Health Disparities Between Cisgender, Non-Binary/Genderqueer, and Binary Transgender College Students of Color: An Exploration from a Minority Stress and Intersectional Perspective

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Abstract

The Transgender and gender diverse (TGD) community experiences disproportionately high rates of mental health concerns, compared to cisgender individuals. Most research has focused on binary transgender (BT; e.g., trans women, trans men) individuals, and previous findings regarding differences between non-binary/genderqueer (NBGQ) and BT mental health concerns are mixed. The current study examined health disparities between BT and NBGQ college students. The role of intersectional identities and minority stressors (e.g., stress associated with minority status) in these differences are assessed. Moderation analyses were utilized to examine the extent to which gender and intersectional identities moderated the relationship between minority stressors and mental health and substance use outcomes. Significant findings were observed for several mental health and substance use outcomes, which highlighted the unique role of racial/ethnic identity, gender identity, and sex assigned at birth. The findings highlight the importance of delineating TGD subgroups when examining minority stress, mental health, and substance use. Findings will inform mental health care interventions and outreach efforts for the TGD community on college campuses.

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CHAPTER ONE

OVERVIEW

The transgender and gender diverse (TGD) community is composed of individuals of various gender identities, both within the gender binary (e.g., BT) and outside of it (e.g., NBGQ). BT identities include “man” and “woman;” BT men are men who were assigned female at birth (AFAB) and identify and live socially as men, and BT women are women who were assigned male at birth (AMAB) and identify and live socially as women (Stryker, 2017). As a group, TGD individuals comprise approximately 0.6% of the adults in the United States (Flores et al., 2016). NBGQ individuals include those individuals who identify as both man and woman, as an alternative gender outside of the binary, or as having no gender (Cruz, 2014; Nicolazzo, 2016). NBGQ identities include, but are not limited to, agender, gender fluid, genderqueer, non-binary (Nicolazzo, 2016; Stryker, 2017). The TGD community experiences various stressors (e.g., transphobia, violence, discrimination; e.g., Boza & Perry, 2014; Grant et al., 2011; Tebbe & Moradi, 2012) associated with their minority gender status within a majority cisgender (e.g., gender identity aligns with sex assigned at birth; Institute of Medicine, 2011) society. Further, the experience of these minority stressors is associated with mental health disparities compared to cisgender peers (Hendricks & Testa, 2012), including higher rates of depression (e.g., Reisner et al., 2016), anxiety (e.g., Borgogna et al., 2019), and suicidality (e.g., Perez-Brumer et al., 2017).

While psychological research examining minority stressors and associated mental health disparities has been instrumental in understanding the implications of TGD marginalization, the majority of research on the TGD community has focused on BT individuals (e.g., Nahata et al., 2017; Nuttbrock et al., 2014a) or has subsumed NBGQ and BT identities together under the

TGD umbrella (e.g., Reisner et al., 2014; Shipherd et al., 2010; Testa et al., 2017; Witcomb et al., 2018). Including NBGQ and BT together may be problematic as it fails to capture the unique and varied experiences among NBGQ and BT individuals.

Just as minimal TGD research has examined within-groups differences among NBGQ and BT individuals, there has also been little exploration of the unique intersectional experiences of racial and ethnic minority TGD individuals. Racial and ethnic minority TGD individuals encounter unique minority stressors associated with minority racial and ethnic identity (e.g., race-based violence and discrimination; Bleich et al., 2019) that intersect with stressors associated with minority TGD identity, and therefore researchers have suggested that studies must examine the interaction between intersectional identities (e.g., Remedios & Snyder, 2015).

The TGD college population also represents a vulnerable population. TGD students encounter the perpetuation of societal gender norms in the practices, policies, and norms of colleges and universities that are pervasive across colleges and universities (Bilodeau, 2005, 2009; Marine & Nicolazzo, 2014). These policies constitute *genderism,* or the cultural enforcement of a rigid gender binary of masculine and feminine norms (Hill, 2003). Genderism has been shown to have negative effects on the TGD college population in various domains, including health (Mule et al., 2009), safety (Grant et al., 2011; Rankin et al., 2010), and personal well-being (Haper & Schneider, 2003). Housing is an institutional factor that enforces the gender binary, and while gender-inclusive housing is an option on some campuses, Nicolazzo et al. (2018) found that gender inclusive housing was consistently unclear and difficult to find across institutions, and the definitions of gender inclusive housing were often ambiguous. Given the prevalence of genderism across college campuses, it is essential to examine minority stress and mental health outcomes among TGD college students, as they are particularly vulnerable to negative outcomes within such a rigid binary system.

In light of the challenges experienced by the TGD community, the current study examines the extent to which intersectional racial/ethnic and gender groups differ in rates of minority stressors and mental health disparities. Additionally, the current study examines the extent to which intersectional racial/ethnic and gender identities moderate relationships between minority stress and both mental health outcomes and mental healthcare utilization.

Literature Review

TGD Mental Health Disparities

Most research on TGD mental health disparities has focused on TGD outcomes compared to cisgender peers, and findings indicate higher rates of mood disorders (e.g., depression, anxiety; Carmel & Erickson-Schroth, 2016; Clements-Noelle, 2010; Millet et al., 2010; Nuttbrock et al., 2010; Platt, 2020), non-suicidal self-harm (NSSI; e.g., dickey et al., 2015; Lefevor et al., 2020; Reisner et al., 2015), substance use (e.g., Clements-Noelle et al., 2001; Reisner et al., 2015; Xavier et al., 2005), and suicidality (e.g., Grant et al., 2011; Grossman & D'Augelli, 2007; Kenagy, 2005; Lefevor et al., 2020). Additionally, lower levels of self-esteem (e.g., Bouman et al., 2016) and quality of life (e.g., Nobili et al., 2018) have been observed in TGD individuals compared to cisgender peers (e.g., Bouman et al., 2016; Nobili et al., 2018). Variability has been observed in substance use findings (Conron et al., 2012; Stanton et al., 2021). Thus, except for substance use, TGD individuals consistently exhibit higher rates of mental health concerns compared to cisgender peers.

There are inconsistencies in findings among the few studies that examined health disparities between the NBGQ and BT populations. Some studies indicated that NBGQ people reported higher rates of depression and anxiety (Lefevor et al., 2019; Lipson et al., 2019; Thorne et al., 2018), whereas Reisner & Hughto (2019) found that NBGQ individuals were less likely than BT to report a diagnosis of depression or anxiety. Additionally, findings regarding suicidality were mixed, as some indicated that BT experience higher rates of suicide attempts (Rimes et al., 2019), whereas others yielded no differences between NBGQ and BT for suicidal ideation (Newcomb et al., 2019) or suicide attempts (Lefevor et al., 2019). Substance use findings were also mixed; for example, some studies indicated that NBGQ individuals engaged in more elevated alcohol use than BT individuals (e.g., Aparicio-Garcia et al., 2018; Lefevor et al., 2019; Reisner & Hughto, 2019; Stanton et al., 2021), whereas Smalley et al. (2016) did not observe significant between-groups differences among NBGQ and BT individuals for either alcohol use or binge drinking. Notably, some studies have also indicated that sex assigned at birth is associated with some within-group mental health differences among NBGQ and BT individuals (e.g., Lipson et al., 2019; Price-Feeney et al., 2020; Stanton et al., 2021), thus highlighting the importance of distinguishing between both gender identity and sex assigned at birth in TGD mental health research.

The TGD college population represents a particularly vulnerable group, given that the general college population has been found to exhibit elevated rates of mental health concerns (e.g., depression, anxiety, suicidality, substance use; e.g., Blanco et al., 2008; Downs & Eisenberg, 2012; Eisenberg et al., 2013; Downs & Eisenberg, 2012; Suerken et al., 2013), and elevated rates of mental health concerns are also observed among the broad TGD population (e.g., dickey et al., 2015; Reisner et al., 2015). Available findings among the TGD college population reflected that TGD students consistently endorse elevated rates of anxiety, depression, NSSI, suicidal ideation, and suicide attempts compared to cisgender peers (Dinger et al., 2020; Lefevor et al., 2019; Lipson et al., 2019; Messman & Leslie, 2019). However, findings regarding substance use among TGD and cisgender college students were mixed. For example, some studies have indicated that cisgender college students engage in higher rates of alcohol use (Dinger et al., 2020; Lefevor et al., 2019) and binge drinking (Dinger et al., 2020) than TGD college students, whereas Messman and Leslie (2019) found higher rates of alcohol use and binge drinking among TGD college students. Further, some studies have examined between-groups differences among NBGQ and BT college students, and available findings to date are mixed. For example, while some findings indicated that BT college students engage in higher rates of suicide attempts (Dinger et al., 2020; Lipson et al., 2019; Platt, 2020), Lefevor et al. (2019) found that NBGQ college students endorsed suicide attempts at a slightly higher rate (48.7%) than BT college students (45.5%). Similarly mixed findings were observed regarding mood concerns; for example, Dinger et al. (2020) found that NBGQ college students report diagnoses of both depression and anxiety at lower rates than BT college students, while Lipson et al. (2019) found that NBGQ college students endorsed depressive symptoms at more than twice the rate of BT students and endorsed anxiety at approximately 1.5 times the rate of BT students. Variable findings were also observed in the domain of substance use, as some findings indicated higher rates of substance use among NBGQ than BT college students (Platt, 2020), while others indicated that BT college students use marijuana, opiates, and inhalants at lower rates than NBGQ students (Dinger et al., 2020). Together, the few and variable available findings highlight that further research is warranted to clarify mental health disparities among subgroups of the TGD college population.

Healthcare Utilization

When examining mental health disparities among the TGD population, it is essential to explore mental healthcare utilization in addition to elevations in mental health concerns, as health varies individually and is influenced by behaviors (e.g., mental healthcare utilization) in which TGD individuals engage. Available findings regarding TGD mental healthcare utilization are mixed. Messman & Leslie (2019) found that TGD individuals utilized mental health services at a significantly higher rate than cisgender peers, while Howell & Maguire (2019) observed no difference between TGD and cisgender individuals in mental healthcare utilization rates. Reisner & Hughto (2019) found BT individuals to utilize mental healthcare at a higher rate in comparison to NBGQ individuals, while no differences were observed by Carter et al. (2020). Stanton et al. (2021) found differences among NBGQ and BT individuals but also observed a role of sex assigned at birth, suggesting that gender identity and sex assigned at birth both inform mental healthcare utilization rates.

Application of Minority Stress Framework to TGD Mental Health Disparities

The mental health disparities observed among the TGD community are conceptualized within the Minority Stress Theory (Meyer, 2003), which was developed to explain poor mental health outcomes in LGB populations and was later adapted to specifically apply to the TGD population (Hendricks & Testa, 2012). Minority Stress Theory (Meyer, 2003) focuses on the distal (objective, external to individual; e.g., discrimination) and proximal stressors (subjective, internal; e.g., internalized transphobia) used to conceptualize various negative mental health outcomes. Notably, while some minority stress research tests the full theory (e.g., Poquiz et al., 2021), other studies solely examine either distal or proximal stressors. (e.g., Rood et al., 2016). The Minority Stress Theory has been used to conceptualize various negative outcomes within the

TGD population, including depression and anxiety (Chozden et al., 2018), suicidality (Tebbe & Moradi, 2016) and substance use (Reisner et al., 2015).

While rates of minority stress and the relationship between minority stress and mental health disparities among the TGD community are well-established, fewer studies have examined the differential rates of minority stress among NBGQ and BT individuals, as well as their role in mental health disparities. Available findings are mixed, as Poquiz et al. (2021) examined between-group differences in experiences of minority stressors in a sample of 638 TGD adolescents and young adults and found that BT participants endorsed significantly higher levels of discrimination compared to NBGQ participants, whereas findings of Lefevor et al.'s (2020) indicated that NBGQ individuals endorsed higher rates of harassment (62.7%), trauma (55.4%), and sexual assault (41.8%) compared to that of BT individuals (54.6%, 42.1%, and 26.8%, respectively). Additional studies highlighted the role of sex assigned at birth in between-group differences in minority stress among NBGQ and BT individuals (Chavanduka et al., 2021; Scandurra et al., 2017). Notably, unique minority stressors (e.g., non-affirmation in gender-segregated spaces and in the use of gendered language) have been observed in NBGQ individuals, related to their identity outside of the binary (Matsuno & Budge, 2017), further indicating the importance of examining minority stress differentially among NBGQ and BT individuals. Regarding relations between minority stress and mental health disparities among NBGQ and BT individuals, Price-Feeney et al (2020) found that minority stressors partially explained the experiences of depression and suicidality between gender minority groups in a large, nationally representative sample of adolescents (*n* = 8,367 TGD) and (Price-Feeney et al., 2020). However, additional research is warranted to further explore the differential relations between minority stress and mental health disparities among NBGQ and BT individuals.

Minority stressors have also been observed specifically in the TGD college population (Grant et al., 2011; James et al., 2016). Findings from the United States Transgender Survey (James et al., 2016) indicated that 24% of TGD respondents who reported being “out” as TGD or perceived as TGD, while in college reported experiencing verbal, physical, and sexual harassment during their time in college. Research has also indicated higher rates of sexual victimization compared to cisgender peers (Cantor et al., 2015; Hoxmeier, 2016; New, 2015). Institutional aspects (e.g., enforcement of gender binary in housing) of college campuses may also contribute to minority stress in TGD individuals (Nicolazzo et al., 2018). Thus, findings indicate that TGD college students experience elevated levels of various minority stressors (e.g., discrimination, harassment, sexual violence) and encounter several institutional aspects of college campuses may contribute to increased minority stress. Notably, no studies to date have specifically explore the relationship between minority stress and mental health disparities among TGD college students.

In addition to examining the experiences of minority stress by TGD college students broadly, it is also important to examine the unique minority stress experiences of both BT and NBGQ college students, particularly given that the majority of TGD college students identify as NBGQ (Beemyn, 2016). Lefevor et al. (2019) found that NBGQ students reported harassment, trauma, and sexual assault at higher rates than BT peers. Conversely, findings of the 2010 National College Climate Survey, a national survey of college students, faculty, staff, and administrators (*n* = 670 TGD individuals; Rankin et al., 2010), indicated that BT students endorsed higher rates of harassment (AFAB 39%; AMAB 38%) than NBGQ (31%). A potential role of sex assigned at birth in between-groups differences has also been observed (Rankin et al., 2010). Notably, NBGQ college students have demonstrated unique experiences of minority stress (e.g., challenges related to self-presentation, invalidation of NBGQ identities, assumption that they/them pronouns are "incorrect grammar, feelings of otherness in LGBTQ+ spaces; Bilodeau, 2009; Goldberg et al., 2018), further indicating the imperativeness of differentiation among NBGQ and BT individuals in TGD minority stress research. Further, research is warranted regarding the differential relationships of minority stress and mental health disparities among NBGQ and BT college students.

Intersectional Experiences of Racial/Ethnic Minority TGD Individuals

The concept of intersectionality is based in Black feminist thought (e.g., Crenshaw, 1991), and it provides a framework for understanding how multiple individual identities (e.g., gender, sexual orientation, race, socioeconomic status) intersect within an individual's experiences to reflect broader societal systems of oppression and privilege (Bowleg, 2012). Within the theory, identities are understood as they relate to power present within systems of privilege and oppression, and they are conceptualized in an interconnected (rather than distinct) way (Bowleg, 2008). The application of intersectionality to research within the TGD community is essential, given that, for example, TGD people of color (POC) experience unique stressors due to their intersectional racial minority TGD identity. This includes racism in LGBT communities (Balsam et al., 2011) as well as disproportionately high rates of minority stressors, compared to White counterparts (Grant et al., 2011), indicating that racial identity contributes to increased experiences of minority stress, above and beyond that experienced due to LGBT identity. This is evidenced by, for example, high rates of unemployment (26%), lifetime homelessness (41%), suicide attempts (49%), and low average income levels (i.e., less than $10,000) of Black TGD individuals (Grant et al., 2011). Notably, differences in rates of both minority stress and negative mental health outcomes have been observed among different racial and ethnic minority TGD groups, thus highlighting the importance of differentiating among racial and ethnic minority populations in TGD minority stress and mental health research (Grant et al., 2011; James et al., 2016). Despite the relationship between specific intersections of identities and increased minority stressors, few studies on minority stress and mental health disparities within the TGD population have taken an intersectional approach. Seelman et al. (2017) examined health disparities among transgender adults in Colorado by race and income and found that transgender people of Color experienced higher rates of various health concerns (e.g., arthritis, lupus, asthma) compared to White counterparts, though racial minority identity was not associated with significantly poorer mental or physical health.

Current Study

One aim of the current study is to examine the extent to which TGD gender groups (e.g., NBGQ, BT) and intersectional racial and gender groups (e.g., Black NBGQ) differ in their rates of minority stress, mental health concerns, and mental healthcare utilization. Hypotheses related to this aim are as follows:

H1: *It is hypothesized that BT and NBGQ populations differ significantly differ significantly in their experience of minority stressors.*

H2: It is hypothesized that intersectional populations (TGD subgroup x Race/ethnicity) differ significantly in their experiences of minority stressors.

H3: It is hypothesized that BT and NBGQ populations differ significantly in experiences of various mental health outcomes.

H4: It is hypothesized that intersectional populations (TGD subgroup x Race/ethnicity) differ significantly in their experiences of mental health outcomes.

H5: It is hypothesized that BT and NBGQ individuals differ significantly in their utilization of mental healthcare services and in their willingness to utilize mental healthcare services.

H6: It is hypothesized that intersectional racial and gender groups of individuals differ significantly in their utilization of mental health services and in their willingness to utilize mental healthcare services..

An additional aim of the current study is to explore the relationships among minority stress and mental health disparities within a TGD college population, including the extent to which TGD subgroup identity (e.g., NBGQ, BT) and intersectional gender and racial/ethnic identities (e.g., Black NBGQ) moderate this relationship. Hypotheses related to this aim are as follows:

H7: It is hypothesized that the relationship between minority stressors and mental health outcomes is moderated by TGD subgroup identity (e.g., NBGQ, BT).

H8: It is hypothesized that the relationship between minority stressors and mental health outcomes is moderated by intersectional identity (e.g., TGD subgroup x Race/ethnicity).

H9: It is hypothesized that the relationships between minority stressors and both mental healthcare utilization and willingness to utilize mental healthcare are moderated by TGD subgroup identity (e.g., NBGQ, BT).

H10: It is hypothesized that the relationships between minority stressors and both mental healthcare utilization and willingness to utilize mental healthcare are moderated intersectional identity (e.g., TGD subgroup x Race/ethnicity).

Method

Procedures and Participants

The current study utilized secondary data from the American College Health Association's (ACHA) National College Health Assessment III (NCHA-III), a survey of college and university students' self-reported health and lifestyle habits, behaviors, and perceptions. The ACHA administers the NCHA at participating colleges and universities each Fall and Spring semester (American College Health Association, 2019), and the third iteration, NCHA-III, has been administered in Fall and Spring semesters each academic year, beginning in the Fall 2019 semester. The current researchers were granted permission to utilize data from the Spring 2021 data collection period by submitting a proposal to the ACHA-NCHA program office. Additionally, the authors submitted a proposal for this retrospective secondary data analysis to the Radford University Institutional Review Board (IRB), which approved the study. Students enrolled at 133 self-selected colleges and universities in the United States participated in the Spring 2020 NCHA-III data collection (American College Health Association, 2019). These 133 institutions determined whether to utilize random sampling or survey all of their students to obtain a sample of student data. Informed consent was provided to all students prior to completion of the questionnaire. A total of 96,489 students were included in the Spring 2021 NCHA-III data collection.

For the purposes of the current study, participants were excluded from analyses if they did not respond to the sex assigned at birth, transgender, or gender identity items (N = 724). Due to the inclusion of race and ethnicity in analyses, participants who did not provide this data were also excluded (N = 2024). The final sample size for analyses was N = 94,465.

Instruments

Demographic Factors

Participants provided demographic information, which included gender identity and race/ethnicity.

Gender Identity. The NCHA-III included three items used to form the gender identity groups (e.g. cisgender AMAB, cisgender AFAB, NBGQ AFAB, NBGQ AMAB, BT AFAB, BT AMAB) used in this study (American College Health Association, 2019). Regarding sex assigned at birth, respondents were asked, “what sex were you assigned at birth?” Participants could select only one of three options: female, male, or intersex. In the current study, AFAB is used to denote those who endorsed being assigned female at birth, while AMAB is used to denote those who reported being assigned male at birth; those who reported their sex assigned at birth as “intersex” were excluded from the current study. Regarding TGD identity, participants were asked, “Do you identify as transgender?” The participants provided a response of yes or no. The question assessing gender identity was, “Which term do you use to describe your gender identity?” Participants could select one of ten responses: 1) woman or female, 2) man or male, 3) trans woman, 4) trans man, 5) genderqueer, 6) agender, 7) genderfluid, 8) intersex, 9) non-binary, or 10) my identity is not listed above Participants were asked to provide a free response description of their gender identity. Participants who endorsed a gender identity consistent with their sex assigned at birth formed the cisgender group (*N* = 89338). Participants who responded “yes” to the item regarding TGD identity and endorsed a gender identity of either “man,” “woman,” “trans man” or “trans woman” formed the binary transgender group (*N* = 657). Finally, participants who reported a gender identity inconsistent with their sex assigned at birth and did not identify as a man, woman, trans man, or trans woman formed the NBGQ group, excluding individuals who reported their gender identity as “intersex” (*N* = 2642). Of note, those that endorsed “my identity is not listed above” provided their gender identity in free response format and were included in the NBGQ group (e.g., polygender, gender-expansive), though participants were excluded if their self-reported gender identity did not appear to fall within the broad NBGQ identity category. The PFLAG National Glossary of Terms (PFLAG, 2021) served as a reference for terms of additional gender identities outside of the gender binary.

Race and Ethnicity. Race and ethnicity were assessed by asking, “How do you usually describe yourself?” The participants were asked to select all response options that apply to them. Response options were: (a) American Indian or Native Alaskan, (b) Asian or Asian American, (c) Black or African American, (d) Hispanic or Latino/a/x, (e) Middle Eastern/North African or Arab origin, (f) Native Hawaiian or Other Pacific Islander Native, (g) White, (h) Biracial or Multiracial, or (i) My identity is not listed above. Participants who reported their identity was not listed were prompted to provide a free response answer regarding how they describe their racial/ethnic identity.

Minority Stress Measures

Several measures of minority stress are included in the current study. Consistent with the methodology of other studies (e.g., Lefevor et al., 2019), the current study utilizes proxies of minority stress, as the attribution of the stressors to a specific minority identity (e.g., TGD identity) is not assessed.

Discrimination and Violence. Experiences of various forms of stressors (e.g., bullying, cyberbullying, microaggressions, sexual harassment, discrimination) were assessed with five dichotomous yes/no response options. A total bullying score was identified by summing the cyberbullying and bullying scores, with scores ranging from 0 – 2. Microaggressions, sexual harassment, and discrimination were examined separately. Intimate partner violence (e.g., verbal, emotional, physical, sexual) was assessed for the previous 12 months via five items with yes/no response options. A total intimate violence score was summed, and scores ranged from 0 to 5. Threats, stalking, and physical and sexual violence outside of intimate relationships was assessed for the past 12 months via seven items with yes/no response options. A score indicating total violence outside of intimate relationships was calculated by summing all seven items, with scores ranging from 0 – 7.

Perceived Safety. Perceived safety on campus and in the surrounding community was assessed for both daytime and nighttime. This scale consists of 4 items on a 4-point Likert scale ranging from 1 (*not safe at all*) to 4 (*very same*).

Mental Health Measures

Substance Use. The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST; WHO ASSIST Working Group, 2002) was utilized to assess substance use. The ASSIST is a brief, structured survey that includes eight questions assessing the frequency of substance use, consequences of use, and ability to stop or reduce use. Participants responded regarding their non-medical use of tobacco products, alcoholic beverages, cannabis, cocaine, amphetamine-type stimulants, inhalants, sedatives and sleeping pills, hallucinogens, and opioids. Results were scored to determine a Substance-Specific Involvement score (SSIS) used to indicate substance-specific use. Upon indicating prior non-medical use of each of the substances, participants responded to six questions regarding frequency of use, experience of urges, substance-related impairment, drug-related failure to meet obligations, expression of substance-related concern by others, and attempts to quit in the past three months. Scores are summed and range from 0-39, with higher scores indicating elevated rates of substance involvement. The measure has previously demonstrated strong internal consistency (α = 0.77 – 0.94 across Specific Substance Involvement categories; α = 0.82 for all substance lifetime use; WHO ASSIST Working Group, 2002) and validity (WHO ASSIST Working Group, 2002).

