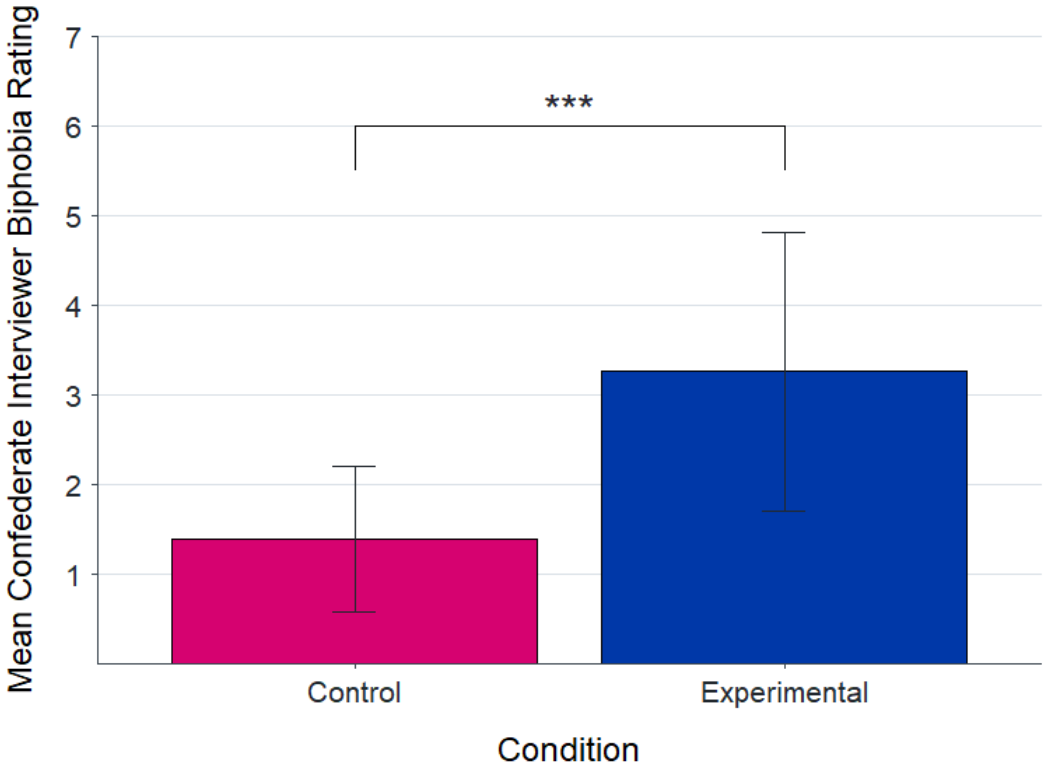

Figure 3. Participant Ratings of Confederate Interviewer's Biphobia by Condition.

Table 4. Post-Hoc Comparisons of Negative Affect

Timepoint	(I) Condition (0= Control; 1=Experimental)	(J) Condition (0= Control; 1=Experimental)	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a]	
						Lower Bound	Upper Bound
1	Control	Experimental	1.300	1.517	.395	-1.736	4.336
	Experimental	Control	-1.300	1.517	.395	-4.336	1.736
2	Control	Experimental	-1.567	1.550	.316	-4.669	1.535
	Experimental	Control	1.567	1.550	.316	-1.535	4.669

Based on estimated marginal means

a. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

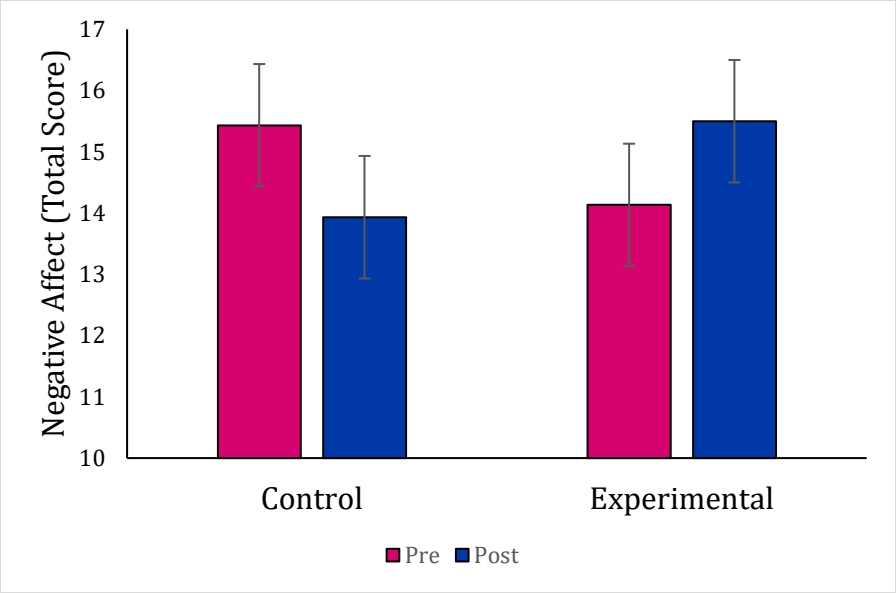

Figure 4. Negative Affect: Condition X Timepoint Interaction

Table 5. Post-Hoc comparisons of Internalized Binegativity

Condition (0= Control; 1=Experimental)	(I) Timepoint	(J) Timepoint	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a]	
						Lower Bound	Upper Bound
Control	1	2	-.367	.483	.451	-1.333	.600
	2	1	.367	.483	.451	-.600	1.333
Experimental	1	2	.200	.483	.680	-.767	1.167
	2	1	-.200	.483	.680	-1.167	.767

Based on estimated marginal means

a. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

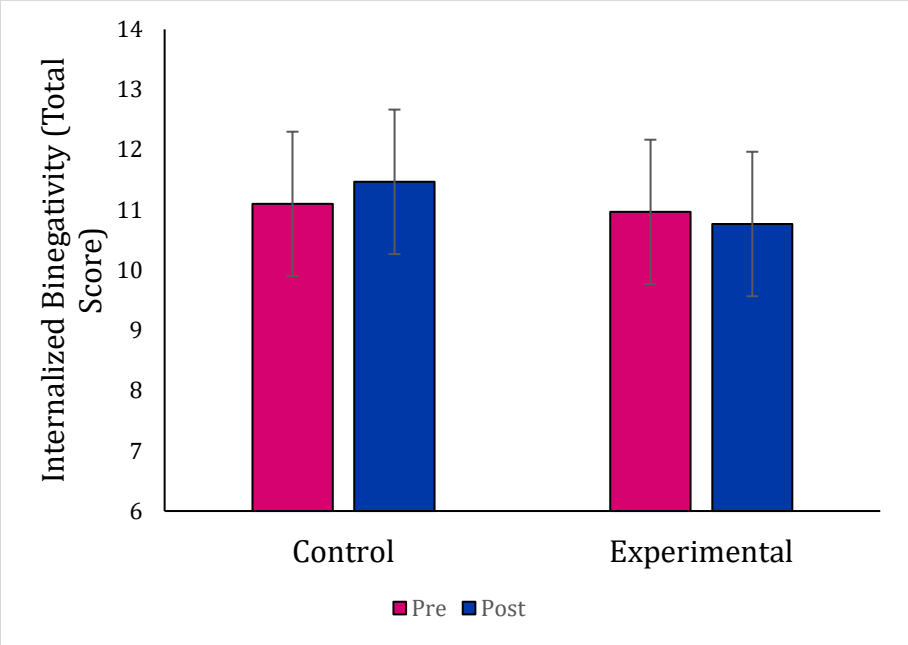

Figure 5. Internalized Binegativity: Timepoint X Condition Interaction

Table 6**.** *One-Way ANOVA Results Using AESV-Mean as the Criterion*

Predictor	Sum of Squares	*df*	Mean Square	*F*	*p*	$_{\text{partial}}\ \eta^2$
(Intercept)	303.01	1	303.01	54.98	.000	
Condititon	24.54	1	24.54	4.45	.039	.07
Error	319.68	58	5.51			