Psychological Wellbeing. The Flourishing Scale (Diener et al., 2010) was utilized to assess participants' self-perceived success in various domains (e.g., relationships, self-esteem, purpose, optimism) and yielded a single psychological wellbeing score. This scale consists of eight items on a seven-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Total scores range from 8 to 56, and higher scores indicate greater psychological wellbeing. The measure has demonstrated strong internal consistency (α = .87) and criterion validity (Diener et al., 2010).

Suicidality. The Suicide Behaviors Questionnaire – Revised (SBQ-R; Osman et al., 2001) was utilized to assess suicidal thoughts and behaviors. It is a four-item self-report measure of suicidality. The first item assessed lifetime suicidal thoughts and/or attempts on a four-point Likert scale ranging from 1 (*never*) to 5 (*I have attempted to kill myself and really hope to die*). The second item measured frequency of suicidal ideation in the past year on a 5-point Likert scale ranging from 1 (*never*) to 5 (*very often*). The third item assessed threat of a suicide attempt, rated on a 3-point Likert scale ranging from 1 (*no*) to 6(*yes, more than once, and really wanted to do it*). The fourth item assessed the likelihood of future suicidal behavior on a 7-point Likert scale ranging from 1 (*never*) to 6 (*very likely*). Global suicide risk scores of 3-6 represent no/low risk, and scores of 7 or greater represent at-risk levels of suicidality (Osman et al., 2001). The SBQ-R has demonstrated adequate internal consistency (α = .76) and criterion validity in clinical and non-clinical undergraduate samples (Osman et al., 2001).

Non-Suicidal Self-Injury (NSSI). NSSI was assessed via one item ("Within the last 12 months, how often have you intentionally cut, burned, bruised, or otherwise injured yourself?") on a 5-point Likert scale ranging from 1 (*never*) to 5 (*daily or almost daily*).

Psychological Distress. The Kessler 6 (K6; Kessler et al., 2002) form was used to screen for psychological distress and serious mental illness. The Kessler 6 consists of six items that assesses various mood symptoms (e.g., sadness, worthlessness, nervousness) on a 4-point Likert scale ranging from 1 (*none of the time*) to 5 (*all of the time*).The scores on the 6 items were summed to produce a total score, ranging from 0 to 24, with lower total scores (0 – 8) indicating low to no psychological distress, scores of 9-12 indicating moderate psychological distress, and higher total scores (19 – 30) indicating severe psychological distress. The K6 is widely used to indicate nonspecific psychological distress and has shown to correlate highly with mental illness (Kessler et al., 2003; Prochaska et al., 2012). It has demonstrated high internal consistency (α = .89; Kessler e atl., 2003) and criterion validity (Prochaska et al., 2012) when used to assess psychological distress among individuals with mild, moderate, and severe mental illness.

Mental Healthcare Utilization. Utilization of treatment in the past 12 months was assessed via the yes/no question, "Within in the last 12 months, have you received psychological or mental health services?"

Data Analysis

Statistical analyses were conducted using IBM SPSS 27 (IBM Corp. 2020). Bivariate descriptive analyses were run on all mental health and minority stress variables. Analysis of Variance (ANOVA) was utilized to examine between-groups differences in mental health and minority stress variables among gender groups (e.g., , cisgender AMAB, NBGQ AFAB) and intersectional groups (e.g., Black NBGQ).

Multiple regression analyses were performed using the command PROCESS (Hayes, 2013) in SPSS to determine whether demographic variables (e.g. gender identity, intersectional gender x racial identity) act as moderators to the relationship between minority stress and both mental health outcomes and mental healthcare utilization. This type of analysis allowed the researcher to determine if the demographic variables had an effect on the relationship between minority stress and both mental health outcomes and mental healthcare utilization, as well as what type of effect the variables had. Multiple regression analyses are commonly used in quantitative studies to determine the effects of moderating variables (Hayes, 2013; Hayes, Glynn, & Huge, 2012). Post-hoc analyses were completed following significant findings to further explore the role of the moderator in relationships between minority stress and both mental health outcomes and mental healthcare utilization.

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CHAPTER TWO

REVIEW OF THE LITERATURE

Chapter two consists of a review of literature relevant to the current study. The chapter includes an introduction to the transgender and gender diverse (TGD) population, discussion of perspectives on the gender binary and gender development (e.g., TGD development), and implications of the gender binary on subgroups of the TGD community. An overview of mental health disparities among the TGD community is provided, including the college population specifically. Information regarding TGD students' experiences in college (e.g., implications of bigendered nature of college campuses) is provided. In addition to mental health disparities, differences in rates of mental healthcare utilization among the cisgender and TGD communities are discussed, including between subgroups of the TGD community. Mental healthcare utilization by TGD higher education students is also addressed. Further, barriers to mental healthcare utilization by the TGD population are discussed. An overview of the two theories applied within the current study—*minority stress theory* and *intersectionality theory*—is provided, including a rationale for their application and an overview of empirical studies that applied these theories to the TGD population. Following the review of relevant literature, the research questions and hypotheses of the current study are provided.

TGD Community

The transgender and gender diverse (TGD) community is composed of individuals whose gender identity does not align with their sexes assigned at birth (Institute of Medicine, 2011). This community comprises approximately 0.6% of adults in the United States, and a larger proportion of the young adult population (e.g., ages 18 – 24) than any other adult age group (Flores et al., 2016). The TGD community includes individuals who identify with genders within the traditional gender binary (e.g., binary transgender [BT]) and those that identify outside of the binary (e.g., non-binary/genderqueer [NBGQ]). BT identities include “man” and “woman;” BT men are men who were assigned female at birth and identify and live socially as men, and BT women are women who were assigned male at birth and identify and live socially as women (Stryker, 2017). NBGQ individuals include those individuals who identify as both man and woman, as an alternative gender outside of the binary, or as having no gender (Cruz, 2014; Nicolazzo, 2016). NBGQ identities include, but are not limited to, agender, gender fluid, genderqueer, non-binary (Nicolazzo, 2016; Stryker, 2017). Of note, while some NBGQ individuals identify as transgender, others do not, as the term *transgender* has historically been used exclusively to refer to BT individuals (Bauer, 2017; Davidson, 2007). However, BT and NBGQ individuals are alike in that they do not identify as cisgender and are part of the broader TGD community. While differences between BT and NBGQ communities are discussed dichotomously in the current study, it should be noted that there is significant diversity both within and across the BT/NBGQ dichotomy, and the meanings of TGD identities vary across time and place (Enke, 2012).

Despite this diversity of identities within the TGD community, the majority of research on the TGD community has focused on BT individuals (e.g., Nahata et al., 2017; Nuttbrock et al., 2014a) or has subsumed NBGQ and BT identities together under the TGD umbrella (e.g., Reisner et al., 2014; Shipherd et al., 2010; Testa et al., 2017; Witcomb et al., 2018). While there have been recent studies specifically on the experiences of NBGQ individuals (e.g., Koehler et al., 2018; Lefevor et al., 2019; Motmans et al., 2019), further research on the NBGQ community is warranted to develop a thorough and nuanced understanding of their unique experiences and needs.

Defining Gender Identity and Related Terminology

A conceptual understanding of gender identity and its related concepts is a necessary precursor to the understanding of distinctions between NBGQ and BT identities. Conceptualizations of gender and gender identity are complex and have varied over time. *Gender* has been defined as the intersection of social and personal influences, or a combination of a person’s perceptions of gendered social identities, a person’s identification with a specific identity, and a person’s internal experiences and beliefs regarding those experiences (Egan & Perry, 2001). Other factors, such as representation of gender influences and opportunity to explore and express gender have been found to account for one’s experience and understanding of gender (Shapiro, 2007). *Gender identity* is a core, internal understanding of oneself and depicts the extent to which a person feels they fit into their assigned gender category (Lev, 2004; Stryker, 2008). *Gender expression* is the manner by which individuals communicate their gender identity, typically through cultural forms (e.g., clothing, mannerisms, artifacts) and behavior (Beemyn & Rankin, 2011; Kuh & Whitt, 1988). *Gender embodiment* is the way in which a TGD individual alters their bodily representation (through biomedical intervention or other means) to reflect their gender identity or gender expression (Nicolazzo, 2017). *Gender-transgressive* is a term used to describe individuals whose gender identity and/or expression fall outside of the cultural mainstream (Budge et al., 2010).

Transgender broadly encompasses individuals whose self-identified gender does not align with the gender assigned to them at birth (American Psychological Association, 2015; Kaufman, 2008), whereas *cisgender* refers to individuals whose self-identified gender identity matches the gender assigned to them at birth (Tate et al., 2014). While the root of *transgender*, “trans,” generally implies an individual identifying with the alternative binary gender to that assigned to them at birth, this conceptualization based in the binary is overly simplistic and does not capture the spectrum of gender identities embraced by TGD individuals. The inadequacy of this conceptualization is reflected in the representation of NBGQ identities within 25-35% of the TGD community (James et al., 2016). Contrary to past disease-based conceptualizations of *transgender* as a condition that requires medical intervention (e.g., surgery, hormone replacement therapy) to be "cured" (e.g., Winter et al., 2009), contemporary transgender categorization reflects an expansion of prior conceptualizations of transgender identity; the expansiveness of transgender identity conceptualization is evidenced by inclusion of all individuals who self-identify as transgender, regardless of their desire or intention to biomedically transition, to be perceived as another sex or gender by others, or to identify within the gender binary (Davis, 2008; Stryker, 2008). See Table 1 for an overview of terms and acronyms frequently used within the current study:

Table 1. Terms and acronyms used within the current study

Term	Acronym(s)	Definition
Transgender and Gender Diverse	TGD	A term used to describe individuals whose gender identity does not align with their sexes assigned at birth (Institute of Medicine, 2011)
Cisgender	----	A term used to describe individuals whose self-identified gender identity matches the gender assigned to them at birth (Tate et al., 2014).
Sex Assigned at Birth	AFAB, AMAB	The biological sex that an individual was assigned at birth. AFAB indicates "assigned female at birth." AMAB

		indicates “assigned male at birth.” Within a binary gender system, sex assigned at birth is often conflated with gender identity.
Binary Transgender	BT	BT identities include “man” and “woman;” BT men are men who were assigned female at birth and identify and live socially as men, and BT women are women who were assigned male at birth and identify and live socially as women (Stryker, 2017).
Non-binary/Genderqueer	NBGQ	NBGQ individuals include those individuals who identify as both man and woman, as an alternative gender outside of the binary, or as having no gender (Cruz, 2014; Nicolazzo, 2016). NBGQ identities include, but are not limited to, agender, gender fluid, genderqueer, non-binary (Nicolazzo, 2016; Stryker, 2017).
Gender Binary (system)	----	The gender binary system is the socio-culturally constructed set of norms that begin at birth and persist across one’s life, assigning individuals exclusively to male and female gender identities; per the gender binary system, these labels are natural, unchangeable, mutually exclusive (Budge, 2007), and assigned based on one’s sexed anatomy at birth (Hausman, 2001)

Theories of Gender Identity

In order to fully understand the differences in experience of BT and NBGQ individuals, it is important to first explore the theoretical underpinnings and societal implications of the gender binary, as the enforcement of the gender binary affects the differential development and experiences of NBGQ and BT individuals. The *gender binary system* is the socio-culturally constructed set of norms that begin at birth and persist across one's life, assigning individuals exclusively to male and female gender identities; per the gender binary system, these labels are natural, unchangeable, mutually exclusive (Budge, 2007), and assigned based on one's sexed anatomy at birth (Hausman, 2001). The gender binary system and its associated gender roles (e.g., femininity in women, masculinity in men) is enforced via positive and negative enforcement within various domains (e.g., legal, religious, cultural) of society (Connell, 2002). Binary systems are reinforced in other identity categories, including sexuality (e.g., gay vs. heterosexual), sex (e.g., male vs. female), class (e.g., poor vs. rich), and race (e.g., Black vs. White) (Harris & Sims, 2002; McPhail, 2004; Myers, 2012). Binary systems falsely reduce complex concepts into two mutually exclusive categories, and one group typically experiences greater privilege within society than the other (Myers, 2012); those that do not identify within the binary system experience repercussions. In the case of the gender binary system, those who identify outside of the binary (e.g., NBGQ individuals) encounter difficulties in various experiences and domains (e.g., identifying appropriate and safe bathroom, completing paperwork, advocating for gender-affirming name and/or pronoun use; Budge et al., 2010). These consequences reflect the culture of the gender binary, in which those who deviate from, resist, or defy the binary are deemed inferior to those who do not (Catalano & Griffin, 2016; Jourian et al., 2015; Nicolazzo, 2015; Nicolazzo & Marine, 2015).

The gender binary has been a focus of theoretical discourse, and one of the most controversial issues has been whether gender identity is innate and based in biology or whether it is socially constructed (Whittle, 2006). The two most prominent perspectives on gender conceptualization are the essentialist (e.g., Garfinkel, 1967) and social constructivist (e.g., Butler, 1990). Several theorists (e.g., Cixous, 1986; Irigaray, 1991; Kristeva, 1986) took an essentialist view, arguing that reproduction illustrates the foundational psychic and sexual difference of women, suggesting that "femaleness" is natural and different from "maleness." The essentialist perspective developed in Western societies toward the end of the 19^{th} century, and it came to bind gender roles, gender identity, and sexual orientation within a binary, biologically based, and heteronormative understanding of gender (Kimmel, 1996; Norton, 1997).

Social constructivists opposed the essentialist perspective of gender. Social constructivists (e.g., Butler, 1993) argue that the physical basis of the gender binary is a socially derived understanding of reality. There are two prominent diverging social constructivist perspectives on gender. Wilchins (2002) and other scholars (e.g., Barnett & Rivers, 2004; Gagne et al., 1997) understood gender to be a product of social construction, as Wilchins (2002) asserted that "my experience of my body and my place in the world is exactly the opposite [of an off-the-rack, one-size-fits-all approach]: mobile, private, small, often unique, and usually unknown" (p. 38). Butler (1990) also opposed the idea that gender is biologically innate and offered an alternative understanding of the social construction of gender. Butler (1993) described *gender performativity* as the idea that the manner that one expresses gender is mediated by their social environment and then produces effects in the environment that other people respond to. Butler (2006) also asserted that the distinction between sex and gender is unnecessary, as they are both social phenomenon that pertain to individuals' bodies.

However, notably, the dichotomous conceptualization of the differences in gender theories (e.g., biological essentialist vs. social constructivist) has been described as a false dichotomy (Lane, 2009). Thus, gender development and its related theories are influenced by the concepts of biological determinism of gender, social construction of gender, and biology as diversity (Nicolazzo, 2017). While essentialism and social constructivism are understood as dichotomous, critics (e.g., Sedgwick, 2008) have acknowledged the potential detrimental impacts of accepting gender as either fully based in biology (e.g., suggests possibility of eugenics; Schaffer, 2012) or as completely socially constructed (e.g., indicates viability of conversion therapy; Ablow, 2011). Another perspective (i.e, “biology as diversity;” Nicolazzo, 2017) offers an alternative to both perspectives, suggesting that biology provides a capacity for sex and gender diversity that is also complex and informed by environment (Bonchev & Rouvray, 2005; Lane, 2009).

The diversity of perspectives on gender are relevant to the study of the TGD population because, while Western society is organized around an essentialist perspective, alternative theories highlight the relevance of other factors. Given that TGD identities—and NBGQ identities in particular—contradict the essentialist perspective, TGD individuals experience the tensions surrounding conceptualizations of gender and experience various individual and systemic forms of discrimination based in essentialist assumptions regarding the validity of their gender identities.

Identity Development and Experiences of NBGQ and BT Individuals

A natural extrapolation of the essentialist emphasis within Western society is the potential for differential implications on the identity developments of NBGQ and BT individuals. Emphasis upon differences in identity development among the TGD subgroups serves to further distinguish BT and NBGQ identities and provide a rationale for their differentiation within psychological research. Empirical examinations of the experience and development of TGD identities has evolved over time. One of the first investigations of TGD identity examined discrepancies between socially prescribed gender identity and the lived experiences of gender in a sample of intersex (e.g., characterized by uncommon expressions of chromosomal configurations, hormones, and/or secondary sex characteristics) adults (Ellis, 1945). The findings of the aforementioned study (Ellis, 1945?) indicated that sexual behavior in intersex individuals was not directly caused by physiological factors, thus exemplifying the relevance of both internal and external factors in gender identity and associated experiences (Ellis, 1945). The term “gender identity” was ultimately coined by Robert Stoller, who defined “core gender identity” as the “inner conviction that one is male or female” and asserted that people experience threats to one’s gender identity as threats to one’s broader sense of self (Stoller, 1968). Hill (1997) explored the multidimensional facets of gender identity and the findings challenged contemporary conceptualizations of gender identity, as the majority of participants reported feeling they had to select binary categories (e.g., male, female) within various domains of life, despite neither category feeling accurate to the individual. Hill’s (1997) findings highlighted the diversity within the TGD community that had not been explored, thus contributing to the lack of visibility of NBGQ individuals.

The majority of research on TGD identity development has utilized “stage models,” which specify specific start and end points of development (Alexander et al., 2016). The first stage model of TGD identity development (Devor, 2004) was based upon previous multicultural identity models, including racial/ethnic identity (Cross, 1971; Helms, 1990; Kim, 1981) and lesbian, gay, and bisexual (LGB) identity (Cass, 1984; Fassinger & Miller, 1997; Johns &

Probst, 2004; Mohr & Fassinger, 2000). This model was the first to take a developmental approach, rather than a biological essentialist (e.g., biology and anatomy dictate gender) approach to gender identity (Devor, 2004). This model represents an important step toward understanding TGD identity development, albeit while reinforcing binary understandings of gender and assuming that each gender identity must be manifested physically in one way (Devor, 2004). However, another study re-investigated this model with non-binary and free response gender identity options, yielding 343 distinct gender identifications, thus justifying further examination of the broad spectrum of gender identities (Pardo, 2008).

Several studies have indicated that TGD identity development differs on an individual basis and among different gender identity groups (Bockting & Coleman, 2016; Rankin & Beemyn, 2012). Rankin and Beemyn (2012) completed the first large-scale study of TGD identity development (n = 3,474 TGD respondents), comparing the gender identity developments of various gender groups across age cohorts. While the authors ultimately identified eight broad milestones present across gender identities, they also identified milestones specific to each gender group. Each milestone indicated a specific experience or task that furthered an individual in their transition toward their self-identified gender and away from their sex assigned at birth. NBGQ milestones differed in several ways from the milestones identified for both female-to-male (FTM) and male-to-female (MTF) BT identities. For example, NBGQ identity development involves coming to the realization that NBGQ identities are viable (Rankin & Beemyn, 2012). Tatum et al. (2020) compared the ages at which BT women, BT men, assigned female at birth (AFAB) NBGQ, and assigned male at birth (AMAB) NBGQ, achieved seven milestones: 1) felt different, 2) felt transgender, 3) came out as transgender, 4) began living full time as self-identified gender, 5) went to court, 6) began hormones, and 7) first surgery (Tatum et al., 2020).

Patterns of mean differences in age indicated that NBGQ individuals generally reached gender identity milestones at a later age than BT individuals. Additionally, results suggested that NBGQ participants did not experience the milestones in the same order as BT individuals. Relatedly, notable between-groups differences exist regarding rates of transition-related hormone and surgical interventions desired and utilized by NBGQ and BT individuals, with 95% of BT individuals wanting hormone therapy and 71% having ever had hormone therapy, and 49% of NBGQ desiring and 13% receiving hormone therapy (James et al., 2016). James et al., 2016 reported that only 9% of NBGQ respondents reported having some form of transition-related surgery, whereas 42% of transgender men and 28% of transgender women report having undergone transition related surgery (James et al., 2016). Together, these differences indicate clear differences in the sequence, timing, and trajectory of gender identity development between BT and NBGQ groups.

While some recent TGD literature has utilized a linear model of identity development (Budge et al., 2013), recent research on NBGQ identity development has placed less emphasis on linear trajectories of gender identity development and has addressed the various societal expectations and embraced the flexibility for endless possible gender identities (Alexander et al., 2016; Budge et al., 2013). The more recent research on NBGQ identity development has emphasized the necessity of discovering language to match one's experience of gender, the challenges of embracing NBGQ identity, the management of internalized stigma pertaining to one's gender identity, and focusing on the constant process of self-acceptance of identity rather than external factors (Alexander et al., 2016).

While not specifically conceptualized within a gender identity development model, TGD subpopulations exhibit additional psychosocial and biological differences (e.g., Dargie et al., 2014; Smalley et al., 2016). Theorists have noted the failure of the binary model of gender to fully capture the expansiveness and fluidity of all gender identities (Dargie et al., 2014; Nestle et al., 2002; Smalley et al., 2016). Munoz (1999) argued that NBGQ individuals go through processes specific to living outside of the binary. One such process is "disidentification," in which NBGQ individuals neither assimilate with nor necessarily oppose the gender binary. Additionally, NBGQ individuals are tasked with creating strategies to broaden and expand the binary in a way that allows them to authentically express their gender identities (Monro, 2007; Richards et al., 2016). These tasks include stretching (e.g., making established feminine and masculine categories more flexible; Connell, 2005), diversifying gender (e.g., expressing greater diversity in the interaction of sex characteristics, subjective gender experiences, and gender expressions; Monro, 2007), and creating ambiguity (e.g., expressing gender in such a way that defies mono-sex assignment that is static across the lifespan; Engel, 2002). These processes unique to NBGQ individuals highlight the extent to which the binary gender system informs and differentiates the gender identity development and experiences of NBGQ and BT individuals.

Another aspect unique to the NBGQ experience is the frequent misassumption of binary gender by others. Findings from the United States Transgender Survey (USTS; James et al., 2016) indicated that most NBGQ individuals reported they were assumed to be non-transgender women (58%), 17% reported they were assumed to be non-transgender men, and 19% stated that assumptions regarding their gender identity varied. Further, when asked whether they corrected these misperceptions, 44% reported that they allowed the misgendering to go uncorrected. Reported motivations of NBGQ participants allowing incorrect assumptions of binary gender to go uncorrected included: 1) people "don't understand, so [NBGQ participants] don't try to explain it," 2) it is "easier not to say anything;" 3) [NBGQ identity] will be dismissed as an invalid gender or a phase; 4) fear of violence; 5) fear of loss of employment; 6) fear of denial of necessary medical care; and 7) homelessness (James et al., 2016). This information reflects not just a unique experience associated with living outside of the gender binary, but also the perception of negative repercussions of disclosing one's NBGQ identity.

The frequent misassumptions of binary gender experienced by NGBQ individuals illustrate the repercussions of transnormativity. *Transnormativity* is a framework by which TGD people's gender presentations and lived experiences are validated by their pursuit of medical interventions (Johnson, 2016). Johnson (2016) asserts that TGD individuals who identify within the gender binary (e.g., BT men, BT women), and pursue gender-affirming medical interventions during their transition process, are deemed more valid and legitimate than TGD individuals who do not identify within the gender binary, and BT individuals who do not purse gender-affirming medical intervention. Findings of a study of the role of transnormativity in TGD identity development indicate that transnormativity can be best conceptualized as a hegemonic narrative of the TGD community, and TGD individuals negotiate with transnormativity by both resisting it and conceding to it (Johnson, 2016). Given that NBGQ individuals do not identify within the gender binary, which is dominant within the transnormative framework, and pursue medical interventions at a lower rate than BT individuals (James et al., 2016), it is reasonable to conclude that NBGQ are forced to contend with not meeting transnormative expectations more often than BT individuals. Just at TGD individuals are all marginalized by the broader *cisnormative* framework (e.g., assumption that all individuals are cisgender; Bauer et al., 2009; Catalpa & McGuire, 2008), the transnormative framework further marginalizes TGD individuals—many of whom are NGBQ—who do not meet the expectations (e.g., binary gender adherence and pursuit of medical intervention) present within the framework. Marginalization due to transnormativity reflects the extent to which TGD individuals are expected to adhere—and deemed more valid if they adhere—to binary gender norms.

The transnormative framework is present within the current World Professional Association for Transgender Health (WPATH)'s Standards of Care (SOC; Coleman et al., 2012). WPATH's SOC provide clinical guidance for health professionals of various disciplines to assist TGD individuals to increase comfort with their gendered selves and maximize physical and mental health outcomes (Coleman et al., 2012). Within the SOC, some transition-related interventions (e.g., hormone replacement therapy; HRT) are conceptualized as prerequisites for other transition-related procedures (e.g., metoidioplasty or phalloplasty). The mandated sequence of specific steps that some individuals might not be interested in, further normalizes the transnormative framework. For example, while the SOC contains gender-inclusive language in various sections, sections related to HRT and surgical interventions contain several uses of terms such as "MtF" (male-to-female) and "FtM" (female-to-male) (Coleman et al., 2012), which perpetuate the adherence to the gender binary that is inherent in the transnormative framework. The presence of transnormative language and approach to care within WPATH's SOC (Coleman et al., 2012) reflects the extent to which the gender binary and specific assumptions regarding TGD development informs the professional medical care of the TGD community.

Overall, NBGQ and BT individuals experience unique gender identity developmental trajectories characterized by some milestones specific to one's gender identity as well as differing timelines of achieving identity developmental milestones. Further, NBGQ individuals have unique experiences and undergo unique processes related to identifying outside of the binary. NBGQ and BT individuals also are differentially affected by transnormativity within the TGD community and broader society. Given these differences, it is appropriate and necessary to delineate NBGQ and BT individuals within psychological research, as they have distinct experiences related to their gender identity's adherence (or lack of adherence) to the gender binary.

In addition to delineating between NBGQ and BT identities within TGD research, it may also be beneficial to further delineate by sex assigned at birth, as this may affect between-groups differences among TGD gender groups. Previous findings indicate that sex assigned at birth has been found to moderate the relationship between gender nonconformity and victimization in an adolescent sample (Aspenlieder et al., 2009; Toomey et al., 2014), highlighting its relevance to the relationship between gender nonconformity and associated stressors. Therefore, further research among the TGD community that delineates both gender identity and sex assigned at birth is warranted to elucidate between groups differences.

TGD Mental Health Disparities

The current section outlines findings regarding mental health and mental healthcare utilization disparities among TGD and cisgender populations, as well as the emerging data among NBGQ and BT populations. The unique vulnerability of TGD college students is also addressed, and the limited research available regarding mental health and mental healthcare utilization disparities among TGD and cisgender, as well as NBGQ and BT, colleges students are provided. The Centers for Disease Control (CDC) and Prevention define mental health disparities as falling into three categories: 1) disparities in resource allocation towards addressing mental health and other comparable public health concerns, 2) disparities in health among those with mental health concerns and those without, and 3) disparities between populations in terms of mental health and the accessibility, quality, and outcomes associated with mental healthcare (CDC, 2013). Mental health disparities represent a persistent public health challenge within the

United States and are prevalent among various underserved minority populations, including the TGD population (NIMH, 2021).

Mental Health Outcomes

While psychosocial research has examined the between-group mental health differences among NBGQ and BT individuals, fewer studies have differentiated NBGQ and BT individuals by sex assigned at birth when examining mental health outcomes. The current section outlines what is known about mental health disparities among TGD and cisgender populations, as well as specifically among NBGQ and BT individuals. Further, variability in findings as well as the role of sex assigned at birth are discussed.

TGD vs. Cisgender. The TGD population has demonstrated a higher prevalence of various mental health concerns, compared to cisgender counterparts in primarily community-level adult and adolescent research (Valentine & Shipherd, 2018), including higher rates of mood disorders (e.g., depression, anxiety; Carmel & Erickson-Schroth, 2016; Clements-Noelle, 2010; Millet et al., 2010; Nuttbrock et al., 2010; Platt, 2020), non-suicidal self-harm (NSSI; e.g., dickey et al., 2015; Lefevor et al., 2019; Reisner et al., 2015), substance use (e.g., Clements-Noelle et al., 2001; Reisner et al., 2015; Xavier et al., 2005), and suicidality (e.g., Grant et al., 2011; Grossman & D'Augelli, 2007; Kenagy, 2005; Lefevor et al., 2019). Additionally, lower levels of self-esteem and quality of life have been observed in TGD samples compared to cisgender peers (e.g., Bouman et al., 2016; Nobili et al., 2018). Notably, there is some variability in substance use findings, as Conron et al. (2012), did not observe elevated binge drinking in their sample of TGD respondents, and findings of Stanton et al. (2021) indicated that cisgender men and women endorsed higher rates of alcohol use when compared to all TGD groups. While there are some inconsistencies in the findings, there is robust evidence of mental health disparities among the TGD population compared to cisgender counterparts.

The extent of the mental health disparities between TGD and cisgender individuals is staggering. James et al. (2016) and Grant et al. (2011) completed large-scale national surveys (*n* = 27,715, *n* = 6,450, respectively) of TGD experiences, including mental health concerns. Findings of both James et al. (2016) and Grant et al. (2011) indicate disconcerting elevations in lifetime suicide attempts (40%; 41%, respectively) compared to the rates of the general population at the approximate time of data collection (4.6%; 1.6%, respectively; Kochanek et al., 2004). Further, data from the United States Transgender Survey (James et al., 2016) yielded an even greater elevation in lifetime serious suicidal ideation (82%) among TGD respondents. This was somewhat more elevated than the average rate of serious suicidal ideation (55%) observed across 42 studies of TGD individuals in a systematic review by Adams et al. (2017), yet even 55% is more than 14 times the rate of the general public at the time the survey was conducted. In addition to suicidal ideation, prevalence of depression (e.g., 50-60% lifetime depression; Nuttbrock et al., 2010), anxiety (17-68% prevalence across 25 cross-sectional studies; Millet et al., 2017), and NSSI (41.9% lifetime prevalence in cross-sectional study of 773 TGD individuals; dickey et al., 2015) is also higher relative to cisgender counterparts. These findings illustrate that it is not just the breadth of mental health disparities that warrant research and intervention, but also the severity. The severity of these concerns contributed to the National Institutes of Health (NIH) declaring TGD individuals a health disparity population (National Institute on Minority Health and Health Disparities, 2016). Given the nature of mental health concerns within the TGD population, it is essential to continue to conduct research on this vulnerable population to inform interventions and treatments.

NBGQ vs. BT. Despite the distinct differences between the NBGQ and BT communities, fewer studies have specifically examined the mental health disparities between the two groups. Additionally, the fewer studies that have examined mental health disparities between the NBGQ and BT populations yielded inconsistencies in findings (Scandurra et al., 2019). Thus, the current state of the field of research regarding between-groups mental health differences among NBGQ and BT individuals reflects a need for further examination.

Several studies indicated that NBGQ individuals reported higher rates of depression and anxiety (Lefevor et al., 2019; Lipson et al., 2019; Stanton et al., 2011; Thorne et al., 2019), whereas Reisner and Hughto (2019) found that NBGQ individuals were less likely than BT to report a lifetime diagnosis of depression or anxiety. Additionally, Platt (2020) found that NBGQ individuals reported higher mean scores on both depression (M = 2.07) and generalized anxiety (M = 2.13) than BT individuals (M = 1.83 and M = 1.89, respectively), as measured by the Counseling Center Assessment of Psychological Symptoms-62 item (CCAPS-62) measure; however, NBGQ and BT individuals demonstrated comparable means on the social anxiety subscale (M = 2.36 and 2.35, respectively), indicating that between-group differences in anxiety among NBGQ and BT individuals may depend on the type of anxiety assessed. The variability among findings of studies examining depression and anxiety among NBGQ and BT individuals may also be related to differences in samples, which included large-scale national US surveys of TGD college students (Lefevor et al., 2019; Lipson et al., 2019; Platt, 2020), a sample of treatment-seeking TGD respondents in the UK (*n* = 388, ages 16-25; Thorne et al., 2019), and a non-probability sample of TGD individuals in US, Massachusetts (*n* = 452; Mean age = 32.6; Reisner & Hughto, 2019). Together, these findings suggest that clear conclusions cannot be drawn regarding between-group differences in depression and anxiety among TGD individuals and suggest a need for further investigation of depression and anxiety among NBGQ and BT individuals, as well as a need for further utilization of e nationally representative adolescent and adult US TGD samples that distinguish between NBGQ and BT individuals.

Mixed findings were also observed in the assessment of between-group differences on suicidality among NBGQ and BT individuals. Whereas some findings indicated that BT individuals experience higher rates of suicide attempts (Lipson et al., 2019; Rimes et al., 2017) and suicidal ideation (Lipson et al., 2019), other findings indicate no differences among NBGQ and BT regarding rates of suicide attempts (Lefevor et al., 2019; Reisner & Hughto) or suicidal ideation (Newcomb et al., 2019). Findings regarding NSSI were similarly heterogeneous, as findings by Thorne et al. (2018) yielded no between-groups differences among NBGQ and BT individuals, whereas two other studies indicated that NBGQ individuals are more than twice as likely than BT individuals to report engaging in NSSI (Clark et al., 2018; Lipson et al., 2019).

Between-groups findings regarding substance use of NBGQ and BT individuals were somewhat mixed across both alcohol and other substance use. Findings of several studies indicated that NBGQ individuals engage in more elevated alcohol use than BT individuals (e.g., Aparicio-Garcia et al., 2018; Lefevor et al., 2019; Reisner & Hughto, 2019; Stanton et al., 2021), whereas Smalley et al. (2016) did not observe significant between-groups differences among NBGQ and BT individuals for either alcohol use or binge drinking. Notably, Smalley et al. (2016) utilized an online sample (n = 325 TGD individuals, Mean age = 29.8), whereas the other findings regarding alcohol use were observed in various other types of samples, including a nationally a representative college sample (Lefevor et al., 2019) and a community health sample in Boston, MA (Stanton, 2021), which may relate to the difference observed. Regarding other substance use, results of two studies indicated that NBGQ and BT individuals did not differ significantly in their endorsements of illicit substance use (Reisner & Hughto, 2019) or "other drug use" (Smalley et al., 2016), while Platt (2020) found that NBGQ individuals endorsed higher rates of substance use; however, notably, Platt's (2020) substance use measure does not distinguish between alcohol and other substance use. Together, findings are mixed regarding differences in substance use between NBGQ and BT individuals, and they indicate that further research is warranted.

The current research pertaining to the mental health disparities among NBGQ and BT individuals has another important limitation beyond simply the fewer available studies and the limited generalizability of many of the samples used: differences in the operationalization of gender identity. Given the continual evolution of language regarding gender identity, it is unsurprising that studies utilized various gender identity options within demographic questionnaires, though it does pose a challenge when interpreting findings. For example, two studies divide the sample by those that identified as transgender and those that self-reported their gender, with "transgender" indicating BT and "self-report" indicating NBGQ (e.g., Lefevor et al., 2019; Platt, 2020). This poses a challenge as some NBGQ individuals identify with the term transgender and could have identified as such on the survey. Another study included both transgender, NBGQ, and an additional TGD group: other self-identified gender (Lipson et al., 2019). An additional study reported findings regarding BT respondents based on their sex assigned at birth but did not make the same distinction for NBGQ participants (Smalley et al., 2016). The lack of uniformity in operationalization of gender identity poses an additional challenge when conceptualizing mental health disparities among NBGQ and BT individuals.

Role of Sex assigned at birth. Notably, several studies have also indicated that sex assigned at birth is associated with some within-group mental health differences among NBGQ and BT individuals. The inclusion of sex assigned at birth is not novel to TGD research, as several studies (e.g., Newcomb et al., 2020; Valente et al., 2020) organized TGD individuals as *transmasculine* (TGD AFAB) and *transfeminine* (TGD AMAB), thus making sex assigned at birth the differentiating factor, rather than gender identity. However, fewer studies have examined mental health concerns within the TGD population by differentiating between NBGQ and BT individuals and then further differentiating gender groups by sex assigned at birth. The fewer studies (e.g., Lipson et al., 2019; Price-Feeney et al., 2020; Stanton et al., 2021) that have included differentiation of both gender identity and sex assigned at birth within TGD mental health research highlight the importance of making both differentiations.

Lipson et al. (2019) conducted a study of 1,237 TGD students in a nationally representative sample of college students, differentiating them by both gender identity and a sex assigned at birth. Findings indicated that NBGQ AFAB were more likely to endorse elevated rates of depression, anxiety, disordered eating, NSSI, SI, and comorbid mental health concerns compared to NBGQ AMAB individuals (Lipson et al., 2019). Similarly, BT AFAB endorsed higher rates of anxiety, disordered eating, NSSI, SI, and comorbid mental health concerns compared to BT AMAB counterparts (Lipson et al., 2019). These findings indicated within-group variability in both NBGQ and BT gender groups by sex assigned at birth (e.g., AFAB more elevated than AMAB) on various mental health concerns. Beyond within-group variation among gender groups by sex assigned at birth, between-group differences were also observed among NBGQ and BT individuals (e.g., NBGQ more elevated than BT) on all mental health outcomes measured (e.g., depression, anxiety, disordered eating, NSSI, SI, and comorbid mental health concerns) except suicide attempts. Taken together, these findings indicate that while between-group differences were observed by gender identity (e.g., NBGQ more elevated than BT) on almost all mental health outcomes assessed, there were also within-group differences by sex assigned at birth (AFAB more elevated than AMAB) on most mental health outcomes. However, the findings also suggest the critical importance of sex assigned at birth in understanding between-group differences among NBGQ and BT individuals; while NBGQ individuals exhibited higher odds of experiencing all study outcome variables except suicide attempts, the only outcomes in which both NBGQ AFAB and NBGQ AMAB exhibited higher rates than both BT groups was NSSI (Lipson et al., 2019). Further, NBGQ AMAB endorsed the lowest rates of all TGD groups on depression, anxiety, and disordered eating, highlighting the extent to which the variations between gender groups on those outcomes might be better explained by sex assigned at birth. Thus, while there were still distinct between-group gender differences on various mental health outcomes, the inclusion of sex assigned at birth provided more nuanced information regarding the unique vulnerabilities within each gender group related to sex assigned at birth.

Additional studies reflected within-group differences among NBGQ and BT groups, based on sex assigned at birth. Stanton et al. (2021) completed a study (*n* = 3,179 TGD) within a large community health center in Boston, Massachusetts. The results indicated that NBGQ AFAB endorsed the highest rates of depression and anxiety symptoms compared to all other gender groups—consistent with the findings of Lipson et al. (2019)— and higher rates of alcohol use than all other TGD gender groups (Stanton et al., 2021). This suggests that the intersection of NBGQ identity and being AFAB might contribute to unique vulnerabilities for mental health concerns. Notably, NBGQ AMAB had the second highest elevation among TGD groups for depression, anxiety, and alcohol use, indicating between-group variability by gender identity (e.g., NBGQ more elevated than BT; Stanton et al., 2021). Further, NBGQ AMAB endorsed the highest rates of substance use among all gender groups, followed by BT AMAB, suggesting the possible role of being AMAB in the development of substance use concerns within the TGD population (Stanton et al., 2021). A similar trend of within-group variation (e.g., AFAB more elevated than AMAB) among NBGQ and BT individuals was observed in Price-Feeney et al.'s (2020) examination of depression, suicidal ideation, and suicide attempts in TGD youth in the United States (*n* = 8,367 TGD). Further, between-group differences (e.g., both BT subgroups more elevated than both NBGQ subgroups) were observed for both suicidal ideation and suicide attempts (Price-Feeney et al., 2020).

TGD College Population. The TGD college population is a particularly under-studied portion of the TGD community, and fewer studies have examined between-groups differences in mental health concerns among NBGQ and BT individuals. This is particularly concerning, given that it is well-established that the general college population experiences elevated rates of depression (e.g., Blanco et al., 2008; Eisenberg et al., 2013), anxiety (e.g., Blanco et al., 2008), suicidality (e.g., Downs & Eisenberg, 2012), and substance use concerns (e.g., Slutske, 2005; Suerken et al., 2013). Given that the elevated mental health concerns among the general college population and the elevated rates of TGD mental health concerns compared to cisgender peers, it is essential to assess TGD college mental health, as they represent a particularly vulnerable population.

TGD vs. Cisgender. To date, only a few studies have examined mental health disparities among TGD and cisgender college students. Findings indicated that TGD students consistently endorse elevated rates of anxiety, depression, NSSI, suicidal ideation, and suicide attempts compared to cisgender peers (Dinger et al., 2020; Lefevor et al., 2019; Lipson et al., 2019; Messman & Leslie, 2019). The differences in prevalence rates of mental health concerns among TGD and cisgender college students were stark. For example, Lipson et al. (2019) completed a secondary analysis of 2015-2017 Healthy Minds Study, which is a nationally representative sample of college students, and they found that TGD college students exhibited more than twice the rate of cisgender students on measures of anxiety and NSSI and approximately twice the rate of cisgender students on a measure of depressive symptoms (Lipson et al., 2019). The discrepancies were particularly pronounced for suicidality, as 34.5% of TGD college students endorsed suicidal ideation, 17.1% endorsed a suicide plan, and 3.1% endorsed a past suicide attempt, all of which are more than triple the rates of cisgender college students responses on the same measures (Lipson et al., 2019). Together, these findings indicate that the TGD population is an at-risk group among the already vulnerable college population for the development of depression, anxiety, NSSI, and suicidality.

Findings regarding substance use among TGD and cisgender college students have been mixed. For example, some findings indicated that cisgender college students endorsed higher rates of alcohol use (Dinger et al., 2020; Lefevor et al., 2019) than TGD participants, whereas another study found no differences in TGD and cisgender students in general alcohol use (Messman & Leslie, 2019). Findings regarding binge drinking were also mixed, as Dinger et al. (2020) found that TGD college students reported binge drinking at approximately 71% the rate that cisgender students do, whereas another study indicated that TGD college students endorsed binge drinking at more than twice the rate that cisgender peers did (Messman & Leslie, 2019). Regarding other drug use, some findings indicated higher rates of marijuana and other illicit drug use among TGD college students compared to cisgender peers (Dinger et al., 2020; Messman &

Leslie, 2019), whereas findings of another study indicated that cisgender college students endorsed higher rates of broad substance use than TGD college students. Given this variability in findings, as well as the limited number of studies that have examined substance use among TGD college students, further research is warranted to determine the extent to which TGD and cisgender college students differ in their rates of use of various substances.

NBGQ vs. BT. Just as fewer studies have examined mental health disparities among TGD and cisgender college students, even fewer have examined the between-groups differences among NBGQ and BT college students. The findings to date regarding between-groups differences in mental health concerns among NBGQ and BT college students are variable.

Findings regarding mood concerns have been variable among NBGQ and BT college students. For example, findings of one study indicated that NBGQ college students report diagnoses of both depression and anxiety at lower rates than BT college students (Dinger et al., 2020). These findings contrast those of Lipson et al. (2019) which indicated that NBGQ college students endorsed depressive symptoms at more than twice the rate of BT students and endorsed anxiety at approximately 1.5 times the rate of BT students. Findings were also mixed within the domain of anxiety, as one study suggested that NBGQ and BT college students endorse social anxiety at almost the same rate but higher rates of generalized anxiety among NBGQ individuals compared to BT peers (Platt, 2020), while findings of another study indicated higher rates of both social and generalized anxiety among NBGQ students compared to BT peers (Lefevor et al., 2019). Further research is warranted to determine the extent to which NBGQ and BT students differ in their experience of depression and anxiety.

Findings regarding between-groups differences among NBGQ and BT college students on measures of NSSI and suicidality were mixed. Specifically, while several findings indicated that BT college students engage in higher rates of suicide attempts (Dinger et al., 2020; Lipson et al., 2019; Platt, 2020), Lefevor et al. (2019) found that NBGQ college students endorsed suicide attempts at a slightly higher rate (48.7%) than BT college students (45.5%). The findings regarding suicidality were also mixed, as findings of one study suggested that NBGQ college students seriously consider suicide at a rate 13% lower than BT students, while other findings indicate higher rates of suicidal ideation among NBGQ students than BT students (Lefevor et al., 2019; Lipson et al., 2019). Regarding NSSI, one study found that NBGQ college students endorsed NSSI at more than twice the rate of BT college students (Lipson et al., 2019), whereas another study found that NBGQ students were less likely than BT to engage in NSSI (Dinger et al., 2020).

Findings regarding substance use among NBGQ and BT college students were also variable. For example, while one study found higher rates of substance use among NBGQ than BT college students (Platt, 2020), another study indicated that BT college students use marijuana, opiates, and inhalants at lower rates than NBGQ students (Dinger et al., 2020). Notably, Dinger et al. (2020) found NBGQ students to use some substances (e.g., amphetamine, hallucinogens) at higher rates than BT college students. Findings regarding alcohol use were similarly mixed, as Dinger et al. (2020) found that NBGQ students were less likely than BT students to use alcohol or engage in binge drinking, whereas Lefevor et al. (2019) found that NBGQ students reported alcohol use at a higher rate than BT students. Together, these findings yield a lack of clarity regarding differences in substance use among NBGQ and BT college students.

Overall, there is limited data available regarding the differences in prevalence of mental health concerns among NBGQ and BT college students, and the available findings were variable.

Therefore, further research is warranted to distinguish the unique vulnerabilities of each TGD gender group for specific mental health concerns. Additionally, only one study (Lipson et al., 2019) distinguished both NBGQ and BT college students by sex assigned at birth when reporting their findings. Given the preliminary evidence to suggest the role of sex assigned at birth in between- and within-groups mental health differences among NBGQ and BT individuals, further research incorporating this dual delineation of gender identity and sex assigned at birth is warranted, specifically in a college population.

TGD Mental Healthcare Utilization

When examining mental health disparities among the TGD population, it is essential to explore mental healthcare utilization in addition to elevations in mental health concerns, as health varies individually and is influenced by behaviors (e.g., mental healthcare utilization) in which TGD individuals engage. Most research on healthcare utilization among the TGD population has focused on utilization of primary and preventative care (Abramovich et al., 2020; Bazzi et al., 2015; Dhillon et al., 2020; Kachen & Pharr, 2020; Rider et al., 2017). Exploration of utilization of mental healthcare by the TGD community is also warranted, particularly given that TGD individuals have a documented having greater need for mental health services compared to the general population (Perry et al., 2017; Walton & Baker, 2017). Many studies have examined barriers to mental healthcare utilization (e.g., Shipherd et al., 2010; White & Fontenot, 2019), which is essential to the contextualization of mental healthcare utilization rates among the TGD community, though it is also critical to specifically examine rates of mental healthcare utilization among the TGD community. However, research regarding rates of mental healthcare utilization among the TGD community and particularly between NBGQ and BT populations is also warranted.

TGD vs. Cisgender. Despite the importance of understanding mental healthcare utilization rates given their relation to mental health concerns, only a few studies (e.g., Howell & Maguire, 2019; Messman & Leslie, 2019; Stanton et al., 2021) have examined differential rates of mental healthcare utilization by the TGD community compared to cisgender peers in non-treatment seeking samples. Findings among available studies are mixed, as findings of a study using a nationally representative sample of college students (e.g., National College Health Assessment [NCHA] Fall 2013 data) indicated that TGD individuals utilize mental health services at a significantly higher rate than both cisgender women and men (Messman & Leslie, 2019); however, in study with a a sample of cisgender and TGD adults from a large sexual and gender minority community healthcare center yielded variable results, reflecting that some TGD subgroups who met clinical threshold for a mood of substance use concern attended behavioral and/or substance use appointments at comparable rates to cisgender peers who also met clinical threshold for a mood or substance use concern (Stanton et al., 2021). Notably, overall group means for the TGD and cisgender populations were not provided, so it is unclear whether there were significant between-groups differences between the TGD and cisgender participants (Stanton et al., 2021)..

NBGQ vs. BT. Three studies have been identified that examine differential mental healthcare utilization among NBGQ and BT populations. In a study that examined various health outcomes and healthcare utilization in an adult transgender community sample in Massachusetts, collected in 2018, identified that NBGQ individuals utilized mental healthcare at a significantly lower rate (41.3%) during the prior 12-month period than their BT peers (48.3%) (Reisner & Hughto, 2019). Conversely, findings from a study utilizing a sample of TGD participants from the 2017 Trans Lifeline Study yielded no significant differences in likelihood of utilizing either therapy or psychiatric services among TGD groups (Carter et al., 2020). Notably, Carter et al. (2020) utilized a free response method to collect participant gender information and qualitatively coded each reported gender identity into either feminine expression, masculine expression, or nonbinary expression; the extent to which the feminine, masculine, and nonbinary expressions align with BT women, BT men, and NBGQ individuals is unclear.