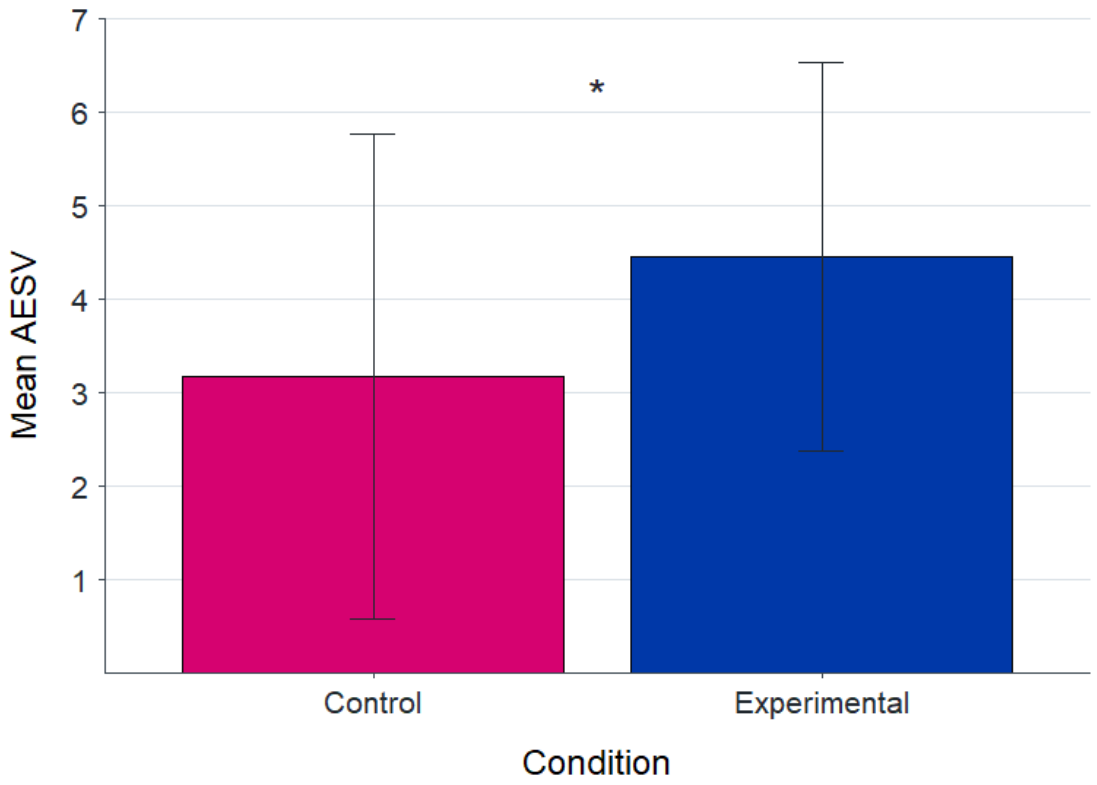

Figure 6. Alcohol Expectancy Salience-Valence Scores by Condition

Table 7. *One-Way ANOVA Results Using Total Alcohol Consumed as the Criterion*

Predictor	Sum of Squares	*df*	Mean Square	*F*	*p*	$_{\text{partial}}\eta^2$
(Intercept)	1876714.32	1	1876714.32	41.94	.000	
Condition	15789.76	1	15789.76	0.35	.555	.01
Error	2371762.68	53	44750.24			