Stanton et al. (2021) examined healthcare engagement of almost 30,000 TGD individuals in a large community health center in Boston, Massachusetts yielded mixed findings regarding differences in mental healthcare engagement among NBGQ and BT individuals. Of note, behavioral healthcare engagement was only assessed for individuals who met clinical threshold for depression and/or anxiety, and substance use treatment attendance was assessed for individuals that met clinical threshold for a substance use disorder. BT AMAB (51.6%), BT AFAB (47.7%), and NBGQ AFAB (51.1%) attended at least one behavioral health appointment at the highest rates and did not differ significantly in their rates of utilization. NBGQ AMAB (41.3%) attended behavioral health appointments at a lower rate, but this rate did not differ significantly from that of BT AFAB (47.7%) individuals (Stanton et al., 2021). The between-group differences among substance use appointment attendance somewhat differed from that of behavioral health appointment attendance. Just as with behavioral healthcare attendance, NBGQ AFAB (9.2%) and BT AMAB (4.6%) did not differ significantly in their rates of substance use treatment utilization. Unlike with behavioral healthcare attendance, NBGQ AMAB attended substance use appointments at a comparable rate (6.6%) to that of NBGQ AFAB and BT AMAB. Whereas NBGQ AMAB attended behavioral health appointments at the lowest rate of the TGD groups, BT AFAB attended substance use appointments at the lowest rate (1.1%) of all TGD groups (Stanton et al., 2021). Together, the findings of Stanton et al. (2021) highlight both between-group differences among NBGQ and BT individuals in their rates of both behavioral health and substance use appointment attendance, as well as differences related to sex assigned at birth. Given that Stanton et al. (2021) utilized a community sample in Massachusetts, further examination of between-groups differences among NBGQ and BT individuals in their rates of mental healthcare utilization are warranted, within a nationally representative sample.

TGD College Population. According to the 2020 Annual Report of the Center for Collegiate Mental Health, which consists of data from college/university counseling centers of 153 universities, 0.8% of students who visited college counseling centers identified as transgender, and 1.7% self-identified their gender (CCMH, 2020). However, few empirical studies have specifically examined rates of mental healthcare utilization by the TGD college population. Messman and Leslie (2019) used data collected in 2013 from a nationally representative sample of college students and found that 46% of transgender college students utilized on-campus mental health services, compared to 17% of their cisgender peers, but differences in mental healthcare utilization rates between BT and NBGQ individuals were not specified. Given the elevated rates of mental health concerns among TGD college students, further examination of rates of mental healthcare utilization among the TGD community compared to cisgender peers, as well as between-groups differences among NBGQ and BT individuals, is warranted.

Application of Minority Stress Framework to TGD Health Disparities

One framework developed to understand the stressors that gender and sexual minorities experience is the Minority Stress Theory (Meyer, 2003), which focuses on the distal (objective, external to individual; e.g., discrimination) and proximal stressors (subjective, internal; e.g., internalized transphobia) used to conceptualize various negative outcomes within the LGB population; the framework was later adapted for application to the TGD population (Hendricks & Testa, 2012). The current section outlines the components of Minority Stress Theory and provides information regarding the experiences of minority stressors among the TGD community, association between minority stressors and mental health outcomes among the TGD community, and the association between minority stressors and mental healthcare utilization among the TGD community. Specific findings are provided for the differential experiences of NBGQ and BT individuals, as well as the TGD college-aged population.

Minority Stress Theory

The Minority Stress Theory (Meyer, 2003) was originally developed to contextualize the high prevalence of mental health concerns within the lesbian, gay, and bisexual (LGB) population as related to stress processes (e.g., discrimination, harassment, hiding and concealing) experienced specifically due to LGB identity living within a heteronormative environment. The findings of various studies support the theory’s posited relationship between LGB identity and increased rates of psychological distress (Brewster & Moradi, 2010; DiPlacido, 1998; Balsam & Szymanski, 2005).

Virginia Brooks (1981) first coined the term, “minority stress,” in her work with lesbian women. Brooks (1981) defined minority stress as, “a state intervening between the sequential antecedent stressors of culturally sanctioned, categorically ascribed inferior status, resultant prejudice and discrimination, the impact of these forces on the cognitive structure of the individual, and consequent readjustment or adaptational failure” (p. 84). Following this definition, minority stress was organized into various events: 1) cultural (e.g., identity-based inferiority), 2) social and economic (e.g., restricted resource access, stigma, discrimination), 3) psychological (e.g., threats to safety, security, and self-esteem), and 4) biophysical (e.g., chronic stress) (Brooks, 1981). Brooks’ (1981) work was pioneering, as it was the first to illustrate the predictive value of discrimination on psychological distress.

Minority stress has since been well-established as the predictive link between the experience of chronic minority identity-based stressors and psychological distress within marginalized populations. The Minority Stress Theory has been further developed to establish a continuum of stressors (Meyer, 2003). *Distal stressors* (e.g., discrimination, harassment, violence) are objective stressors that are independent of one’s own perceptions, and they occur based on one’s perceived or actual minority status. *Proximal stressors* (e.g., anticipated rejection, concealment of identity) are stressors based in individuals’ internal, subjective experiences of minority identity (Meyer, 2003). These stress processes are conceptualized as unique to minority individuals and additive to general stressors (Meyer, 2003). Further, minority stressors have been found to explain, at least in part, mental health disparities among the LGB and TGD populations (Hendricks & Testa, 2012; Meyer, 2003).

Minority Stress Theory was later adapted to conceptualize stressors specific to the TGD community (e.g., internalized transphobia, discrimination due to gender identity; Hendricks &

Testa, 2012; Hoffman, 2014; Testa et al., 2015). For example, research with TGD populations has illustrated that perceived discrimination and awareness of stigma directly and indirectly predicted declines in psychological functioning (Breslow et al., 2015; Garamel et al., 2014). Gender minority stressors have been found to be associated with poor mental health outcomes in TGD youth (e.g., Chodzen et al., 2019; Reisner et al., 2015) and adult (W. O. Bockting et al., 2013; Scandurra et al., 2017; Seelman, 2016; Timmins et al., 2017) populations.

TGD Experience of Minority Stressors

The current section provides an overview of TGD experiences of minority stressors, including experiences of the broad TGD community, differential experiences of the NBGQ and BT communities, and experiences of the TGD college population.

Broad TGD Community. Minority stressors are prominent experiences in the daily lives of TGD individuals (Grant et al., 2011; James et al., 2016). Stressors experienced by TGD individuals include transphobic societal views of TGD individuals (e.g., Carroll et al., 2012; Tebbe & Moradi, 2012), legislation that pathologizes, criminalizes, and oppresses TGD individuals (Nadal et al., 2012), and high levels of violence and discrimination (Boza & Perry, 2014; Goldblum et al., 2012; Grant et al., 2011; Testa et al., 2012). For example, Boza and Perry (2014) found that 70% of their sample of BT individuals experience at least one form of victimization or discrimination due to their TGD identity, such as societal discrimination (55%), harassment (43%), economic discrimination (34%) and violent assault (17%). These rates are relatively consistent with other studies of violence and discrimination against the TGD community (Grant et al., 2011; Testa et al., 2012).

TGD individuals also experience proximal stressors associated with their experience of distal stressors. These include *self-stigma* (e.g., process by which TGD individuals internalize anti-TGD societal messages; Puckett & Levitt, 2015), *concealment* (e.g., manner by which TGD individuals hide TGD identity to avoid prejudicial experiences; Zimman, 2009), and *expectations of rejection* (e.g., expectation of prejudice events by TGD individuals that can result in hypervigilance; Nadal et al., 2014). TGD individuals have demonstrated elevated rates of proximal stressors (e.g., Chavanduka et al., 2021; Scandurra et al., 2017; Testa et al., 2017; Timmins et al., 2017), thus highlighting the implications of distal minority stressors on the internal experiences of TGD individuals.

NBGQ vs. BT. The majority of studies related to TGD minority stress have examined the experiences of BT individuals, and only a few have compared the unique experiences of minority stress of BT individuals to that of NBGQ individuals (e.g., Budge et al., 2014; Budge et al., 2020; Clark et al., 2018; Johnson et al., 2019; Jones et al., 2019). However, Poquiz et al. (2021) examined between-group differences in experiences of minority stressors in a sample of 638 TGD adolescents and young adults and found that BT participants endorsed significantly higher levels of discrimination compared to NBGQ participants. Conversely, Lefevor et al.'s (2020) findings among a nationally representative sample of TGD individuals indicated that NBGQ individuals endorsed having experienced higher rates of harassment (62.7%), trauma (55.4%), and sexual assault (41.8%) compared to that of BT individuals (54.6%, 42.1%, and 26.8%, respectively). Regarding differential experience of proximal minority stressors, Testa et al. (2017) found no between-groups differences among NBGQ and BT individuals on a measure of transphobia, though found significant between groups differences on measures of negative expectations and perceived burdensomeness, with NBGQ individuals endorsing higher rates on both measures. However, these findings differ somewhat from those of Chavanduka et al. (2021), which indicated that while NBGQ AFAB individuals reported the highest rates of internalized transphobia and negative expectations, clear between-groups differences among NBGQ and BT individuals were not reported. The variable, and few, available findings regarding the differential experiences of minority stress among NBGQ and BT individuals highlight the importance of further examining the extent to which BT and NBGQ individuals differ in their experiences of minority stress.

Additional studies highlight the roles of both gender identity and sex assigned at birth in experiences of distal minority stress. Chavanduka et al. (2021) examined minority stress in a sample of 202 TGD youth and found differences in rates of minority stressors among TGD gender groups. Specifically, NBGQ AMAB individuals reported the highest rates of victimization, rejection, and non-affirmation among TGD groups, and NBGQ AFAB individuals reported the highest rate of discrimination (Chavanduka et al., 2021). BT AMAB endorsed the lowest rates of victimization, rejection, non-affirmation, and discrimination among all TGD gender groups (Chavanduka et al., 2021). These findings were somewhat consistent with those of Scandurra et al. (2017), which reported that BT AFAB individuals reported significantly higher rates of various stressors (e.g., physical abuse, sexual abuse, everyday discrimination) compared to BT AMAB peers, in an Italian adult TGD sample. Notably, the roles of gender identity and sex assigned at birth observed by Chavanduka et al. (2021) were somewhat variable in that clear differences were not observed specifically between gender identity categories or sex assigned at birth. Non-affirmation is the only distal stressor measured in which both groups of a TGD gender category (e.g., NBGQ AFAB and NBGQ AMAB) reported the highest levels of a minority stressor (Chavaduka et al., 2021). Discrimination is the only distal stressor in which both groups delineated by sex assigned at birth (e.g., NBGQ AFAB and BT AFAB) reported the highest rates. Together, these findings suggest a possible role of gender identity and sex assigned at birth in the experience of minority stress, but the relationship is unclear and/or may be specific to the type of minority stress. Therefore, further research is warranted to determine the specific roles of gender identity and sex assigned at birth in the experience of minority stress by a TGD population.

Findings also suggest a possible role of sex assigned at birth in the experiences of proximal stress among TGD individuals, though findings are mixed. Chavanduka et al. (2021) found that NBGQ AFAB individuals reported the highest rates of internalized transphobia followed by BT AMAB, whereas NBGQ AMAB reported the lowest rate. Findings of Testa et al. (2017) are somewhat consistent in that NBGQ AFAB reported the highest rate of internalized transphobia, though NBGQ AMAB reported the second highest rate, followed by BT AMAB. Findings regarding negative expectations were similarly mixed in that Chavanduka et al. (2021) found that NBGQ AFAB reported the highest rate and NBGQ AMAB reported the lowest rate, whereas Testa et al. (2017) similarly found NBGQ AFAB to report the highest rate of negative expectations, though found NBGQ AMAB to report the second highest rate, followed by BT AFAB. Thus, while there appears to be a role of sex assigned at birth in between-groups differences in proximal stress among NBGQ and BT individuals, the role is unclear.

Examination of the unique experiences of minority stress among NBGQ and BT individuals is particularly important, given that NBGQ individuals experience minority stressors unique to identifying outside of the gender binary. Minority stressors unique to NBGQ individuals include non-affirmation in gender-segregated spaces (e.g., restrooms, clothing stores) and in the use of gendered language (e.g., incorrect pronouns) (Matsuno & Budge, 2017). For example, NBGQ individuals may face the additional stress of others frequently using incorrect, binary pronouns and having to “come out” as NBGQ, given that binary NBGQ identities are incongruent with the typical identities within the binary gender system (Testa et al., 2015). Relatedly, NBGQ individuals may encounter micro- and macroaggressions that suggest that NBGQ identities are less legitimate or valid than BT identities; this is consistent with the discrimination experienced by bisexual individuals due to lack of adherence to the binary system within sexual identities (Israel et al., 2004; Ross et al., 2010). Overall, the unique minority stressors experienced by NBGQ individuals provide further evidence of the importance of examining the distinct minority stress experiences of NBGQ and BT individuals.

TGD College Population. Young adulthood is often a time of great exploration and introspection related to one's identity (Arnett & Tanner, 2006), and the college environment is often the first opportunity for many students to explore and question their assigned gender identity (Beemyn, 2003). This exploration can be facilitated by on-campus resources (e.g., extracurricular groups, LGBTQ+ centers; Garvey & Rankin, 2015) and the availability of information pertaining to gender identity on college campuses (Beemyn, 2019). The availability of on-campus resources to facilitate gender exploration is particularly important for NBGQ students, given that the dominant TGD narrative in the media, pop culture, and in some TGD communities, is that BT individuals who determine their transness at a young age, and ultimately begin to present as their self-identified gender (Beemyn & Rankin, 2011). Despite these opportunities, there is a greater potential for stigma pertaining to exploration of one's gender identity, compared to potential stigma associated with exploration of other aspects of one's identity (Beemyn, 2016). Thus, while TGD and gender-questioning students might have greater resources and autonomy on college campuses to facilitate gender identity exploration than they did prior to attending college, these students also encounter various challenges and barriers within the college environment. For this reason, it is essential to explore the unique experiences of minority stress encountered by TGD college students.

Broad TGD College Population. Research suggests that TGD college students experience high rates of minority stress related to their gender identity, and various institutional factors within college campuses perpetuate this experience of minority stress. TGD college students report elevated rates of various stressors (e.g., discrimination, harassment) specifically due to their gender identity (Grant et al., 2011; James et al., 2016). Findings from the United States Transgender Survey (USTS; James et al., 2016) indicated that 24% of TGD respondents who reported being “out” as TGD or perceived as TGD, while in college reported experiencing verbal, physical, and sexual harassment during their time in college. Further, 16% of those respondents reported withdrawing from their college or university because of their experience of harassment (James et al., 2016). Maltreatment toward college students is not just perpetuated by their peers, as 35% of undergraduate, graduate, professional, and technical school students in a national study of TGD discrimination report negative treatment (e.g., harassment, bullying) by students, teachers, and staff (Grant et al., 2011). Findings indicate that the classroom environment is a particularly common site of potential misgendering (e.g., due to rosters not reflecting their chosen name; Pusch, 2005), leading many students to mask their identities and/or avoid coming out as TGD (Bilodeau, 2009).

Research also suggests that 50% or more of TGD individuals will experience sexual or intimate partner violence in their lifetimes (Calton et al., 2015), and TGD college students at both undergraduate and graduate levels report higher rates of sexual victimization than their cisgender peers (Cantor et al., 2015; Hoxmeier, 2016; New, 2015). Relatedly, TGD students report the lowest levels of optimism that reports of sexual violence would be taken seriously by campus officials, as evidenced by almost 60% of TGD undergraduates and over 60% of TGD graduate/professional students endorsing that those reports of sexual violence would not be taken seriously by campus administrators (Cantor et al., 2015). Therefore, while TGD college students are more likely than their cisgender peers to experience sexual violence, TGD students may be less likely to report it due to a belief that it would not be taken seriously by campus officials.

In addition to examining the individual experiences of TGD individuals, it is also essential to consider the structural factors unique to college campuses which may contribute to the experience of minority stress by TGD students. Housing is an institutional feature of colleges and universities that often contributes to exclusion and discomfort for TGD students (Goldberg et al., 2018; Seelman, 2014). For example, Nicolazzo et al. (2018) examined the perspectives of 19 TGD students and 13 student affairs administrators to elucidate information regarding their personal and institutional experiences with gender inclusive housing. Findings suggested that information regarding gender inclusive housing was consistently unclear and difficult to find across institutions, and the definitions of gender inclusive housing were often ambiguous. The authors (Nicolazzo et al., 2018) also noted that the lack of inclusion of TGD voices in the development of gender inclusive housing policies and practices, and lack of ongoing assessment of gender inclusive housing policies hindered effective implementation of GIH. Such practices have been conceptualized as “administrative violence” (Spade, 2015), or the ways in which the oppression of TGD individuals is embedded within administrative policies and practices. Findings also suggest that pursuit of gender inclusive housing can be limited in that it is only available on certain floors, buildings, and parts of campus (Trans Policy Clearinghouse, 2021), or forces students to decide between having housing inclusive of their gender or selecting housing congruent with other aspects of their identity/interests (e.g., their college major)

(Beemyn, 2019). Together, these findings indicated that while 272 colleges/universities in the United States offer gender inclusive housing (Trans Policy Clearinghouse, 2021), concerns persisted regarding the accessibility, availability, and clarity of gender inclusive housing services for TGD students. The lack of access, availability, and clarity of gender inclusive housing services for many TGD students represents a form of minority express experienced by the TGD college population.

TGD students also encounter the perpetuation of societal gender norms in the practices, policies, and norms of colleges and universities that are pervasive across colleges and universities (Bilodeau, 2005, 2009; Marine & Nicolazzo, 2014). These policies constitute *genderism*, or the cultural enforcement of a rigid gender binary of masculine and feminine norms (Hill, 2003). Genderism has been shown to have negative effects on the TGD college population in various domains, including health (Mule et al., 2009), safety (Grant et al., 2011; Rankin et al., 2010), and personal well-being (Haper & Schneider, 2003). Further, genderism on college campuses has been shown to affect TGD students' perceptions of campus culture and environment (Bilodeau, 2009) and academic retention (Rankin et al., 2010). Thus, while many TGD students choose to conceal their TGD identity entirely (e.g., Baker & Bolland, 2011; Bilodeau, 2009), those that choose to express their TGD identity must still negotiate pressures to conform to stereotypical gender norms (e.g., appearance, dress; Chang et al., 2017) For example, findings of a study of transgender male college students in New England reflected an overemphasis on the embodiment of gender (e.g., dress, appearance, adherence to traditional masculine norms) that contributed to decreased self-confidence in trans identification due to adherence to hegemonic norms (Catalano, 2015). Thus, the enforcement of *genderism* on college campuses serves to perpetuate experience of minority stress by TGD college students.

Together, these findings indicate that TGD college students experience elevated levels of various minority stressors (e.g., discrimination, harassment, sexual violence). Additionally, several institutional aspects of college campuses may contribute to increased minority stress by TGD college students. Therefore, it is essential to explore the unique experiences of minority stress by TGD college students.

NBGQ vs. BT. In addition to examining the experiences of minority stress by TGD college students broadly, it is also important to examine the unique minority stress experiences of both BT and NBGQ college students, particularly given that the majority of TGD college students identify as NBGQ (Beemyn, 2016). Lefevor et al. (2019) found that NBGQ students reported harassment, trauma, and sexual assault at higher rates than BT peers. Conversely, findings of the 2010 National College Climate Survey, a national survey of college students, faculty, staff, and administrators (*n* = 670 TGD individuals; Rankin et al., 2010), indicated that BT students endorsed higher rates of harassment (AFAB 39%; AMAB 38%) than NBGQ (31%). Some differences related to sex assigned at birth were also observed regarding experiences of harassment, as BT AMAB were more likely than BT AFAB to report feeling deliberately ignored or excluded and isolated or left out, whereas BT AFAB individuals were more likely than transfeminine to report being stared at or singled out due to their gender identity (Rankin et al., 2010). Further, BT AFAB individuals were less least likely of all gender groups to report feeling comfortable with the overall campus climate and classroom climate (Rankin et al., 2010). Given the variability and sparseness in findings regarding differential experience of minority stress by NBGQ and BT college students, as well as the limited understanding of the role of sex assigned at birth, further research regarding minority stress of NBGQ and BT students is warranted in a nationally representative college population, delineated by sex assigned at birth.

Additionally, just as aspects of the college environment serve to marginalize TGD students more broadly, components of college campuses also uniquely affect NBGQ students. NBGQ students experience unique pressures on college campuses due to pressure to conform to expectations based in the binary gender system (Catalano, 2015; Goldberg & Kuvalanka, 2018; McGuire et al., 2016; Rankin & Beemyn, 2012). Specifically, NBGQ students experience continuous challenges related to self-presentation (e.g., usage of pronouns other than she/her and he/him) that is consistent with their gender identity but that does not attract unwanted and/or negative attention (Bilodeau, 2009). Thus, NBGQ might be perceived as more gender "transgressive" (e.g., deviation from expected gender norms), contributing to greater scrutiny than BT students, due to their identities challenging individuals' perceptions of both cisnormativity (Oswald et al., 2016) and the conceptualization of gender as binary (McGuire et al., 2016).

Additionally, findings of a focus group study of seven NBGQ college students highlighted many of the unique challenges faced by NBGQ students, including negative pushback in response to NBGQ advocacy (e.g., being "too trans" due to lack of conformity to gender binary), invalidation of NBGQ identities (e.g., due to NBGQ status rather than BT status), and encountering the assumption that they/them pronouns are "incorrect grammar," (Goldberg et al., 2018). Participants in the same study also noted the tension between desiring to avoid public scrutiny and wanting to freely express gender (e.g., via use of non-binary pronouns, name different from birth name, body alterations) and advocate for the validity of NBGQ identities (Goldberg et al., 2018). While BT students encounter somewhat similar challenges, NBGQ students have the added challenge of needing to advocate and validate the existence of NBGQ identities and the validity of bodies different from stereotypical male and female forms.

Consistent with findings of other studies (e.g., Marine & Nicolazzo, 2014), participants also endorsed feelings of otherness within LGBTQ+ spaces, due to the majority cisgender status of the LGBTQ+ population broadly and on university campuses (Goldberg et al., 2018). The majority cisgender status of students in LGBTQ+ spaces and related emphasis on the needs, experiences, and interests of sexual minorities rather than gender minorities reflects the broader cultural and historic tension between sexual and gender minorities (dickey, 2016). Together, these findings highlight the unique stressors experienced by NBGQ college students on campuses and highlight the importance of further exploring minority stress in the NBGQ population separately from the experience of BT students.

Role of Minority Stressors in TGD Mental Health

The application of the Minority Stress framework has been instrumental in TGD mental health research, as these minority stressors have been found to put transgender individuals at greater risk for developing sequala as a result of these stressors. This increased burden of certain disorders and diseases and high levels of stigmatization led the National Institutes of Health (NIH) to declare TGD individuals as a health disparity population (National Institute on Minority Health and Health Disparities, 2016). The current section outlines the current literature regarding relations between minority stress and psychological outcomes among the TGD community, including between NBGQ and BT individuals and among the TGD college population.

Broad TGD Community. Minority stressors have been examined as they pertain to various health outcomes in the TGD population including body image concerns and disordered eating (Brewster et al., 2019), depression and anxiety (Chozden et al., 2018; Nemoto et al., 2011; Nuttbrock et al., 2015), suicide risk (Clements-Noelle et al., 2006; Tebbe & Moradi, 2016) and substance use (Reisner et al., 2015). These elevated rates of prejudice and discrimination have been shown to be associated with negative mental health outcomes and elevated rates of substance use and suicide (Bockting et al., 2013; Clements-Noelle et al., 2016; Gamarel et al., 2015; Grant et al., 2011; Xavier et al., 2005). The implications of discrimination and stigma are further highlighted by the findings of a study conducted by the National Center for Transgender Equality and the National Gay and Lesbian Task Force , which indicated that 41% of the 6,450 TGD participants had attempted suicide (compared to approximately 0.6% of US adults in 2019; National Institute of Mental Health, 2019), and this rate was even higher for TGD individuals who endorsed experiencing a form of enacted stigma (e.g., job loss due to discrimination, bullying, physical/sexual assault) (Grant et al., 2011).

The role of proximal minority stress in mental health disparities among TGD individuals has also been observed, though findings are somewhat mixed. For example, Strain & Shuff (2010) found that BT AMAB individuals reported higher an inverse relationship between disclosure of TGD identity and depression and anxiety, whereas Bockting et al. (2013) found that efforts to pass (e.g., attempt to be perceived as cisgender) were not associated with depression in a community sample of TGD individuals. Additional findings indicated that expectations of stereotyping and stigmatization were associated with higher rates of depression and internalized transphobia, respectively (Bockting et al., 2013; Breslow et al., 2015). Anticipation of prejudice events has also been found to be associated with internalized transphobia (Testa et al., 2015), and proximal stress has also been found to be positively associated with suicidality in TGD individuals (Testa et al., 2017). Further, Timmins et al. (2017) found that expectations of rejection, self-stigma, and prejudice events were all associated with elevated psychological distress in a large, geographically diverse sample of TGD individuals (*N* = 1,207). Overall, there is abundant evidence indicating the role of minority stress in elevated mental health concerns among the TGD population.

NBGQ vs. BT. While minority stressors have been examined as they pertain to the health disparities between the transgender and cisgender communities (Brewster et al., 2019; Coulter et al., 2018; Timmins et al., 2017), fewer studies have examined the differential role of these stressors between gender minority groups. Lefevor et al. (2019) examined distal stressors and health disparities in a treatment-seeking college population and found that NBGQ experienced higher rates of minority stressors (e.g., harassment, trauma, sexual assault) than BT individuals, but the researchers did not explore the role of these stressors in differential experiences of health disparities. Price-Feeney et al (2020) explored the relations between minority stressors and mental health in a large, nationally representative sample of adolescents (n = 8,367 TGD) and found that minority stressors partially explained the experiences of depression and suicidality between gender minority groups (Price-Feeney et al., 2020). While these findings are foundational in the examination of the role of minority stress in mental health among NBGQ and BT individuals, further research is warranted to verify the extent to which minority stress is uniquely associated with negative mental health outcomes among the NBGQ and BT populations.

TGD College Population. To date, no studies have examined the extent to which experiences of minority stress are associated with negative mental health outcomes among NBGQ and BT college students. While Lefevor et al. (2019) examined both distal stressors and mental health outcomes among NBGQ and BT college students, the authors did not specifically examine the associations between minority stress and mental health. Therefore, the differential relationships between minority stress experiences and mental health among NBGQ and BT college students represents an understudied, yet important, area of further research. Research regarding relationships among minority stress and mental health among NBGQ and BT college students will provide information regarding the extent to which minority stress theory explains the mental health outcomes of both NBGQ and BT college students.

Role of Minority Stressors in TGD Mental Healthcare Utilization

Broad TGD Community. Minority stressors have also been found to serve as a barrier to healthcare utilization among the TGD community. TGD individuals experience systemic stressors specific to the healthcare system, including exclusion of trans-related healthcare coverage by health insurance companies, denial of healthcare, and even physical, verbal, or sexual abuse within a healthcare setting (Grant et al., 2011; James et al., 2016; Stroumsa, 2014). Further, the experience or anticipation of discrimination within a healthcare setting can often lead TGD individuals to either avoid or delay receiving healthcare or to selectively disclose their TGD identities in an attempt to avoid discrimination (Grant et al., 2011; Institute of Medicine, 2011; James et al., 2016; Reisner et al., 2014; Stotzer et al., 2014). This delay or avoidance of healthcare seeking is associated with poorer physical and mental health outcomes (Seelman et al., 2017), and the selective disclosure of one's TGD identity has been associated with inappropriate healthcare or lack of preventative care (Bauer et al., 2009; White et al., 2015). An integrative review by White and Fontenot (2019) yielded themes specific to the experiences within mental healthcare among TGD individuals. Specifically, TGD respondents frequently encountered suboptimal staff knowledge and responses regarding TGD identity-related topics, experiences of enacted stigma (e.g., rejection or insensitivity, denial of services, violence), and racial disparities and insensitivity. While the benefits of welcoming environments were also noted within the review (White & Fontenot, 2019), the findings generally highlight the extent to which minority stressors affect mental healthcare experiences and, likely, mental healthcare utilization among the TGD community. However, further research specifically examining the relationship between experiences of minority stressors and mental healthcare utilization is warranted.

NBGQ vs. BT. Few studies have explored the extent to which NBGQ and BT individuals differ in their healthcare experiences. Lykens et al. (2018) explored the unique healthcare experiences of NBGQ individuals and found that NBGQ individuals experienced unique marginalization, even within TGD-specific facilities, occasionally leading them to "borrow" a binary gender when pursuing care (Lykens et al., 2018). Further, participants endorsed a desire for more NBGQ-inclusive healthcare, including more inclusive intake forms, NBGQ-specific training for providers, and enhanced understanding among providers of gender-affirming care that is not based in the transnormative narrative (Lykens et al., 2018). The unique healthcare experiences of NBGQ and BT individuals are also illustrated by findings of the USTS, which indicated that BT AFAB individuals endorsed a higher rate (42%) of negative experiences with a healthcare provider than both BT AMAB (36%) and NBGQ (24%) individuals. Together, these findings highlight that NBGQ and BT respondents vary in their healthcare experiences.

TGD College Population. Given the elevated rates of mental health concerns experienced by the TGD college population, it is essential to also explore the extent to which minority stress affects mental healthcare utilization in this vulnerable population.

TGD vs. Cisgender. TGD students also experience concerns within the healthcare contexts on college and university campuses. In a survey of TGD college student experiences with various institutional services and practices on university campuses, TGD students endorsed few health care providers competent in addressing trans-related concerns as well as a desire for more trans-inclusive health care and counseling services (Goldberg et al., 2019). These findings were consistent with that of a qualitative study of six TGD students, which indicated that students experienced deadnaming (e.g., use of name assigned at birth despite identification with chosen name) and/or misgendering in more than 50% of encounters with university health services, physician use of invasive (e.g., due to physician curiosity rather than medical necessity) questions during appointments, poor trans-competency training of mental health providers, and lack of gender inclusion in specific health services (e.g., gynecological visits) (Santos et al., 2019). Researchers also found that TGD students responded to these experiences by either avoiding healthcare when healthcare is warranted and by seeking healthcare off-campus, due to past negative experiences and/or anticipated experiences of discrimination (Santos et al., 2019). Together, these findings suggest that patterns of avoidance or delay of healthcare seeking due to anticipated experiences of transphobia and mistreatment—present in the broader TGD population (James et al., 2016)—is also present within the TGD college population. However, further exploration of the relation between experiences of minority stress and mental healthcare utilization among the TGD college population is warranted.

NBGQ vs. BT. Minimal research has examined the specific healthcare experiences of NBGQ and BT college students. Goldberg et al. (2019) examined the healthcare experiences of NBGQ and BT college students and found that NBGQ and BT individuals differed significantly in their experiences of misgendering by both counseling center and health services staff, with NBGQ reporting higher rates of misgendering. NBGQ students also reported less trans-affirming care by health services providers. Differences between TGD individuals by sex assigned at birth were also observed, as AFAB individuals reported higher rates of misgendering by both health services and counseling center staff than AMAB individuals, though differences by sex assigned at birth were not distinguished within TGD gender subpopulations. These findings highlight the importance of examining the unique role of minority stress in mental healthcare experiences and utilization among BT and NBGQ college students, and further research is warranted.

Intersectional Approach to Exploration of TGD Health Disparities

Individual identities (e.g., racial/ethnic, gender, sexual orientations) have been shown to shape the daily experiences and mental and physical health of individuals with marginalized group statuses (Hatzenbuehler et al., 2013; Krieger, 2012). Consistent with the premise of minority stress theory (Meyer, 2010), poorer mental health of marginalized communities is considered a normative response to the structural oppression and environmental stressors faced by minority populations (APA, 2012). However, the importance of also conceptualizing unique stressors of minority groups from an intersectional perspective, in addition to a minority stress perspective, has been highlighted by both the Institute of Medicine (IOM, 2011) and the American Psychological Association (APA, 2012). Both institutions note that demographic characteristics (e.g., race/ethnicity, age, socioeconomic status, sexuality, gender) intersect to inform one’s experiences and health, and they necessitate that providers consider patients’ intersecting identities when providing care (APA, 2012; IOM, 2011) . The importance and relevance of testing intersectionality theory in explorations of minority stress is also illustrated by a recent trend in studies utilizing both frameworks in conjunction with one another to conceptualize poor mental health outcomes in various minority groups (e.g., Calabrese et al., 2015; Cerezo et al., 2020; Schmitz et al., 2020; Shangani et al., 2020).

One's experience of gender is highly nuanced based on various cultural identities and factors, including race/ethnicity, religion, sexual orientation, disability status, and socioeconomic status (Burnes & Chen, 2012), thus highlighting the relevance of intersectionality theory in studies of the TGD community. The relevance of the application of intersectionality theory to the TGD community is also evidenced by findings of both empirical studies (e.g., Grant et al., 2011; Rankin et al., 2010) and personal narratives (e.g., Serano, 2007), which found that experiences of TGD oppression differ within the TGD community; these differences are in part related to differences in privilege within the community. Additionally, a recent critical review of gender minority stress highlighted the relevance of considering cultural and ethnic backgrounds in psychological research on the TGD population, thus providing further support for the application of intersectionality theory to examinations of gender minority stress (Tan et al., 2020). Therefore, in addition to exploring health disparities between NBGQ and BT transgender individual from a minority stress perspective, it is important to also explore them from an intersectional perspective.

Within an intersectional exploration of outcomes among the TGD community, it is also essential to differentiate between the unique experiences of both NBGQ and BT individuals. Previous studies have articulated the need to assess and address patterns of health concerns among the TGD population in the context of social marginalization (e.g., Wesp et al., 2019) and several studies of the TGD population have utilized intersectionality theory to conceptualize health inequities (e.g., Bower-Brown & Zadeh, 2021; Kattari et al., 2019). These studies reinforced the importance of examining TGD health disparities through an intersectional lens, but they did not delineate between gender identities within their samples. Further intersectional research on health disparities between NBGQ and BT individuals is warranted, particularly in the college population.

Intersectionality Theory

The concept of intersectionality is based in Black feminist thought (e.g., Crenshaw, 1991), and it provides a framework for understanding how multiple individual identities (e.g., gender, sexual orientation, race, socioeconomic status) intersect within an individual's experiences to reflect broader societal systems of oppression and privilege (Bowleg, 2012). Intersectionality theory posits that the inequities that are sustained by a nuanced power matrix are also based in and maintained by social structures and institutional systems (Collins & Bilge, 2016; Dhamoon & Hankivsky, 2011). Within the theory, identities are understood as they relate to power present within systems of privilege and oppression, and they are conceptualized in an interconnected (rather than distinct) way (Bowleg, 2008). The application of intersectionality to research within the TGD community is essential—as evidenced by queer and transgender activists' longstanding attempts to seek justice through intersectional resistance (e.g., Spade, 2013)—given that additional identities affect the types and rates of stressors experienced by TGD individuals. Despite the relevance and importance of applying intersectionality theory to studies of outcomes within the TGD population, the body of literature on the intersectional experiences of the TGD community—while growing (e.g., Biello & Hughto, 2021; Bower-Brown & Zadeh, 2021; Golden & Oransky, 2019; Wesp et al., 2019)— is only in its nascence.

Notably, intersectionality theory accounts for the influence of additional minority identities differently than minority stress theory (K. K. H. Tan et al., 2020). Minority stress theory considers marginalized identities independent of one another and utilizes an additive approach, meaning that additional identities are conceptualized as combining to inform the experiences of individuals who have greater than one marginalized identity (Parent et al., 2013). For example, those with two minority identities (e.g., TGD and racial minority) are referred to as *double jeopardy*, and three minority identities (e.g., TGD, racial minority, sexual minority) are referred to as *triple jeopardy* (Meyer, 2010). Conceptually, those in double or triple jeopardy are understood to have higher prevalence of mental health concerns due to their additional experiences of marginalization (Meyer, 2010). Whereas minority stress theory takes an additive approach by asserting that the types of marginalization associated with each minority identity build upon one another (Meyer, 2010), intersectionality theory proposes that multiple identities lead to distinct and unique individual and collective experiences (Parent et al., 2013). Thus, intersectionality focuses on how multiple identities interact to shape unique forms of oppression, whereas the additive focus of minority stress theory emphasizes the increased types and rates of oppression due to multiple identities. While both approaches are empirically supported, there is a limited research on the mental health implications of intersectional experiences of distal stressors by the TGD community.

Regarding methodological underpinnings of intersectionality theory, there are three well-established approaches to social categorization that differ based on the permeability of the boundaries of the categories and their implied relationships (McCall 2005). McCall's (2005) taxonomy includes inter-categorical, anti-categorical, and intra-categorical intersectional approaches. Inter-categorical approaches are most frequently utilized within quantitative studies and draw on existing categories to assess inequalities among groups (e.g., race, gender, socioeconomic status; McCall, 2005). Conversely, anti-categorical approaches deem social life and context to be too nuanced and complex for categorization. Intra-categorical approaches are most often utilized in qualitative studies and can be conceptualized as falling between inter-categorical and anti-categorical, focusing on the margins of certain categories (McCall, 2005).

The current section applies an inter-categorical (McCall, 2005) approach to discuss current understandings of the intersections of TGD identity and additional identities (e.g., race, socioeconomic status, sexual orientation, and disability status). Further, per the criticisms regarding intersectional research taking dichotomous approaches to social categories (e.g., White vs. REM, heterosexual vs. sexual minority; Lutz et al., 2011) and call for greater research centering TGD individuals with additional marginalized identities (de Vries, 2015), the current section further delineates several social categories to specific subgroups groups to explore the unique experiences of various TGD minority subgroups. Further, the need for scholarship that expands upon the dominant binary conceptions of gender in the TGD community (e.g., Haritaworn, 2008; Pena, 2010) is addressed, as between-group differences among BT men, BT women, and NBGQ individuals are also delineated. While the organization of the section is based on dual identity membership (e.g., TGD and racial/ethnic minority), it should be noted that TGD individuals can have three or more intersectional minority identities (e.g., TGD, racial/ethnic minority, and sexual minority), and available findings pertaining to the implications of these intersections are discussed throughout.

Experiences of TGD People of Color

When examining the TGD community from an intersectional perspective, it is important to consider racial and ethnic identities, given the experiences of racism endured by people of

Color in the United States, which intersects with oppression experienced due to TGD identity. *Racism* is defined as organized societal systems that contribute to avoidable inequity in power, resources, opportunities, and abilities across racial and/or ethnic groups (Berman & Paradies, 2010). Racism is a multifaceted concept that can take the form of beliefs, stereotypes, or prejudices and can permeate society through various levels (e.g., internalized, interpersonal, systemic) (Berman & Paradise, 2010; Paradies, 2006). The negative implications of racism on the mental health of People of Color are well-established (e.g., Paradies, 2006; Williams & Mohammed, 2009). For example, results of a meta-analysis of 293 studies examining racism as a determinant of health outcomes indicated that racism was significantly associated with all negative mental health outcomes included in the study, such as depression, anxiety, post-traumatic stress disorder, as well as suicidal ideation, planning, and attempts (Paradies et al., 2015). Results also yielded between-groups differences among racial and ethnic groups, as the association between racism and poorer mental health was significantly stronger among Latinx and Asian American participants, compared to Black or African American participants (Paradies et al., 2015). These findings highlight both the importance of assessing minority stress and mental health outcomes from an intersectional perspective, as well as the relevance of discerning between racial and ethnic minority groups.

Findings also indicate mental health disparities among racial and ethnic minority groups, particularly in the form of reduced mental healthcare utilization. Data from the 2019 National Survey on Drug Use and Health (SAMSHA, 2020) provided prevalence rates of mental health concerns in US racial and ethnic minority adult populations. While the respective rates of both any mental illness and serious psychological distress of Black (17.3%, 11.9%), Latinx (18%, 12.2%), Asian American (14.4%, 9%), American Indian/Alaska Native (18.7%, 11.6%), and

Native Hawaiian/Other Pacific Islander (16.6%, 10.1%) individuals are generally comparable to those of non-Hispanic White (22.2%, 12.7%) adults in the United States, racial and ethnic disparities are present in differential utilization of mental healthcare. The respective rates of mental healthcare utilization are as follows: Black (9.8%), Latinx (9.7%), Asian American (7%), American Indian/Alaska Native (13.9%), and Native Hawaiian/Other Pacific Islander (6.1%), and non-Hispanic White (19.8%). These lower rates of utilization in racial and ethnic minorities compared to non-Hispanic White counterparts are unsurprising, despite comparable rates of serious psychological distress (SAMSHA, 2020), given that racial and ethnic minorities experience lower rates of insurance coverage compared to non-Hispanic White peers (SAMSHA, 2020), as well as discrimination within the mental healthcare setting (Ben et al., 2017) and elevated rates of mental health stigma (Eylem et al., 2020). These findings highlight the reduced rate at which mental health concerns are addressed within racial and ethnic minority populations despite comparable prevalence of mental health concerns with non-Hispanic White counterparts.

Given the minority stressors and mental health disparities experienced by racial and ethnic minorities—as well as the fact that the adult TGD community in the US is more racially diverse than the general US adult population (Flores et al., 2016)—it is particularly important to consider the role of intersectional racial and gender identities in TGD populations when examining minority stress and mental health disparities. Among US adults who identify as TGD, approximately 55% identify as White, 16% as Black/African American, 21% as Latinx/Hispanic, and 8% as another race or ethnicity (Flores et al., 2016). TGD people of color (POC) experience unique stressors due to the intersection of their racial and gender minority identities. This includes racism in LGBTQ+ communities (Balsam et al., 2011) as well as disproportionately high rates of minority stressors, compared to White TGD counterparts (Grant et al., 2011; James et al., 2016). Specifically, survey research indicates experiences of systemic barriers in various domains (e.g., employment, housing), as well as elevated rates of discrimination and victimization compared to their White counterparts, which highlight the unique experiences of TGD POC (Grant et al., 2011; James et al., 2016).

Racial and ethnic minority TGD college students also experience specific minority stressors related to their intersectional racial/ethnic and gender minority identities. Regarding administrative policies based on race and gender within college systems, Spade (2015) asserted that “racializing and gendering are nation-making activities carried out through the creation of population-level interventions, including administrative systems and norms, that preserve and cultivate the lives of some and expose others to premature death” (p. 78). Studies of campus climate and experiences of racial and ethnic minority students in higher education indicate consistent experiences of microaggressions (e.g., subtle slights and insults towards minorities; Sue et al., 2007) and other racist encounters perpetuated by both students and faculty (Kanter et al., 2017; Smith et al., 2007; Smith et al., 2016; Solorzano et al., 2000). These discriminatory experiences have been shown to contribute to poorer mental and physical health outcomes, as well as adversely affect retention rates, in college and university students of Color. Elevated rates of negative outcomes for TGD POC, compared to White TGD individuals, were also found in college samples. For example, results from the 2010 National College Climate survey (Rankin et al., 2010) reflect the disproportionate experiences of discrimination and harassment of TGD POC in the college population, compared to their cisgender racial minority and White TGD counterparts. Specifically, BT AFAB (65%), BT AMAB (68%), and NBGQ (65%) respondents of Color were significantly more likely than cisgender men (45%) and cisgender women (50%) of Color to report harassment and more than twice as likely to attribute their perceived harassment to gender identity (Rankin et al., 2010). Further, TGD respondents of Color also reported feeling less comfortable in their department or work units as well as in the classroom than White TGD respondents did (Rankin et al., 2010). These findings reflect the additional challenges posed by the convergence of gender and racial minority identities in navigating the experiences of TGD discrimination and racism on college campuses (Rankin et al., 2010). However further investigation of the intersectional experiences of TGD college students of specific racial and ethnic identities is warranted.

According to the 2020 Center for Collegiate Mental Health Annual Report, racial and ethnic minority individuals make up the following percentages of students utilizing mental health treatment at college counseling centers: 9.6% African American/Black, 0.5% American Indian or Alaskan Native, 8.9% Asian American/Asian, 9.5% Hispanic/Latino/a, 0.2% Native Hawaiian or Pacific Islander, 5.1% Multi-racial, 1.5% self-identified (CCMH, 2020). While rates of service utilization are increasing on college campuses nationwide (Lipson et al., 2018), there are clear racial/ethnic disparities in treatment seeking behavior and receipt of mental health services on college campuses.

Given that racial and ethnic groups each experience distinct minority stressors related to racial identity that inform the intersections of TGD and racial identities, the current section overviews the literature regarding experiences of individual racial and ethnic minority groups within the TGD community. Specifically, experiences of minority stress and mental health disparities are discussed, including as they pertain to racial/ethnic minority TGD populations.

Black TGD Population. Black Americans experience minority stressors related to their racial identity. According to a nationally representative, probabilistic survey of 3,453 adults (n = 802 Black adults) conducted for National Public Radio, the Robert Wood Johnson Foundation, and Harvard T.H. Chan School of Public Health, Black Americans report elevated rates of individual race-based discrimination (e.g., slurs, 51%; insensitive/offensive comments or negative assumptions, 52%; people acting afraid of them, 40%; Discrimination in America, 2017). Findings also indicated that Black respondents reported elevated rates of violence (42%), threats or non-sexual harassment (35%) and sexual harassment (19%) (Discrimination in America, 2017). These individual stressors are further compounded by systemic stressors (e.g., institutional racism in housing and employment; Bleich et al., 2019) that contribute to the marginalization of the Black community.

While Black Americans experience comparable rates of mental health concerns compared to White counterparts (SAMHSA, 2019), they experience mental health disparities in the form of reduced healthcare access and utilization. Black Americans access mental healthcare at approximately half the rate of White counterparts (SAMHSA, 2019) and are more likely to utilize primary care or emergency services than mental health specialists (U.S. Department of Health and Human Services, 2001). Even when Black individuals access mental healthcare, it is often poorer quality and/or is not culturally competent care (Primm et al., 2010). Further, stigmatization and discrimination often pervade healthcare experiences of Black individuals. For example, Black individuals are more frequently diagnosed with schizophrenia and less frequently diagnosed with mood disorders, compared to White counterparts with the same symptoms (Bell et al., 2014). Additionally, findings from a nationally representative probabilistic survey of Black adults indicated that 19% of respondents reported Black individuals reported frequent discrimination within the healthcare setting, and 22% of respondents reported avoiding healthcare due to concern for racial discrimination (Discrimination in America, 2017). Overall, the individual and systematic discrimination broadly experienced by the Black community pervades their experience of mental healthcare by affecting both access to and quality of care.

Given the experiences of racial minority stress experienced by the Black community and gender minority stress experienced by the TGD community—as well as their associated mental health disparities—it is essential to explore the unique intersectional stressors and associated outcomes experienced by individuals who hold both Black and TGD identities. However, while there is a growing body of literature on the intersectional experiences among Black individuals in the United States (e.g., Coles & Pasek, 2020; Jones & Day, 2018), there remains limited understanding of the intersectional experiences specific to Black TGD individuals, particularly as they pertain to mental health disparities. Most studies categorize Black TGD individuals by either racial or gender identity, rather than acknowledging the intersection. The current section outlines available findings regarding the minority stress and mental health disparities experienced by the Black TGD community, including within a college population. Additionally, given that Black TGD individuals vary in their gender identity, (e.g., 35% BT AFAB, 30% BT AMAB, 34% NBGQ; James et al., 2016), findings specific to TGD subgroups within the Black community are also discussed.

Mental Health Disparities. Available findings indicate that Black TGD individuals experience elevated rates of mental health concerns compared to their Black cisgender counterparts; however, findings comparing rates of mental health concerns of Black TGD individuals to White TGD counterparts are somewhat mixed. Lett et al. (2020) completed a secondary analysis of data from the 2018/2019 Behavioral Risk Factor Surveillance System, examining mental health outcomes of Black TGD individuals compared to White TGD and Black cisgender counterparts. The study sample represented one of the largest probability samples of the US TGD population, including a large sample of TGD Black (*N* = 427), TGD White (*N* = 2,724), and cisgender Black (*N* = 74, 295) individuals from 38 different US states and territories. Findings were mixed in that compared to TGD White participants, TGD Black participants reported lower rates of alcohol consumption, higher endorsements of fair or poor health, and did not differ significantly in their reports of depressive disorders and severe mental distress in the last 30 days (Lett et al., 2020). However, relative to cisgender Black participants, TGD Black participants endorsed depressive disorders, fair or poor health, severe mental distress in the last 30 days, activity-limited days in the past 30 days, and total days being mentally and physically unhealthy in the past 30 days at significantly higher rates (Lett et al., 2020).