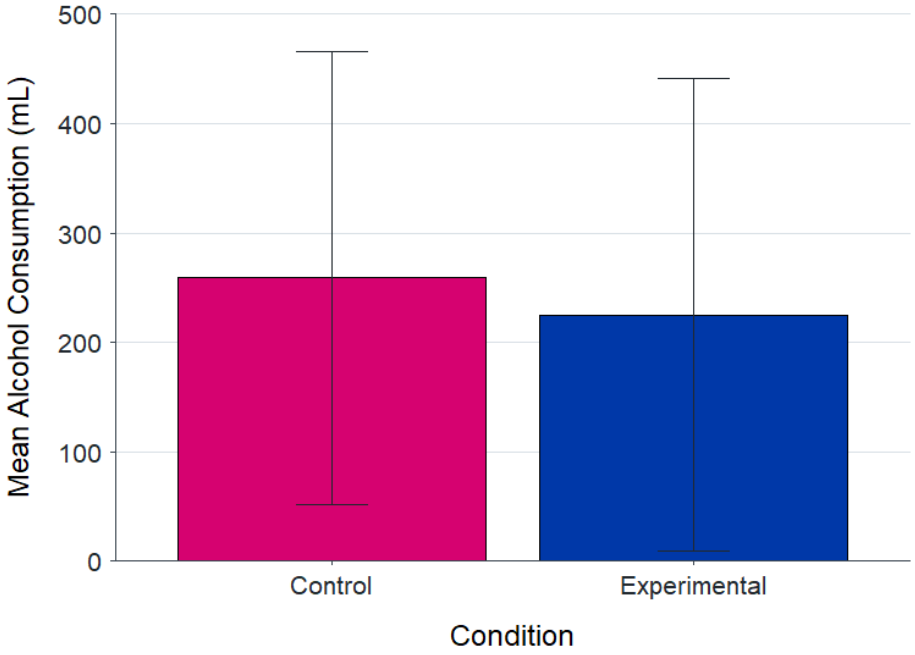

Figure 7. Total Alcohol Consumed During Taste Rating Task by Condition

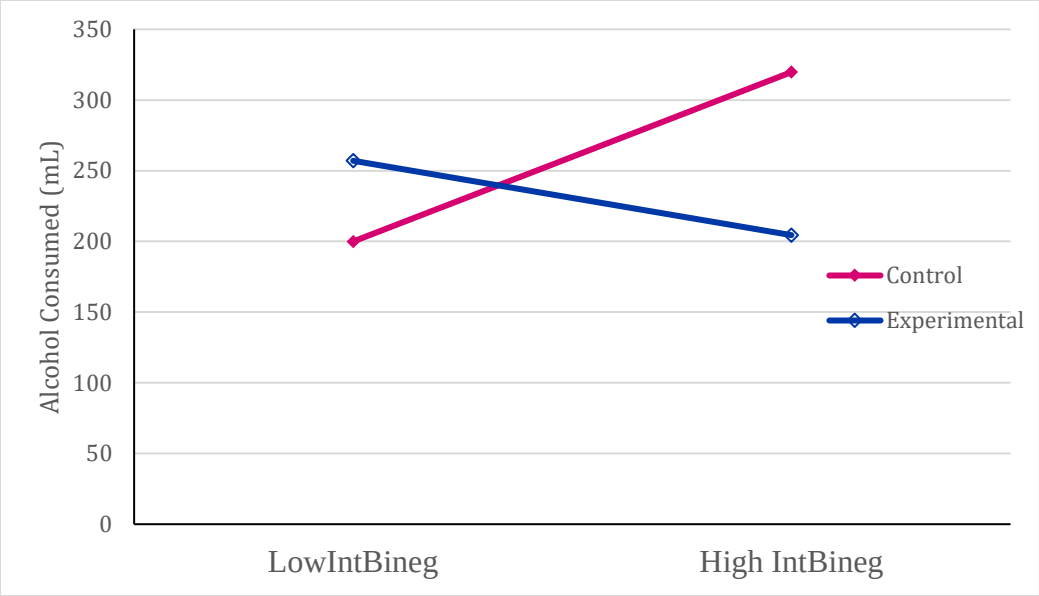

Figure 8. Simple Slopes of Condition X Internalized Binegativty Predicting Alcohol Consumption