Similarly mixed findings were observed in a study of the differences in mental health outcomes among White and Black TGD veterans (*n* = 5,000) (Brown & Jones, 2014). Findings indicated that Black TGD veterans were more likely to be diagnosed with alcohol abuse and serious mental illness but less likely to be diagnosed with depression, compared to White TGD veterans (Brown & Jones, 2014). Analyses did not assess outcomes of Black TGD veterans compared to Black cisgender veterans. Additionally, findings of the USTS (James et al., 2016) indicated that 41% of Black TGD individuals reported experiencing serious psychological distress in the 30 days prior to the survey, more than eight times the rate of the general US population (5%) at the time the study was conducted and almost seven times that of the general Black US population (6%) (CDC, 2016). Further, findings from two large-scale studies indicated that approximately half of Black TGD individuals reported at least one lifetime suicide attempt, which is higher than the rate of the overall TGD population (Grant et al., 2011; James et al., 2016). Together, these findings further highlight that while Black TGD individuals clearly experience elevated mental health concerns compared to the general US population and the

Black cisgender population, there is variability in comparative rates of mental health concerns to the White TGD community. Thus, further research is warranted to clarify the extent to which intersectional racial and TGD identities inform the mental health concerns experienced by TGD individuals. Additionally, no research to date has examined rates of mental healthcare utilization specifically among the Black TGD community, so examination is warranted to further clarify the extent of mental health disparities experienced by this vulnerable population.

There is also a dearth of information regarding the between-group differences of mental health outcomes among BT and NBGQ Black TGD individuals. A secondary analysis of the 2016 Behavioral Risk Factor Surveillance System data (n = 1,117 TGD participants) reflected between group differences among NBGQ and BT individuals, including significant effects regarding race (Guy et al., 2020). Findings specific to Black participants (n = 45) indicated that Black BT men reported significantly more poor mental health days compared to Black NBGQ individuals (Guy et al., 2020). However, between groups differences in alcohol consumption among racial and ethnic minority NBGQ and BT individuals were not observed (Guy et al., 2020). This is the only study to date that examined the intersection of gender and racial identities among NBGQ and BT Black individuals and their associations with mental health outcomes, and no studies have examined the between-groups differences in rates of mental healthcare utilization among Black BT and NBGQ individuals. Thus, further research is warranted to elucidate the extent to which specific TGD subpopulations within the Black community exhibit differential rates of mental health concerns and mental healthcare utilization, including in a larger nationally representative college sample.

Minority Stressors. Black TGD people experience elevated rates of minority stressors compared to their White counterparts and the broad TGD population (Grant et al., 2011; Saffrin, 2011). For example, national survey data indicated that Black TGD individuals experience high rates of unemployment (26%) and lifetime homelessness (41%), as well as low average income levels (less than $10,000) (Grant et al., 2011). These findings are generally consistent with those of the USTS (James et al., 2016), which indicated comparable unemployment rates among Black TGD individuals (20%) compared to 12% in the TGD White sample and also indicated that 48% of Black TGD respondents reported living in poverty (James et al., 2016). Further, findings indicated that Black respondents were more likely than the overall USTS sample to experience verbal harassment (44%), lifetime sexual assault (53%), and intimate partner violence (56%) as well as discomfort seeking help from the police (67%) (James et al., 2016). Thus, findings suggest that Black TGD individuals experience elevated rates of minority stressors that exceed those experienced by the broad TGD population and White TGD counterparts.

Minority stressors experienced by Black TGD individuals also extend to their mental healthcare experiences. Survey data indicated that Black TGD individuals experience various barriers to healthcare utilization, including refusal of care due to bias, lower rates of health insurance coverage compared to the broad TGD and general US populations, and denial of insurance coverage due to TGD identity (Grant et al., 2011; James et al., 2016). Additionally, 34% of Black TGD respondents of the National Transgender Discrimination Survey reported postponing appointments due to fear of discrimination (Grant et al., 2011). The experience of elevated stressors by Black TGD individuals is further illustrated by an intersectional study examining TGD racial and ethnic minority health experiences, which reflected greater barriers among Black TGD individuals compared to their Black cisgender and White TGD counterparts

(Kattari et al., 2020). Relatedly, findings from a secondary analysis of data from the 2018/2019 Behavioral Risk Factor Surveillance System, which includes a large probabilistic sample of TGD adults, indicated that TGD Black individuals endorsed financial barriers to healthcare at a significantly higher rate than TGD White counterparts and also endorsed appointments with a regular provider at significantly lower rates than both cisgender Black and TGD White counterparts (Lett et al., 2020). While not specific to mental healthcare, these findings reflect the general barriers to healthcare that TGD Black individuals experience and the extent to which those barriers might differ from TGD White counterparts. Notably, the authors did not delineate between gender groups, thus limiting information regarding the role of specific TGD identities in the barriers to healthcare. Overall, it is evident that Black TGD individuals experience elevated minority stressors, including within the healthcare domain.

The intersectional stressors experienced by Black TGD individuals also vary between BT and NBGQ individuals, thus highlighting the unique experiences of Black TGD gender groups. According to findings of the USTS, NBGQ individuals and BT AMAB individuals report the same rate of verbal harassment (34%), which is greater than that reported by BT AFAB individuals (18%) (James et al., 2016). However, BT AMAB individuals experience physical attacks due to TGD identity at a higher rate (14%) than both NBGQ individuals (8%) and BT AFAB individuals (7%) (James et al., 2016). While Black BT AMAB individuals report experiencing physical attacks at a higher rate than other TGD gender groups, NBGQ individuals report experiencing sexual assault in their lifetime at a higher rate (60%) than both BT AMAB (49%) and BT AFAB individuals (51%) (James et al., 2016). There is also notable variability within the rates of sexual assault reported within the Black NBGQ community, as NBGQ AFAB report sexual assault at a higher rate (65%) than NBGQ AMAB (44%). Thus, it appears that experiences of sexual assault by Black NBGQ individuals varies based on sex assigned at birth. Lastly, there is only modest variability between BT AFAB and BT AMAB individuals in their reported experiences of interpersonal violence (62% and 58%, respectively), whereas NBGQ individuals report experiencing interpersonal violence at a lower rate than BT individuals (49%) (James et al., 2016). Together, these findings indicate all TGD groups within the Black community, and particularly BT AMAB and NBGQ individuals, report high rates of minority stressors, and the elevations among groups differ by the type of stressor. There is also evidence to indicate a possible role of sex assigned at birth in between-group differences. Further research is warranted regarding differences in minority stressors experienced by NBGQ and BT Black individuals, particularly within a college population.

Latinx TGD Population. The Latinx community is composed of individuals of Latin American cultural or ethnic identity, including individuals from various nations and of various races. Latinx individuals encounter various minority stressors within American society. For example, according to the Pew Research Center (2018), more than one third of Latinx Americans report experiencing at least one form of discrimination (e.g., being called offensive names, being told to go back to their home country, being criticized for speaking Spanish, experiencing discrimination or unfair treatment due to Latinx identity) in the last year. First and second generation Latinx individuals reported experiencing greater discrimination than those who were at least third generation individuals (Pew Research Center, 2018). Additional findings indicate that discrimination permeates various domains of life, as approximately one third of Latinx Americans reported encountering discrimination in the employment and housing domains (Discrimination in America, 2017). Findings also indicate that Latinx college students experience discrimination related to Latinx identity (e.g., Castillo, 2009). The experiences of discrimination among Latinx individuals—including Latinx college students—leave them vulnerable to the development of mental health concerns (Araújo & Borrell 2006; Arbona & Jimenez, 2014; Corona et al., 2017; Lee & Ahn 2012).

While Latinx individuals are at lower risk for most psychiatric disorders compared to non-Latinx White individuals (SAMHSA, 2019), they experience mental health disparities in the form of reduced mental healthcare utilization. For example, among Latinx individuals with serious mental illness, only approximately half received treatment (SAMHSA, 2019). Further, approximately 1 in 10 Latinx individuals with a mental disorder use mental health services from a general health provider, while just 1 in 20 receive mental health services from a mental health specialist (US Office of the Surgeon General, 2001). These differences in utilization are likely related to the various barriers that Latinx individuals encounter in accessing mental healthcare, which include lack of/inadequate insurance, lack of culturally tailored knowledge, language barriers, cultural stigma, and difficulties identifying symptoms of mental illness (American Psychiatric Association, 2017). Additionally, reduced rates are likely related to discrimination in the healthcare domain, as findings of a nationally representative probabilistic survey (n = 803 Latinx individuals) indicate that approximately 20 percent of Latinx individuals reported discrimination in clinical encounter, and 17 percent stated that they avoided healthcare encounters due to anticipated discrimination (Findling et al., 2019). Thus, it is evident that Latinx individuals experience mental health disparities particularly in regard to mental healthcare utilization, and there is evidence to suggest the role of minority stress in perpetuating those disparities.

Mental health disparities are also observed in the Latinx college population, specifically. According to a large-scale nationally representative study of racial/ethnic differences in mental health among college students, Latinx college students are less likely than non-Latinx White college students to report mental health diagnoses (Chen et al., 2019). However, they were more likely to report feelings of hopelessness, impairment due to depressive symptoms, and suicidal ideation and attempts (Chen et al., 2019). Despite elevated rates of psychological distress compared to non-Latinx White college students, Latinx college students access mental health services at lower rates than their non-Latinx peers (Downs et al., 2012; Lipson et al., 2018). Thus, the mental health disparities observed in the broad Latinx population are paralleled within the college population.

Given the minority stressors experienced due to Latinx identity, as well as those experienced among TGD individuals, it is essential to examine the unique intersectional experiences of stressors among Latinx TGD individuals, including within a college population. Additionally, given that Latinx TGD individuals vary in their gender identity (e.g., 33% BT AFAB, 31% BT AMAB, 35% NBGQ; James et al., 2016), it is important to also examine the unique between-groups differences among TGD gender groups. The current section outlines available information regarding Latinx TGD minority stressors and mental health disparities. Further, differences between TGD subgroups are discussed, as well as findings specific to college populations.

Latinx TGD Mental Health Disparities. Research suggests that the Latinx TGD population exhibits more severe mental health disparities than their White TGD peers. Specifically, findings of the USTS (James et al., 2016) indicated that 45% of Latinx respondents endorsed experiencing serious psychological distress in the month prior to completing the survey, which is nine times higher than the rate of the US population and the rate among Latinx people in the US at the time the survey was distributed (CBHSQ, 2016). Further, 45% of respondents endorsed attempting suicide at some point in their lives, compared to 40% of the general USTS sample and 37% of the white USTS respondents, and 4.6% of the general US population (CBHSQ, 2016; James et al., 2016). Notably, Vance et al. (2021) did not observe similarly elevated rates of Latinx TGD mental health concerns in an adolescent sample, when compared to White TGD peers, though significantly higher elevations in suicidality and depressive symptoms were observed when compared to cisgender peers. While Vance et al. (2021) provided important preliminary data regarding experiences of Latinx TGD adolescents, a drawback is that outcomes of Latinx and Black TGD students were assessed together, without distinguishing between groups. Together, findings indicate that examination of the unique intersectional mental health experiences of Latinx TGD individuals is warranted, including within a college sample.

There is limited information regarding between gender group mental health differences among Latinx TGD individuals. Findings from a secondary analysis of the 2016 Behavioral Risk Factor Surveillance System (n = 47 Latinx TGD individuals) indicated that Latinx BT AMAB individuals reported significantly more poor mental health days compared to Latinx NBGQ individuals, whereas BT AFAB individuals did not differ significantly in reported poor mental health days, compared to both Latinx BT AMAB and Latinx NBGQ individuals. (Guy et al., 2020). While findings of Guy et al. (2020) provided preliminary information regarding mental health outcome differences between gender groups in the Latinx population, further information regarding differences in the prevalence of mental health concerns among Latinx TGD gender groups is warranted, including within a college population.

Latinx TGD Minority Stressors. Latinx TGD individuals encounter minority stress in various domains of life. Data from the US Transgender Discrimination Survey indicated that

28% of Latinx TGD individuals live in extreme poverty (e.g., household income of less than $10,000 per year), which is almost twice the rate for the broad TGD population (15%) and more than five times the rate of the general Latinx population (5%) (Grant et al., 2011). Additionally, 20% of Latinx respondents reported being unemployed, compared to the unemployment rate of 14% for the overall TGD sample and the general US unemployment rate of 7% at the time the survey was issued (Grant et al., 2011). Survey data also suggest that housing security is a concern, as Latinx individuals reported experiencing elevated rates of both housing discrimination and homelessness (Grant et al., 2011; James et al., 2016). Findings of the USTS (James et al., 2016) also indicated elevated rates of harassment and violence among Latinx TGD individuals, including sexual assault (48%), intimate partner violence (54%). Together, the heightened experience of minority stressors by the Latinx TGD population reflect the importance of examining the unique intersectional minority stress experiences by Latinx TGD individuals.

Research also suggests unique experiences of minority stress among Latinx TGD adolescents. Vance et al. (2021) found that Black and Latinx TGD adolescents reported higher rates of race-based, but not gender-based harassment, compared to White TGD peers and higher rates of race- and gender-based harassment compared to Black and Latinx cisgender peers. Black and Latinx TGD individuals also reported higher rates of victimization than both White TGD and cisgender Black and Latinx peers. Importantly, the respective increased odds of experiencing depressive symptoms or suicidality were significantly associated with Black and Latinx TGD adolescents' experiences of race-based harassment (2.4, 3.1), gender-based harassment (5.7, 6.8), sexuality-based harassment (7.3, 7.7), and victimization (1.3, 1.3). These findings highlight not just the elevated rate of certain type of minority stress by Latinx TGD individuals, but also the associations between minority stressors and heightened risk of developing mental health concerns. A notable limitation of the current study is its lack of differentiation between Black and Latinx TGD individuals in analyses, thus making it difficult to draw clear conclusions specific to the Latinx community; however, findings clearly indicate the role of intersectionality in TGD adolescents' experience of minority stress and mental health concerns, thus illustrating the need to explore minority stress and mental health disparities among other racial and ethnic minority TGD populations (e.g., college population).

The intersectional experiences of minority stress by Latinx TGD individuals also varies between BT and NBGQ individuals, thus highlighting the unique experiences among Latinx TGD gender groups. According to findings of the USTS, BT AMAB individuals and NBGQ individuals reported experiencing verbal harassment at comparable rates (27% and 26%, respectively), which were higher than that of BT AFAB individuals (17%) (James et al., 2016). Just as with Black TGD respondents, Latinx NBGQ individuals reported higher lifetime rates of sexual assault (53%) compared to Latinx BT AMAB (42%) and Latinx BT AFAB (48%) individuals (James et al., 2016). There is also notable variability within the rates of sexual assault reported by the Latinx NBGQ community, as NBGQ AFAB report sexual assault at a higher rate (55%) than NBGQ AMAB (42%). Thus, it appears that experiences of sexual assault by Latinx NBGQ individuals varies based on sex assigned at birth. Lastly, there is only modest variability among Latinx BT AFAB individuals, BT AMAB individuals, and NBGQ individuals in their reported lifetime rates of sexual assault (58%, 54%, and 51%, respectively) (James et al., 2016). Together, findings suggest that all Latinx TGD gender groups report elevated minority stressors, and minority stress is particularly prominent among BT AMAB and NBGQ individuals. Further research is warranted to continue to discern between-groups differences in minority stress among Latinx TGD gender groups, particularly within a college population.

American Indian/Alaska Native (AIAN) TGD Population. According to the US Census Bureau (2019), there are approximately 6.9 million AIAN individuals in the United States, and approximately 4.2 million solely reported that race. Findings of a large-scale nationally representative study of discrimination among racial minorities in the United States (*n* = 342 AIAN adults; Discrimination in America, 2017) indicated that the AIAN population experiences various forms of discrimination within the United States. More than a third of all respondents stated that they experienced racial/ethnic slurs (35%), offensive comments regarding their race/ethnicity (39%), violence (38%), and threats or non-sexual harassment (34%). Almost a fourth of AIAN participants reported experiences of sexual assault (25%). Together, these findings highlight the extent to which AIAN individuals experience various types of discrimination and violence within the United States.

The AIAN population also experiences significant mental health disparities. Findings indicated that suicide was the second leading cause of death for AIAN individuals between the ages of 10 and 34 (SAMHSA, 2014). Further, 11.4% of AIAN individuals ages 18-25 reported serious suicidal ideation, and 1.8% reported past suicide attempts (SAMHSA, 2019). Additionally, 10.8% of AIAN adults had a substance use disorder in 2018, and 22.1% reported having a psychiatric illness. Co-occurring mental health and substance use issues are also fairly common, as 5.3% of AIAN adults reported having co-occurring substance use and mental health diagnoses (SAMHSA, 2019). Mental healthcare utilization rates are also low among AIAN individuals, likely due to various factors (e.g., stigmatization of mental health, lack of culturally trained providers, minimal access to care; SAMHSA, 2016). The elevated rates of mental health concerns and reduced mental healthcare utilization among AIAN individuals highlights the importance of examining mental health outcomes from an intersectional perspective.

The understanding of gender within the AIAN population differs from that of the general US population in that some tribes' cultures are not based in a binary system, but rather, includes gender identities beyond men and women (e.g., two-spirit; Indian Health Service, 2021) that are shown respect in the form of unique leadership, social, and ceremonial roles. Given the unique role of culture among many AIAN individuals' experiences and views of gender, it is essential to explore outcomes associated with the AIAN TGD population unitarily. Additionally, given that AIAN TGD individuals vary in their gender identity (e.g., 35% BT AFAB, 35% BT AMAB, 28% NBGQ; James et al., 2016), it is also important to examine the unique experiences among AIAN TGD gender groups.

AIAN TGD Mental Health Disparities. The AIAN TGD population experiences elevated mental health concerns compared to the broad TGD community, US population, and AIAN population. Specifically, findings of the USTS indicated that 57% of AIAN TGD individuals have at least one lifetime suicide attempt, compared to 40% of the overall TGD sample (James et al., 2016). Further, 46% of the AIAN population endorsed serious psychological distress in the 30 days prior to responding to the survey, compared to 39% of the broad USTS sample, 5% of the US population, and 7% of the AIAN national population (CBHSQ, 2016; James et al., 2016). Together, these findings reflect the extent to which AIAN TGD individuals experience elevated mental health concerns compared to broad TGD and AIAN communities.

Regarding AIAN TGD healthcare experiences, findings of the USTS indicated that AIAN TGD individuals (50%) were more likely than the overall TGD sample (33%) to report having at least one negative experience (e.g., refused treatment, verbally harassed, assaulted) with a healthcare provider related to TGD identity (James et al., 2016). Further, findings indicated that 37% of AIAN TGD respondents to the USTS did not seek healthcare when needed during a one-year period due to fear of TGD-related mistreatment, compared to 23% of the overall USTS sample (James et al., 2016). While not specific to mental healthcare, these findings reflect the negative experiences and anticipated negative experiences of AIAN TGD individuals in the healthcare domain and indicate elevated levels of negative experiences compared to the overall TGD population.

Finally, AIAN TGD between-groups differences among BT and NBGQ individuals were observed in the mental health and healthcare domains. For example, AIAN BT AFAB individuals reported at least one past suicide attempt at a higher rate (68%) than both BT AMAB (52%) and NBGQ individuals (52%). Additionally, BT AFAB individuals reported maltreatment by healthcare providers at a higher rate (63%) than both BT AMAB (49%) and NBGQ individuals (31%) (James et al., 2016). These observed between-groups differences among AIAN TGD gender groups highlight the importance of assess mental health disparities among the AIAN TGD population by examining specific gender groups.

AIAN TGD Minority Stress. AIAN individuals have been found to experience elevated rates of minority stress, relative to White TGD and cisgender AIAN peers. For example, 23% of AIAN TGD individuals have been found to live in extreme poverty (e.g., household income less than $10,000/year), which is higher than the poverty rate of the broad TGD population (15%), broad AIAN population (8%), and the general US population (Grant et al., 2011). AIAN individuals also experience minority stress in the employment (e.g., 18% AIAN unemployment rate), housing (e.g., 39% report being refused home due to bias), and healthcare (e.g., 34% report being refused health care due to bias) domains (Grant et al. 2011). Together, these findings highlight the importance of examining the unique minority stress experiences of TGD individuals through the lens of intersectional racial/ethnic and gender identities.

Intersectional stressors experienced by AIAN TGD individuals also vary between AIAN BT and NBGQ individuals, thus highlighting the unique experiences between AIAN TGD gender groups in various domains. Specifically, findings of the USTS indicated between group differences among AIAN NBGQ and BT individuals in the employment domain. AIAN BT AMAB individuals reported the highest rate of unemployment (35%) compared to AIAN BT men (7%) and NBGQ individuals (19%) (James et al., 2016). However, NBGQ AFAB individuals reported a notably higher unemployment rate (38%) compared to NBGQ AMAB (2%) and which exceeded that of AIAN BT AMAB individuals (James et al., 2016). Additionally, BT women reported losing a job due to TGD identity at a higher rate (27%) than BT men (23%) and NBGQ individuals (13%) within the AIAN TGD identity (James et al., 2016).

Additionally, AIAN BT AFAB individuals reported higher lifetime rates of sexual assault (71%) compared to AIAN BT AMAB (59%) and AIAN NBGQ individuals (67%) (James et al., 2016). Further, just as with other racial and ethnic minority groups, there was also notable variability observed within the rates of sexual assault reported by the AIAN NBGQ community, as NBGQ AFAB report sexual assault at a higher rate (74%) than NBGQ AMAB (54%). Thus, it appears that experiences of sexual assault by AIAN NBGQ individuals varies based on sex assigned at birth (James et al., 2016). Together, these findings suggest that while all TGD gender groups experience elevated rates of minority stress, but rates differ between gender groups and by type of stressor (James et al., 2016). Further research is warranted regarding the unique experiences of minority stress among AIAN TGD gender groups, particularly among a college population.

Asian and Native Hawaiian/Pacific Islander (ANHPI) TGD Population. ANHPI TGD individuals vary in their gender identity, with 25% identifying as BT men, 29% as BT women, almost half (44%) as NBGQ (James et al., 2016). While ANHPI TGD individuals endorsed NBGQ identity at a relatively high rate compared to other racial and ethnic groups, only 45% of NBGQ ANHPI respondents reported living full time in a gender other than that assigned at birth, compared to 75% of ANHPI BT men and BT women (James et al., 2016). The rates of different gender identity endorsements of Asian TGD individuals compared to NHPI TGD individuals also differed greatly. Specifically, 46% of Asian TGD individuals identified as NBGQ, compared to 23% of NHPI TGD individuals. The groups also differed in their rates of BT AMAB individuals, with 28% of Asian TGD individuals identifying as a BT woman, compared to 46% of NHPI respondents (James et al., 2016). Asian and NHPI TGD individuals endorsed BT AFAB identities at comparable rates (25% and 28%, respectively).

ANHPI TGD Mental Health Disparities. The intersectional examination of ANHPI TGD mental health is limited. This is likely related to various factors, including the ANHPI cultural barriers to discussion of mental health and sexual and gender minorities (e.g., Leong et al., 2011; Szymanski & Sung, 2013) as well as the lack of disaggregation of TGD individuals from examination of ANHPI LGBTQ+ mental health (e.g., Trevor Project, 2020). However, the rates of minority stressors experienced by the ANHPI community (e.g., Grant et al., 2011; James et al., 2016) and the associations of minority stressors with poorer mental health among TGD individuals more broadly (e.g., Hendricks & Testa, 2012) highlight the need to examine the unique mental health outcomes of ANHPI TGD individuals.