CHAPTER 4: DISCUSSION

Consistent with Meyer's minority stress model (Meyer, 2003), prior theoretical and empirical research has long supported that bisexual individuals are at a higher risk of problematic alcohol use and negative mental health outcomes (Watson et al., 2019). It has additionally been suggested that these poorer outcomes are mechanistically driven by experiences of bisexual-specific stressors (i.e., discrimination and microaggressions) that result in negative beliefs about one's own bisexual identity, in turn leading to greater distress and increased mental health difficulties (Scandurra, 2020). However, prior examination of this theoretical model has solely utilized cross-sectional and longitudinal study design, leaving many questions about how individuals' beliefs about their own bisexuality, alcohol consumption, and beliefs about alcohol consumption are influenced immediately following an experience of binegativity. The current study sought to inform our knowledge of these immediate outcomes by utilizing a novel experimental paradigm where 1) changes in individuals' negative beliefs about their bisexuality and 2) anticipatory valence of one's motivation to consume alcohol as well as their alcohol consumption during an ad-lib drinking task were contrasted between those who experienced a binegative event and those who did not following an interview about dating and alcohol consumption habits.

In line with our hypothesis, results indicated significant between-group effects of experienced binegativity on the anticipatory valence of one's motivation to consume alcohol. Similarly, results of our manipulation check indicated that participants in the experimental

condition rated the confederate interviewer as more biphobic. However, in contrast to our original hypotheses, there was no evidence of an effect of experiences of binegativity on changes in internalized binegativity, nor on the amount of alcohol consumed during an ad-lib drinking task. Due to the non-significant relationship between experiences of binegativity on changes in internalized binegativity, the originally proposed theoretical model of changes in internalized binegativity mediating the relationship between experiences of binegativity and alcohol outcomes was not tested; instead, baseline levels of internalized binegativity were examined as moderating the relationship between experiences of binegativity and alcohol outcomes. Results indicated a marginally significant moderating effect of baseline levels of internalized binegativity on the relationship between experiences of binegativity and individuals' alcohol consumption during the ad-lib drinking task, but a non-significant effect on the anticipatory valence of one's motivation to consume alcohol. These findings, as well as methodological findings and implications, are discussed in the context of relevant psychological theories and gaps in the literature below.

Experiences of Binegativity and Internalized Binegativity

The finding that participants in the experimental group did not experience a greater increase in internalized binegativity following a binegative experience contrasts our hypothesis and is surprising in light of prior research; numerous studies have found associations between experiences of binegativity and prejudice and internalized binegativity among bisexual individuals (e.g., Dyar et al., 2019; Dyar et al., 2017; Molina et al., 2015), with several studies implicating internalized binegativity as a mechanism through which experiences of binegativity impact psychological distress (MacLeod et al., 2015; Scandurra et al., 2020). However, given much of the prior findings associate present-moment levels of internalized binegativity with

recalled frequency of experiences of binegativity and anti-bisexual prejudice, the current results need to be interpreted through a different lens.

An individual's evaluation of an experience has long been implicated in the psychological outcomes following the event and is a common treatment target for individuals who have undergone a traumatic experience (Foa & Kozak, 1986; Agaibi & Wilson, 2005; Bonanno & Mancini, 2012). Particularly, the salience, or prominence, of the event may be implicated in the impact of experienced discrimination and proximal minority stressors. A longitudinal study by Feinstein and colleagues (2022) found that previous day experiences of binegativity were not associated with internalized binegativity the following day. Alternatively, Dyar and colleagues (2016) found that bisexual individuals who experienced a binegative event in the week prior reported higher levels of internalized binegativity at the end of the week compared to weeks where they did not experience a binegative event. This difference in temporal associations of experienced binegativity and internalized binegativity suggests that the internalized binegativity may be indicative of more central beliefs about one's own bisexual identity that develop over time in response to their environment, rather than reflective of immediate feelings about one's identity. Indeed, individuals may not fully understand the importance or impact of an event immediately after it happens, and often take time to process events before committing to a narrative of said event (Booker et al., 2020; Waters & Fivush, 2015). The degree to which these events contribute to one's understanding of their sexual minority identity, then, may also be delayed, explaining the discrepancy in findings in the relationship between self-reported lifetime/weekly vs. momentary/daily experiences of binegativity and internalized binegativity. Future research should look to examine the temporal

associations between experiences of binegativity and internalized binegativity and the mechanisms through which discrimination impacts sexual identity factors.