Data from the USTS indicated that 39% of ANHPI individuals reported serious psychological distress (James et al., 2016), and findings of the US Transgender Discrimination

Survey indicated that more than half (56%) of ANHPI respondents had attempted suicide at some point in their lives (Grant et al., 2011). A secondary analysis of USTS data yielded findings regarding the mental health outcomes of US Asian American TGD adults and their associations with various minority stressors (e.g., partner abuse, bathroom-related abuse) (de Vries, 2015). These findings were consistent with the premise of minority stress theory in that they indicated that presence of any type of abuse or violence was associated with higher rates of suicidal ideation, suicide attempts, and serious psychological distress (Becerra et al., 2021). Specifically, Asian American TGD individuals who had experienced abuse or violence were 2.67 times more likely to have suicidal thoughts, 2.83 times more likely to report a past suicide attempt, and 1.67 times more likely to report serious psychological distress. The findings also indicated the associations of specific forms of abuse with mental health outcomes, as partner abuse/violence was associated with a 2.47 times greater likelihood of suicidal thoughts and a 2.17 times greater likelihood of reported suicide attempt, and 2.72 times greater likelihood of serious psychological distress (Becerra et al., 2021). Bathroom-related harassment/abuse was also found to be associated with an elevated risk of suicide attempts (Becerra et al., 2021). Despite de Vries (2015) and Becerra et al. (2021) being limited by their basis upon cross-sectional data, as opposed to longitudinal data which would allow for causal analysis, the associations still reflect a need to further assess the mental health outcomes of Asian American TGD individuals, particularly as they relate to experiences of distal stressors. Additionally, given that Native Hawaiian/Pacific Islanders were excluded from analyses, inclusion of this racial and ethnic group is warranted in future studies.

Just as there is limited available data on ANHPI TGD mental health outcomes, there is also limited data available on ANHPI TGD mental healthcare utilization. Findings of the Asian

American Quality of Life Survey (Jang et al., 2019) noted a discrepancy in the mental healthcare utilization rates relative to the rates of psychological distress among the Asian TGD population, as 44% endorsed psychological distress while only 23% reported utilizing mental healthcare services. These findings are consistent with the findings of mental healthcare utilization among the broader Asian US community, which utilizes mental healthcare services at approximately half the rate of the general US population (Tung, 2011). Findings of a small sample (*n* = 49) of Asian TGD individuals in New Zealand highlight some of the barriers which might contribute to low rates of mental healthcare utilization in Asian TGD individuals, such as migrant status, language barriers, influence of Asian culture on experiences of mental health, and rejection by family and Asian community members (K. H. Tan, 2021). Further, survey data indicated that 26% of ANHPI TGD individuals reported at least one negative experience with a healthcare provider due to TGD identity (James et al., 2016), and 18% have reported being refused medical care due to bias (Grant et al., 2011); these data suggest that discriminatory experiences serve as an additional barrier to healthcare utilization by ANHPI TGD individuals (Grant et al., 2011; James et al., 2016). The role of anticipated discrimination in reduced ANHPI TGD individuals reported postponing care when sick or injured due to fear of discrimination (James et al., 2016); while this finding is not specific to mental healthcare, it is possible that a similar anticipation of discrimination among ANHPI individuals exists regarding mental healthcare professionals. Thus, it is evident that mental health disparities among the ANHPI community are observed in both elevated rates of mental health concerns as well as reduced mental healthcare utilization rates. Further research is warranted regarding ANHPI mental health disparities, particularly in a college population.

Together, findings highlight the mental health disparities experienced by ANHPI TGD individuals compared to the broad ANHPI population and the overall TGD population, as well as their relation to minority stressors. Further research is warranted regarding ANHPI TGD minority stressors, particularly within a college population. Additionally, further research regarding the mental health disparities among ANHPI NBGQ and BT individuals is warranted.

ANHPI TGD Minority Stress. Findings of two large survey studies of TGD individuals highlight the experiences of distal stressors among ANHPI TGD distal stressors (Grant et al., 2011; James et al., 2016). These include elevated unemployment rates (10%) and poverty (32%) compared to that of the US population at the time of the survey (James et al., 2016; Bureau of Labor Statistics, 2015; Proctor et al., 2016), as well as elevated rates of lifetime homelessness (21%). Further, 41% of ANHPI TGD individuals endorsed experiencing sexual assault at some point in life, and 58% reported discomfort seeking help from the police (James et al., 2016). These rates were even more pronounced for multiracial ANHPI TGD individuals, as they experienced higher rates of unemployment (22%), poverty (43%), lifetime homelessness (34%), and lifetime sexual assault (52%) than their monoracial ANHPI TGD counterparts. These findings highlight the elevated rate at which ANHPI individuals experience minority stresssors.

Minority stress experienced by ANHPI TGD individuals also varied between ANHPI BT and NBGQ individuals, thus highlighting the unique experiences between ANHPI TGD gender groups in various domains. For example, ANHPI BT women report the highest rates of job loss due to TGD identity (13%), compared to the rates of both BT men (9%) and NBGQ individuals (4%) (James et al., 2016). Additionally, just as with other TGD racial/ethnic groups, ANHPI NBGQ individuals reported higher lifetime rates of sexual assault (45%) compared to ANHPI BT AMAB individuals (36%) and ANHPI BT AFAB individuals (42%) (James et al., 2016).

Further, just as with other racial and ethnic minority groups, there is also notable variability within the rates of sexual assault reported by the ANHPI NBGQ community, as NBGQ AFAB report sexual assault at a higher rate (47%) than NBGQ AMAB (37%). Thus, it appears that experiences of sexual assault by ANHPI NBGQ individuals varies based on sex assigned at birth. Finally, ANHPI TGD between-groups differences among BT and NBGQ individuals permeate the healthcare domain, as BT men and BT women report mistreatment by healthcare professionals at comparable rates (35% and 31%, respectively), and at higher rates than NBGQ individuals (18%) (James et al., 2016). The observed between-groups differences among ANHPI TGD gender groups highlights the importance of delineating gender groups in explorations of ANHPI TGD minority stress.

Current Study

The aim of the current study is twofold. One aim is to examine the extent to which TGD gender groups (e.g., NBGQ, BT) and intersectional racial and gender groups (e.g., Black NBGQ) differ in their rates of minority stress, mental health concerns, and mental healthcare utilization. Research questions related to this aim are as follows:

1. Do BT and NBGQ populations differ significantly in experiences of minority stressors?

   H1: *It is hypothesized that BT and NBGQ populations differ significantly differ significantly in their experience of minority stressors.*

2. Do intersectional populations (TGD subgroup x Race/ethnicity) differ significantly in their experiences of minority stressors?

   H2: It is hypothesized that intersectional populations (TGD subgroup x Race/ethnicity) differ significantly in their experiences of minority stressors.

3. Do BT and NBGQ populations differ significantly in experiences of various mental health outcomes?

   H3: It is hypothesized that BT and NBGQ populations differ significantly in experiences of various mental health outcomes.

4. Do intersectional populations (TGD subgroup x Race/ethnicity) differ significantly in their experiences of mental health outcomes?

   H4: It is hypothesized that intersectional populations (TGD subgroup x Race/ethnicity) differ significantly in their experiences of mental health outcomes.

5. Do BT and NBGQ individuals (who meet clinical threshold of mental health concerns) differ significantly in their utilization of mental healthcare services?

   H5: It is hypothesized that BT and NBGQ individuals differ significantly in their utilization of mental healthcare services and willingness to utilize mental health services.

6. Do intersectional racial and gender groups of individuals who meet clinical threshold of mental health concerns differ significantly in their utilization of mental health services?

   H6: It is hypothesized that intersectional racial and gender groups of individuals differ significantly in their utilization of mental health services and willingness to utilize mental health services.

An additional aim of the current study is to explore the relationships among minority stress and mental health disparities within a TGD college population, including the extent to which TGD subgroup identity (e.g., NBGQ, BT) and intersectional gender and racial/ethnic identities (e.g., Black NBGQ) moderate this relationship. Specific research questions are as follows:

7. Is the relationship between minority stressors and mental health outcomes moderated by TGD subgroup identity (e.g., NBGQ, BT)?

H7: It is hypothesized that the relationship between minority stressors and mental health outcomes is moderated by TGD subgroup identity (e.g., NBGQ, BT).

8. Is the relationship between minority stressors and mental health outcomes moderated by intersectional identity (e.g., TGD subgroup x Race/ethnicity)?

   H8: It is hypothesized that the relationship between minority stressors and mental health outcomes is moderated by intersectional identity (e.g., TGD subgroup x Race/ethnicity).

9. Is the relationship between minority stressors and mental healthcare utilization moderated by TGD subgroup identity (e.g., NBGQ, BT)?

   H9: It is hypothesized that the relationships between minority stressors and both mental healthcare utilization and willingness to utilize mental healthcare is moderated by TGD subgroup identity (e.g., NBGQ, BT).

10. Is the relationship between minority stressors and mental healthcare utilization moderated intersectional identity (e.g., TGD subgroup x Race/ethnicity)?

    H10: It is hypothesized that the relationships between minority stressors and both mental healthcare utilization and willingness to utilize mental healthcare is moderated intersectional identity (e.g., TGD subgroup x Race/ethnicity).

CHAPTER THREE

METHOD

Procedures and Participants

The current study utilized secondary data from the American College Health Association's (ACHA) National College Health Assessment III (NCHA-III), a survey of college and university students' self-reported health and lifestyle habits, behaviors, and perceptions. The ACHA administers the NCHA at participating colleges and universities each Fall and Spring semester (American College Health Association, 2019), and the third iteration, NCHA-III, has been administered in Fall and Spring semesters each academic year, beginning in the Fall 2019 semester. The current researchers were granted permission to utilize data from the Spring 2021 data collection period by submitting a proposal to the ACHA-NCHA program office. Additionally, the authors submitted a proposal for this retrospective secondary data analysis to the Radford University Institutional Review Board (IRB), which approved the study. Students enrolled at 133 self-selected colleges and universities in the United States participated in the Spring 2020 NCHA-III data collection (American College Health Association, 2019). These 133 institutions determined whether to utilize random sampling or survey all of their students to obtain a sample of student data. Informed consent was provided to all students prior to completion of the questionnaire. A total of 96,489 students were included in the Spring 2021 NCHA-III data collection.

For the purposes of the current study, participants were excluded from analyses if they did not respond to the sex assigned at birth, transgender, or gender identity items (N = 724). Due to the inclusion of race and ethnicity in analyses, participants who did not provide this data were also excluded (N = 2024). The final sample size for analyses was N = 94,465.

Instruments

Demographic Factors

Participants provided demographic information, which included gender identity and race/ethnicity.

Gender Identity. The NCHA-III included three items used to form the gender identity groups (e.g. cisgender AMAB, cisgender AFAB, NBGQ AFAB, NBGQ AMAB, BT AFAB, BT AMAB) used in this study (American College Health Association, 2019). Regarding sex assigned at birth, respondents were asked, "what sex were you assigned at birth?" Participants could select only one of three options: female, male, or intersex. In the current study, AFAB is used to denote those who endorsed being assigned female at birth, while AMAB is used to denote those who reported being assigned male at birth; those who reported their sex assigned at birth as "intersex" were excluded from the current study. Regarding TGD identity, participants were asked, "Do you identify as transgender?" The participants provided a response of yes or no. The question assessing gender identity was, "Which term do you use to describe your gender identity?" Participants could select one of ten responses: 1) woman or female, 2) man or male, 3) trans woman, 4) trans man, 5) genderqueer, 6) agender, 7) genderfluid, 8) intersex, 9) non-binary, or 10) my identity is not listed above Participants were asked to provide a free response description of their gender identity. Participants who endorsed a gender identity consistent with their sex assigned at birth formed the cisgender group (*N* = 89338). Participants who responded "yes" to the item regarding TGD identity and endorsed a gender identity of either "man," "woman," "trans man" or "trans woman" formed the binary transgender group (*N* = 657). Finally, participants who reported a gender identity inconsistent with their sex assigned at birth and did not identify as a man, woman, trans man, or trans woman formed the NBGQ group, excluding individuals who reported their gender identity as "intersex" (N = 2642). Of note, those that endorsed "my identity is not listed above" provided their gender identity in free response format and were included in the NBGQ group (e.g., polygender, gender-expansive), though participants were excluded if their self-reported gender identity did not appear to fall within the broad NBGQ identity category. The PFLAG National Glossary of Terms (PFLAG, 2021) served as a reference for terms of additional gender identities outside of the gender binary.

Race and Ethnicity. Race and ethnicity were assessed by asking, "How do you usually describe yourself?" The participants were asked to select all response options that apply to them. Response options were: (a) American Indian or Native Alaskan, (b) Asian or Asian American, (c) Black or African American, (d) Hispanic or Latino/a/x, (e) Middle Eastern/North African or Arab origin, (f) Native Hawaiian or Other Pacific Islander Native, (g) White, (h) Biracial or Multiracial, or (i) My identity is not listed above. Participants who reported their identity was not listed were prompted to provide a free response answer regarding how they describe their racial/ethnic identity.

Minority Stress Measures

Several measures of minority stress are included in the current study. Consistent with the methodology of other studies (e.g., Lefevor et al., 2019), the current study utilizes proxies of minority stress, as the attribution of the stressors to a specific minority identity (e.g., TGD identity) is not assessed.

Discrimination and Violence. Experiences of various forms of stressors (e.g., bullying, cyberbullying, microaggressions, sexual harassment, discrimination) were assessed with five dichotomous yes/no response options. A total bullying score was identified by summing the cyberbullying and bullying scores, with scores ranging from 0 – 2. Microaggressions, sexual harassment, and discrimination were examined separately. Intimate partner violence (e.g., verbal, emotional, physical, sexual) was assessed for the previous 12 months via five items with yes/no response options. A total intimate violence score was summed, and scores ranged from 0 to 5. Threats, stalking, and physical and sexual violence outside of intimate relationships was assessed for the past 12 months via seven items with yes/no response options. A score indicating total violence outside of intimate relationships was calculated by summing all seven items, with scores ranging from 0 – 7.

Perceived Safety. Perceived safety on campus and in the surrounding community was assessed for both daytime and nighttime. This scale consists of 4 items on a 4-point Likert scale ranging from 1 (*not safe at all*) to 4 (*very same*)

Mental Health Measures

Substance Use. The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST; WHO ASSIST Working Group, 2002) was utilized to assess substance use (See Appendix A). The ASSIST is a brief, structured survey that includes eight questions assessing the frequency of substance use, consequences of use, and ability to stop or reduce use. Participants responded regarding their use of tobacco products, alcoholic beverages, cannabis, cocaine, amphetamine-type stimulants, inhalants, sedatives and sleeping pills, hallucinogens, and opioids. Results were scored to determine both a summary score of lifetime substance use and a Substance-Specific Involvement (SSI) score used to indicate overall lifetime substance use and substance-specific use, respectively. The measure has previously demonstrated strong internal consistency (α = 0.77 – 0.94 across Specific Substance Involvement categories; α = 0.82 for all substance lifetime use; WHO ASSIST Working Group, 2002) and validity (WHO ASSIST Working Group, 2002). See Tables 2-4 for percentages of participants from each gender and intersectional race x gender group who endorsed any use during the past 3 months for each of the substances included in the ASSIST measure.

Psychological Wellbeing. The Flourishing Scale (Diener et al., 2010) was utilized to assess participants' self-perceived success in various domains (e.g., relationships, self-esteem, purpose, optimism) and yielded a single psychological wellbeing score (See Appendix B). This scale consists of eight items on a seven-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Total scores range from 8 to 56, and higher scores indicate greater psychological wellbeing. The measure has demonstrated strong internal consistency ($\alpha = .87$) and criterion validity (Diener et al., 2010).

Suicidality. The Suicide Behaviors Questionnaire – Revised (SBQ-R; Osman et al., 2001) was utilized to assess suicidal thoughts and behaviors (See Appendix C). It is a four-item self-report measure of suicidality. The first item assessed lifetime suicidal thoughts and/or attempts on a four-point Likert scale ranging from 1 (*never*) to 5 (*I have attempted to kill myself and really hope to die*).The second item measured frequency of suicidal ideation in the past year on a 5-point Likert scale ranging from 1 (*never*) to 5 (*very often*). The third item assessed threat of a suicide attempt, rated on a 3-point Likert scale ranging from 1 (*no*) to 6(*yes, more than once, and really wanted to do it*). The fourth item assessed the likelihood of future suicidal behavior on a 7-point Likert scale ranging from 1 (*never*) to 6 (*very likely*). Global suicide risk scores of 3-6 represent no/low risk, and scores of 7 or greater represent at-risk levels of suicidality (Osman et al., 2001). The SBQ-R has demonstrated adequate internal consistency ($\alpha = .76$) and criterion validity in clinical and non-clinical undergraduate samples (Osman et al., 2001).

Non-Suicidal Self-Injury (NSSI). NSSI was assessed via one item ("Within the last 12 months, how often have you intentionally cut, burned, bruised, or otherwise injured yourself?") on a 5-point Likert scale ranging from 1 (*never*) to 5 (*daily or almost daily*).

Psychological Distress. The Kessler 6 (K6; Kessler et al., 2002) form was used to screen for psychological distress and serious mental illness (See Appendix D). The Kessler 6 consists of six items that assesses various mood symptoms (e.g., sadness, worthlessness, nervousness) on a 4-point Likert scale ranging from 1 (*none of the time*) to 5 (*all of the time*).The scores on the 6 items were summed to produce a total score, ranging from 0 to 24, with lower total scores (0 – 8) indicating low to no psychological distress, scores of 9-12 indicating moderate psychological distress, and higher total scores (19 – 30) indicating severe psychological distress. The K6 is widely used to indicate nonspecific psychological distress and has shown to correlate highly with mental illness (Kessler et al., 2003; Prochaska et al., 2012). It has demonstrated high internal consistency (α = .89; Kessler e atl., 2003) and criterion validity (Prochaska et al., 2012) when used to assess psychological distress among individuals with mild, moderate, and severe mental illness.

Mental Healthcare Utilization. Lifetime mental healthcare utilization was assessed via the question, "Have you ever received psychological or mental health services?" with a yes/no response option. Utilization of treatment in the past 12 months was assessed via the question, "Within in the last 12 months, have you received psychological or mental health services?" with a yes/no response option.

Data Analysis

Statistical analyses were conducted using IBM SPSS 27 (IBM Corp. 2020). Bivariate descriptive analyses were run on all mental health and minority stress variables. Analysis of

Variance (ANOVA) was utilized to examine between-groups differences in mental health and minority stress variables among gender groups (e.g., , cisgender AMAB, NBGQ AFAB) and intersectional groups (e.g., Black NBGQ) to test the following hypotheses:

H1: *It is hypothesized that BT and NBGQ populations differ significantly differ significantly in their experience of minority stressors.*

H2: It is hypothesized that intersectional populations (TGD subgroup x Race/ethnicity) differ significantly in their experiences of minority stressors.

H3: It is hypothesized that BT and NBGQ populations differ significantly in experiences of various mental health outcomes.

H4: It is hypothesized that intersectional populations (TGD subgroup x Race/ethnicity) differ significantly in their experiences of mental health outcomes.

H5: It is hypothesized that BT and NBGQ individuals differ significantly in their utilization of mental healthcare services.

H6: It is hypothesized that intersectional racial and gender groups of individuals differ significantly in their utilization of mental health services.

Multiple regression analyses were performed using the command PROCESS (Hayes, 2013) in SPSS to determine whether demographic variables (e.g. gender identity, intersectional gender x racial identity) act as moderators to the relationship between minority stress and both mental health outcomes and mental healthcare utilization (see Figure 1). This type of analysis allowed the researcher to determine if the demographic variables had an effect on the relationship between minority stress and both mental health outcomes and mental healthcare utilization, as well as what type of effect the variables had. Multiple regression analyses are commonly used in quantitative studies to determine the effects of moderating variables (Hayes, 2013; Hayes, Glynn, & Huge, 2012). Post-hoc analyses were completed following significant findings to further explore the role of the moderator in relationships between minority stress and both mental health outcomes and mental healthcare utilization. The completion of multiple regression and post-hoc analyses test the following hypotheses:

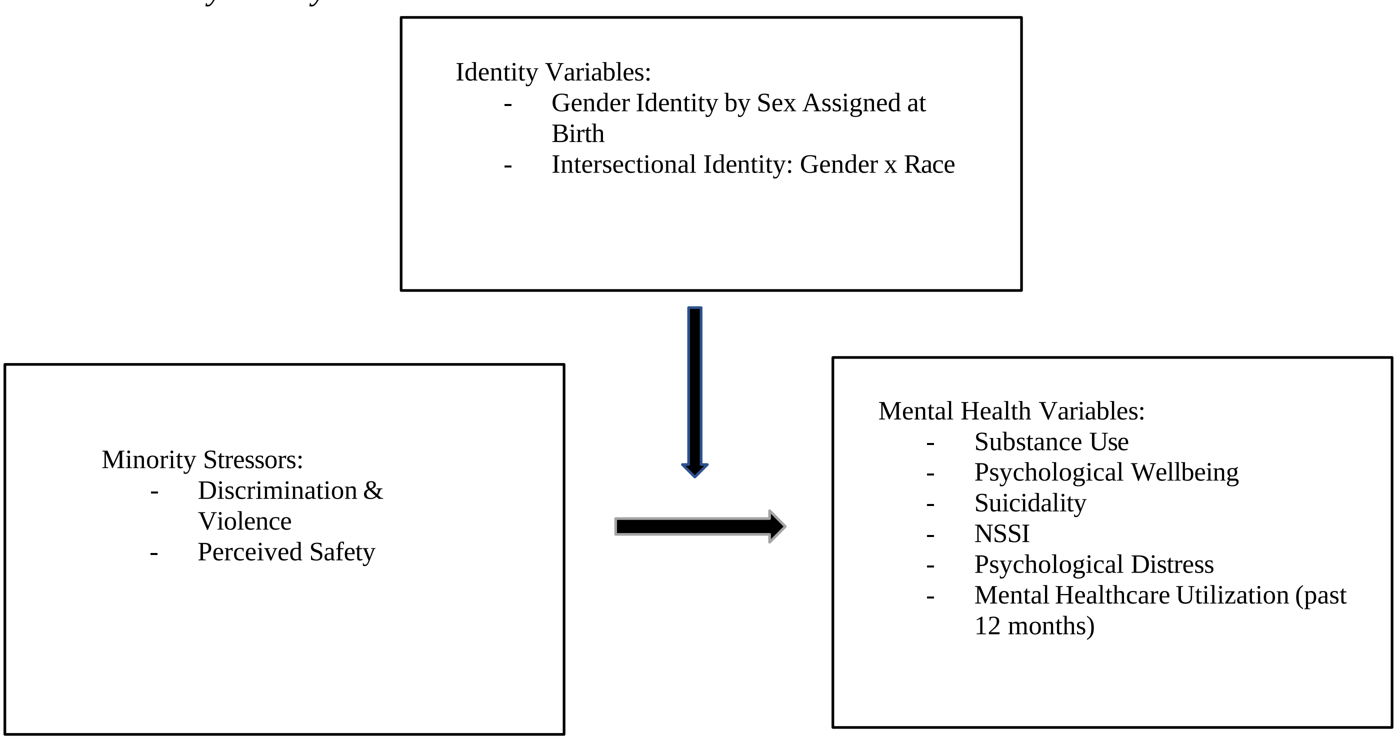
H7: It is hypothesized that the relationship between minority stressors and mental health outcomes is moderated by TGD subgroup identity (e.g., NBGQ, BT).

H8: It is hypothesized that the relationship between minority stressors and mental health outcomes is moderated by intersectional identity (e.g., TGD subgroup x Race/ethnicity).

H9: It is hypothesized that the relationship between minority stressors and mental healthcare utilization is moderated by TGD subgroup identity (e.g., NBGQ, BT).

H10: It is hypothesized that the relationship between minority stressors and mental healthcare utilization is moderated intersectional identity (e.g., TGD subgroup x Race/ethnicity).

Figure 1. *Model for test of moderation of relationship between minority stress and mental health variables by identity variables*



RESULTS

Means and standard deviations were calculated for all predictor and outcome variables (see Tables 5-9). The total sample size was *N* = 95070. The ages of participants ranged from 18 to 98 (*M* = 23.70, *SD* = 6.81). The racial/ethnic identities of participants varied as follows: American Indian/Alaskan Native (2%), Asian/Asian American (18.9%), Black/African American (4.7%), Latinx (18.7%), Middle Eastern/North African (2%), Native Hawaiian/Pacific Islander (0.8%), White (59.3%), Bi-/Multi-racial (5.6%), Another racial/ethnic identity (1.5%). For the purposes of the current study, participants were identified as either White (52.1%) or Racial/ethnic minority (REM; 47.9%). Participants were residing at universities in the Northeast (15.7%), Midwest (21.1%), South (8.6%), and West (54.6%).