Experiences of Binegativity and Alcohol Outcomes

Participants' motivation to consume alcohol and their cocktail consumption during the ad-lib drinking task help to inform our understanding of the immediate impact of an experience of bisexual-specific discrimination by providing an analogue for psychological distress and psychopathology as outlined by Meyer's (2003) minority stress model. In line with our hypotheses, participants who experienced a binegative event reported more positive, salient alcohol expectancies than those who did not. This finding suggests that their alcohol expectancies were more positive and retrieved earlier than those who did not experience a binegative event. Given that this anticipatory valence can be considered a manifestation of the brain's anticipation of subsequent events (Bar, 2010), this finding suggests that an experience of binegativity may drive individuals to seek alcohol with the expectation it will make them feel more positively, or less negatively. Though our hypothesis predicting a main effect of the experienced binegativity manipulation on negative affect was not found in the experimental condition, a significant interaction was found suggesting that the experimental and control conditions responded differently following the interview. To further explore if the manipulation resulted in changes in discrete emotional experiences (e.g., frustration, hostility, distress) additional analyses were conducted. Closer inspection of individual negative affect items before and after the experimental manipulation revealed that participants in the experimental condition reported significant increases in feelings of irritability and being upset, whereas participants in the control condition reported significant decreases in each of these feelings following the manipulation. Therefore, it is possible that participants in the experimental condition considered

the environment hostile and unaccepting, thus sustaining these increased negative emotions and seeking alcohol as a form of tension-reduction. The tension-reduction hypothesis suggests that individuals are motivated to consume alcohol due to its tension reducing effect (Cappell & Herman, 1972), which has been conceptualized as attenuating negative affect (Merrill et al., 2009). Indeed, drinking alcohol to cope with discrimination is among the most commonly reported drinking motives endorsed by bisexual individuals (Mcnair, 2016), and has been endorsed as a possible mediator in the relationship between racial discrimination and problematic drinking outcomes (Desalu et al., 2019). Further research should examine the role alcohol expectancies and motivations play in the relationship between experiences of bisexual-specific discrimination and alcohol use.

Our finding that there was no main effect of discrimination on cocktail consumption during the ad-lib drinking task did not support our second hypothesis. This finding contrasts with prior research supporting the positive association between experiences of binegativity and alcohol consumption (Dyar et al., 2019; Dyar et al., 2017; Molina et al., 2015). However, along with our proceeding results indicating a moderating effect of baseline internalized binegativity on the relationship between experiences of binegativity and cocktail consumption, interpretation of these results should be interpreted with caution due methodological errors observed during measurement of cocktail consumption (see *Limitations*).

Implications

There are several methodological and clinical implications that arise out of our study design and results. The current study developed and implemented a standardized, novel experience of discrimination that was unlike many prior studies that used a discriminatory/prejudiced act as an experimental intervention; prior research has employed the

use of vignettes (Dessel et al., 2017), online chat rooms (Lee et al., 2016), and other methodology (Ketterman, 2005). This study is among the first to employ a face-to-face, direct delivery of negative stereotypes to members of the LGBTQIA+ community by a confederate with attributes prior research has suggested would be the most distressing (i.e., white, heterosexual-appearing male; Haslam & Levy, 2006; Sears & Henry, 2003). Results of our manipulation check suggesting confederates administering the interview were significantly more biphobic in the experimental vs. control conditions support the efficacy of this intervention, though future research should seek to further evaluate its validity and efficacy as an intervention of experienced binegativity.

In addition, our results indicate that experiences of binegativity potentially contribute to motivating alcohol consumption among bisexual individuals, thereby serving as a potential treatment target within this population. Theoretical models of alcohol use suggest that people continually make choices between drinking and alternative actions, and these decisions may be influenced by internal phenomena such as their affective state and physiology (Sinha et al., 2009; Nosen et al., 2012). Treatment modalities such as Motivational Interviewing (Miller &Rollnick, 2013) and Cognitive Behavioral Therapy for Alcohol (CBT; Kadden, 1995) utilize the identification of both situational and internal triggers and cues that drive people to consume alcohol during treatment of alcohol use disorder, and work to provide alternative coping strategies to these urges and situation. Given our results suggesting that bisexuals experienced a positive trajectory of negative emotions following an experience of binegativity, and prior evidence suggesting alcohol consumption often serves as a primary coping mechanism in response to discrimination (Hatzenbuehler et al., 2008; Ngamake et al., 2016), these treatment modalities may prove especially useful in reducing alcohol consumption in bisexuals. Indeed,

previous evidence supporting the efficacy of these treatments for reducing alcohol use in LGBTQIA+ populations is robust (Dimova et al., 2022), and provides a framework for future research to adapt these interventions for bisexual individuals specifically

Another avenue to help mitigate the negative impact of bisexual-specific discrimination may lie in improving beliefs about one's own bisexual identity. Though further research is necessary to replicate temporally sensitive outcomes and the mechanisms behind this increased risk, the associations between bisexual-specific stressors and negative mental health outcomes such as depression, anxiety, and alcohol use have become especially salient in recent years, paving the way for future research to examine possible areas of intervention to reduce the impact of bisexual-specific stressors. Practical applications of theoretical models are already in development and being assessed. Recently, an intervention aimed at reducing internalized binegativity within bisexual clients has been tested in an online sample, with promising results finding a significant decrease in negative affect and internalized binegativity and increase in identity affirmation and positive affect among those in the experimental condition compared to the control condition (Israel et al., 2019). Indeed, promotion of easily accessible, community-informed interventions (Fowler et al., 2023) may be key to promoting positive coping strategies and reducing the negative impact of experiences of binegativity.

Limitations

The present study has several limitations to note. First, the outcome variable of Hypothesis 2b, cocktail consumption during the ad-lib drinking task, was found to be measured unreliably, resulting in 5 cases of participants appearing to have consumed a negative amount of alcohol. The TRT is traditionally administered using beer (Marlatt, 1973), though due to recent alcohol consumption trends indicating college students may prefer spirits and other beverage

types (Mochrie et al., 2019), this study design elected to implement a novel iteration of the TRT that uses 0-proof liquor combined with common mixers (i.e., tonic water, cola, margarita mix). Upon probing for how this measurement error could happen, it was determined that perhaps final cocktail volumes were inflated after several instances of pouring the cocktails into different containers, as, after mixing and pouring the cocktails, research assistants indicated they often observed that cocktails often had large, frothy tops, which could influence measurement. Future iteration of this task could instead use differences in mass to measure cocktail consumption to alleviate any concerns with unaccounted for volume changes during mixing and pouring. Another limitation to this study is the validity of the binegative experience. Although participants in the experimental condition did perceive the confederate interviewer as more biphobic, it's worth noting that several participants questioned the confederate interviewer if he believed the biphobic prompt immediately after its delivery, to which the interviewer was prompted to say "yes". Despite this questioning of the interviewer's motives immediately after their delivery of the biphobic prompt, it is important to acknowledge that experiences of minority stress can still have detrimental effects on individuals, irrespective of the intention behind them (Guess, 2006). Finally, this study utilized a primarily female, young adult, college student sample, decreasing the generalizability of the results of the study. It is important to note, however, that college is often considered as a vital time in the development and future salience of one's sexual orientation identity (Hughes & Hurtado, 2018), emphasizing the importance of understanding the relationships between experiences of binegativity, internalized stigma, and alcohol outcomes.

Conclusion

This study offers several important contributions to the minority stress and alcohol literatures: it provides valuable insight into behavioral and cognitive outcomes immediately

following an experience of binegativity, and implemented several novel methodologies that may be useful for further research on this population. Though several results were inconsistent with prior literature, findings provide additional support for previous models of minority stress, and lay a foundation for challenging prior conceptualizations of internalized stigma, and the relationship between general (i.e., alcohol expectancies) and specific (i.e., bisexual identity factors) cognitive processes. Future research should seek to further examine these topics through experimental and longitudinal paradigms to better our understanding of the underlying mechanisms behind the associations between experienced binegativity, bisexual identity factors, and alcohol outcomes.

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