The majority of participants were female (69.8%), cisgender (96.4%) and heterosexual (75.3%). For the purposes of the current study, participants are identified by gender identity, racial/ethnic identity, and sex assigned at birth. The distribution of participants by intersectional identities is as follows: White cisgender AFAB (35%), White cisgender AMAB (15.4%), White BT AFAB (0.1%), White BT AMAB (0.1%), White NBGQ AFAB (1.4%), White NBGQ AMAB (0.3%), REM CIS AFAB (32.3%), REM CIS AMAB (13.9%), REM BT AFAB (0.2%), REM BT AMAB (0.1%), REM NBGQ AFAB (1.0%), and REM NBGQ AMAB (0.2%). These intersectional identities are referred to as intersectional and race x gender identities in the current section.

The distribution of sexual identities was: asexual (0.9%), bisexual (11.0%), gay (2.4%), lesbian (1.9%), pansexual (2.2%), queer (2.1%), questioning (2.7%), heterosexual (75.3%), and another sexual identity (0.5%). The majority of participants were undergraduates (17.6% first year, 15.5% second year, 19.2% third year, 15.2% fourth year, 5.1% fifth year or more). Further, 14.4% were master's students, 10.7% were doctoral students, 0.3% were not degree seeking, and 1.2% were other-identified. The majority of participants had at least one parent who had post-secondary educational attainment (27.7% bachelor's degree, 21.6% master's degree, 11.8% doctoral/professional degree). Further, 6.0% did not have a parent finish high school, 13.5% had a parent who earned a high school diploma/GED, 8.3% had a parent who attended some college (no degree), and 8.9% had a parent who earned an associate degree/technical training, and 1.2% did not know their parents' highest level of educational attainment.

Perceived Safety

Simple moderation analyses were conducted using PROCESS macro (Hayes, 2012) to examine the extent to which perceived safety predicted various mental health (see Table 10) and substance use (see Table 11) variables. Gender and intersectional identities were included as moderators in separate moderation analyses. Follow-up simple linear regression analyses were conducted, examining the relationship between perceived safety and mental health and substance use variables for gender (see Table 12) and race x gender (see Table 13) groups, as warranted.

Mental Healthcare Utilization

The interaction between perceived safety and gender in predicting mental healthcare utilization was found to be statistically significant [b = -0.004, 95% CI (-.04, -0.03), p<.001]. Follow-up simple regression analyses were conducted to examine the relationships between perceived safety and mental healthcare utilization for each gender group. No statistically significant regression equations were found for individual gender groups. The interaction between perceived safety and race x gender in predicting mental healthcare utilization was found to be statistically significant [b = 0.001, 95% CI (-0.0001, 0.002),p< 0.001]. Follow-up simple regression analyses were conducted to examine the relationships between perceived safety and mental healthcare utilization for each race x gender group. A statistically significant regression equation was found for the White cisgender AFAB [F(1,31901)= 37.256, p<.001, R^2= .001] intersectional group.

Figure 2. Moderation of the Association between Perceived Safety and Mental Healthcare Association by Gender Identity

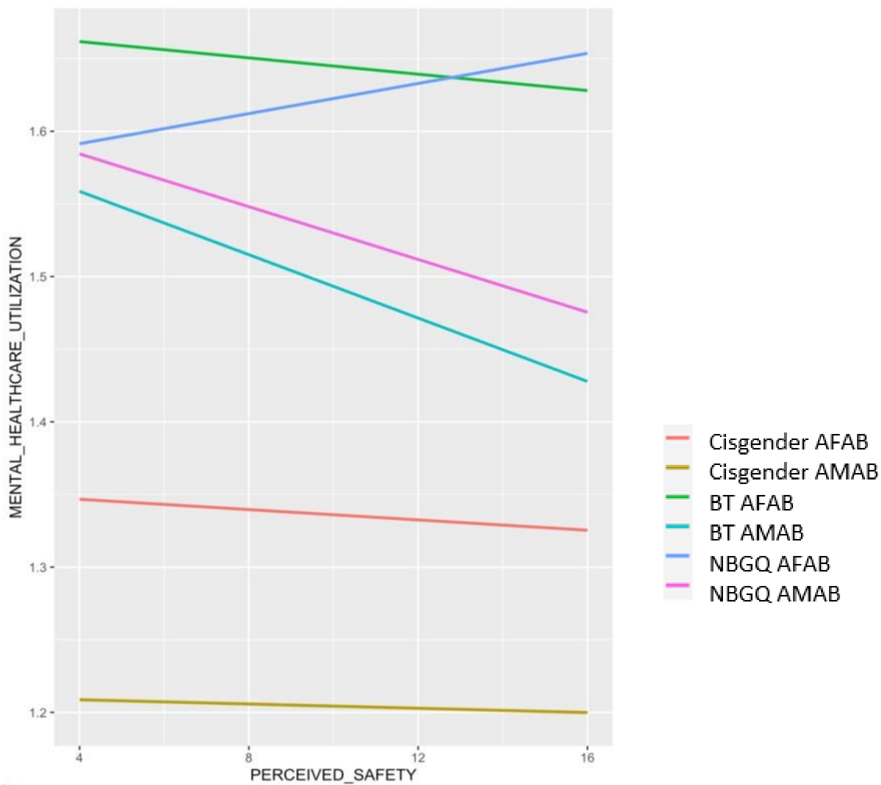
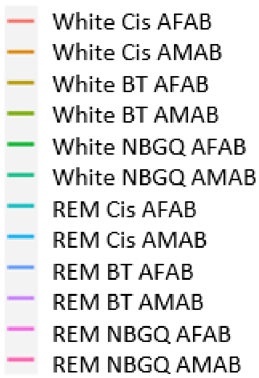


Figure 3. Moderation of the Association between Perceived Safety and Mental Healthcare by Intersectional (Race x Gender) Identity



Psychological Distress

The interaction between perceived safety and gender in predicting psychological distress was found to be statistically significant [*b* = -0.08, 95% CI (-.09, -0.07), $p<.001$]. Follow-up simple regression analyses were conducted to examine the relationships between perceived safety and psychological distress for each gender group. Statistically significant regression equations were found for all gender groups: cisgender AFAB [F(1,61245)= 3372.38, $p<.001$, R^2= .052], cisgender AMAB [F(1,27081)= 1395.00, $p<.001$, R^2= .049], binary transgender AFAB [F(1,820)= 70.843, $p<.001$, R^2= .08], binary transgender AMAB [F(1, 442)= 24.261, $p<.001$, R^2= .052], NBGQ AFAB [F(1, 3555)= 5.04, $p<.001$, R^2= .068], and NBGQ AMAB [F(1, 758)= 45.644, $p<.001$, R^2= .057]. The interaction between perceived safety and race x gender in predicting psychological distress was found to be statistically significant [*b* = -0.004, 95% CI (-0.01, -0.001),$p<$ 0.001]. Follow-up simple regression analyses were conducted to examine the relationships between perceived safety and psychological distress for each race x gender group. A statistically significant regression equation was found for White cisgender AFAB [F(1,31658)= 1703.92, $p<.001$, R^2= .05], White BT AFAB [F(1,261)= 36.47, $p<.001$, R^2=

.0.123], White NBGQ AFAB [F(1,1275)= 114.79, p<.001, R^2= 0.083], White NBGQ AMAB [F(1,254)= 11.42, p<.001, R^2= 0.043], REM cisgender AFAB [F(1,28924)= 1451.16, p<.001, R^2= .048], REM cisgender AMAB [F(1,12521)= 597.55, p<.001, R^2= .046], REM NBGQ AFAB [F(1, 871)= 27.07, p<.001, R^2= .03], and REM NBGQ AMAB AFAB [F(1, 182)= 24.35, p<.001, R^2= .118], gender groups.

Figure 4. Moderation of the Association between Perceived Safety and Psychological Distress Association by Gender Identity

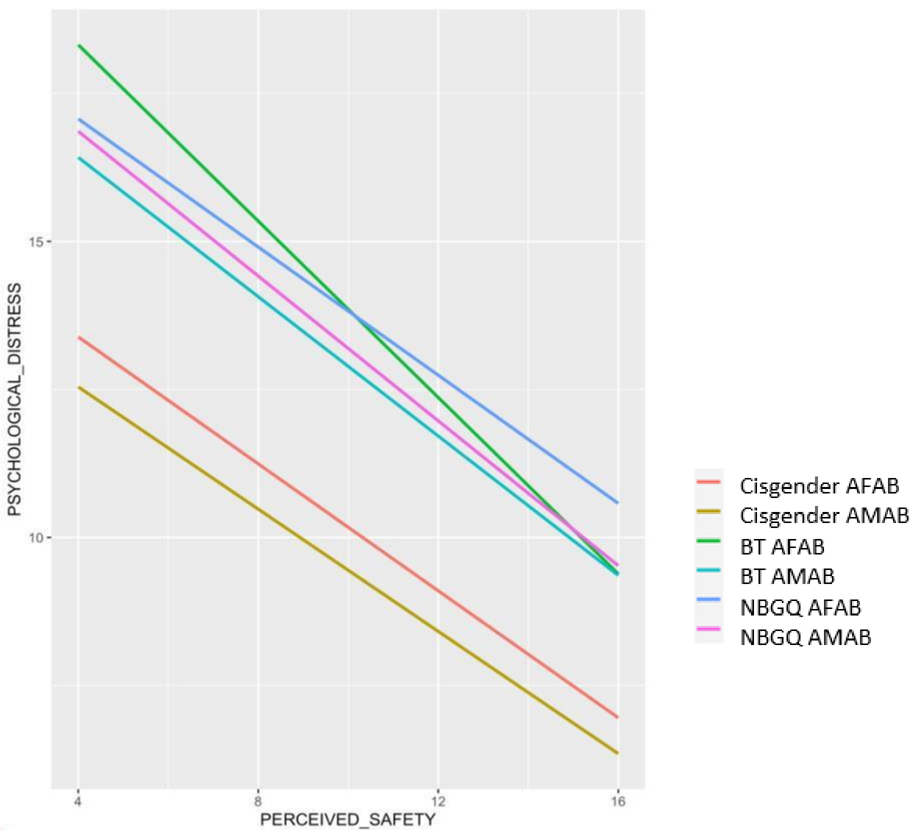
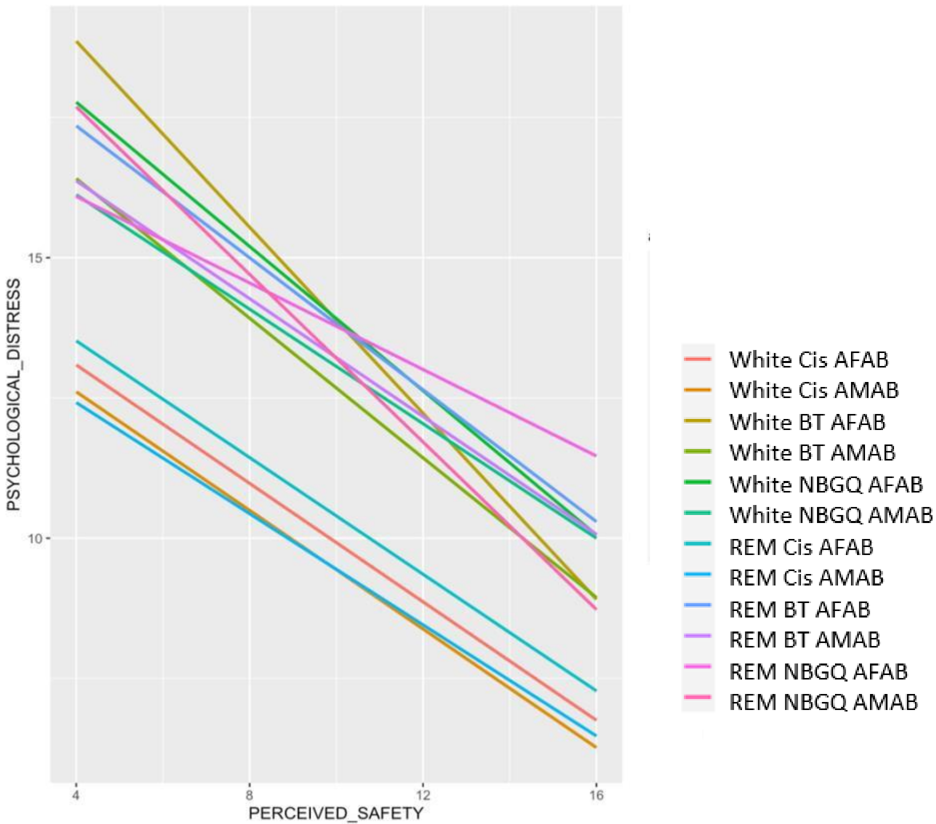


Figure 5. Moderation of the Association between Perceived Safety and Psychological Distress by Intersectional (Race x Gender) Identity

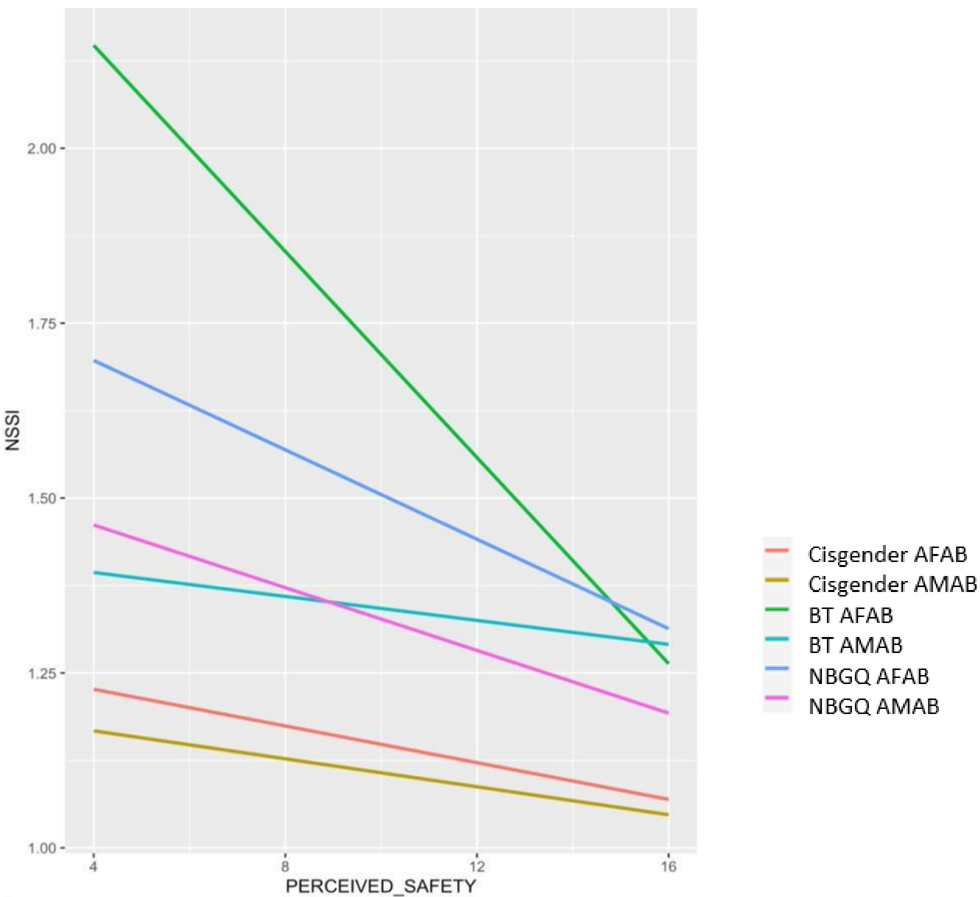


Non-Suicidal Self-Injury

The interaction between perceived safety and gender in predicting NSSI was found to be statistically significant [b = -.01, 95% CI (-.0091, -0.0070), p<.001]. Follow-up simple regression analyses were conducted to examine the relationships between perceived safety and NSSI for each gender group. Statistically significant regression equations were found for cisgender AFAB [F(1,61778)= 55.53, p<.001, R^2= .005], cisgender AMAB [F(1,27299)=

120.49, p<.001, R^2= 0.004], binary transgender AFAB [F(1,820)= 70.84, p<.001, R^2= 0.08], and NBGQ AFAB [F(1, 3526)= 20.86, p<.001, R^2= .01] gender groups. The interaction between perceived safety and race x gender in predicting NSSI was not found to be statistically significant [b = 0.0004, 95% CI (0.0001, 0.001),p= 0.01]

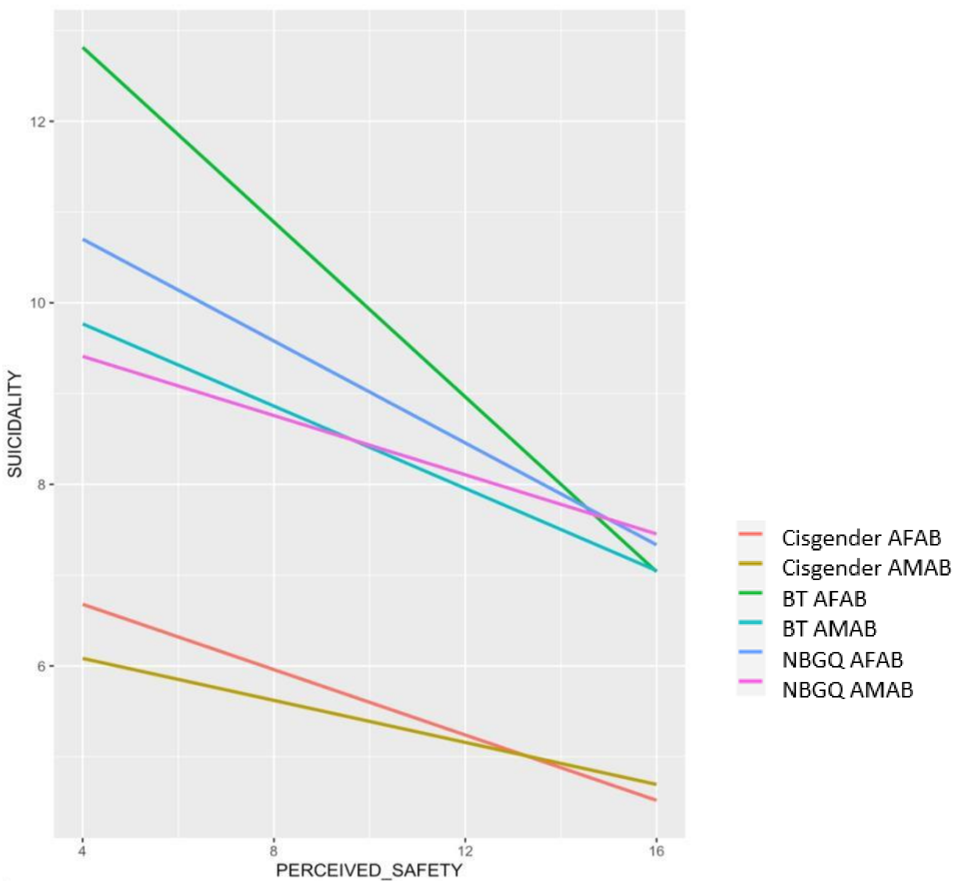
Figure 6. Moderation of the Association between Perceived Safety and NSSI by Gender Identity



Suicidality

The interaction between perceived safety and gender in predicting suicidality was found to be statistically significant [b = -0.04, 95% CI (-.05, -0.04), p<.001]. Follow-up simple regression analyses were conducted to examine the relationships between perceived safety and suicidality for each gender group. A statistically significant regression equation was found for all gender groups: cisgender AFAB [F(1,126467)= 2311.49, p<.001, R^2= .02], cisgender AMAB [F(1,58958)= 600.44, p<.001, R^2= 0.01], binary transgender AFAB [F(1,821)= 44.30, p<.001, R^2= 0.05], binary transgender AMAB [F(1, 442)= 11.59, p<.001, R^2= .03], NBGQ AFAB [F(1, 3526)= 20.86, p<.001, R^2= .01], and NBGQ AMAB [F(1, 757)= 12.06, p<.001, R^2= .02] gender groups. The interaction between perceived safety and race x gender in predicting suicidality was not found to be statistically significant [b = -0.001, 95% CI (-0.003, 0.001),p= 0.20].

Figure 7. Moderation of the Association between Perceived Safety and Suicidality by Gender Identity



Flourishing

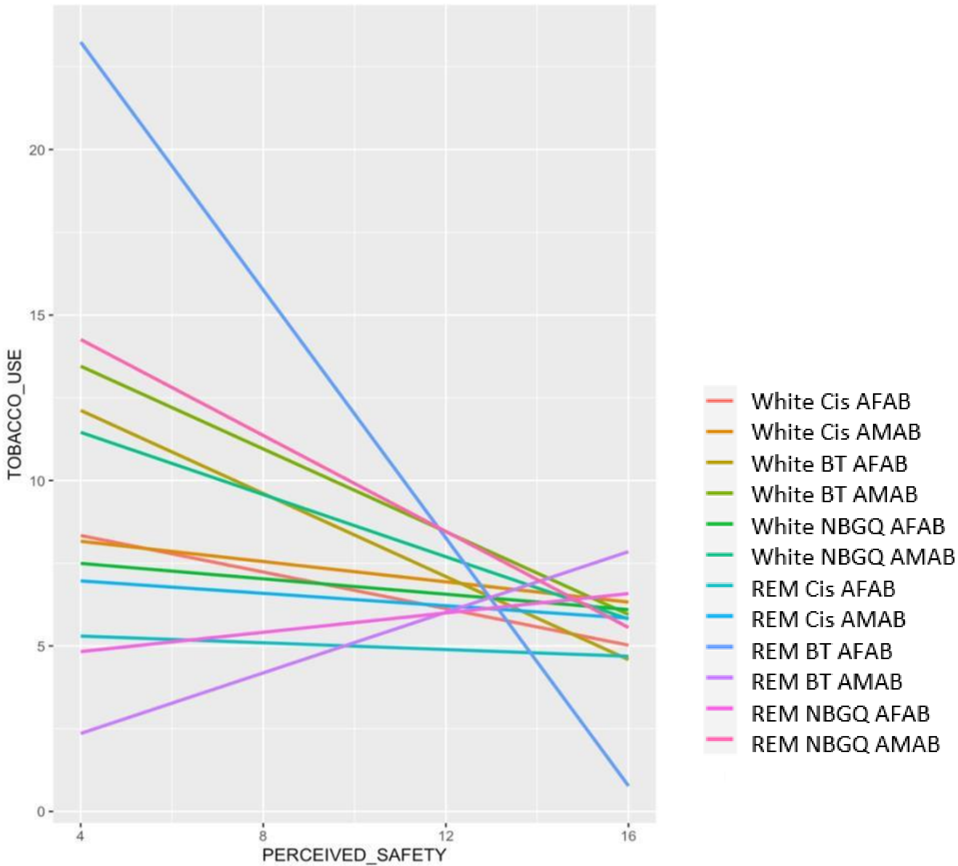
The interaction between perceived safety and gender in predicting flourishing was not found to be statistically significant [b = 0.05, 95% CI (0.03, 0.05), p<.001]. The interaction between perceived safety and race x gender in predicting flourishing was not found to be statistically significant [*b* = 0.02, 95% CI (0.01, 0.02), $p < .001$].

Substance Use

To investigate the extent to which perceived safety predicted various types of substance use, simple moderator analyses were performed using PROCESS. Given the number of analyses being conducted and the associated risk for type 1 error, a Bonferroni correction was utilized with a cutoff score of $p < .001$. The outcome variables for the analyses were specific substance use indicators. The predictor variable for the analyses was perceived safety. The moderator variables were gender and race x gender.

Tobacco. The interaction between perceived safety and gender in predicting tobacco use was not found to be statistically significant [*b* = 0.05, 95% CI (0.004, 0.09), $p = 0.03$]. In a separate simple moderation analysis, the interaction between perceived safety and race x gender in predicting tobacco use was found to be statistically significant [*b* = 0.03, 95% CI (0.02, 0.04), $p < .001$]. Follow-up simple regression analyses were conducted to examine the relationships between perceived safety and tobacco use for each race x gender group. A statistically significant regression equation was found for White cisgender AFAB [F(1,11173)= 66.36, $p < .001$, $R^2 = .006$], REM BT AFAB [F(1,149)= 18.59, $p < .001$, $R^2 = 0.524$] intersectional groups.

Figure 8. *Moderation of the Association between Perceived Safety and Tobacco Use by Intersectional (Race x Gender) Identity*



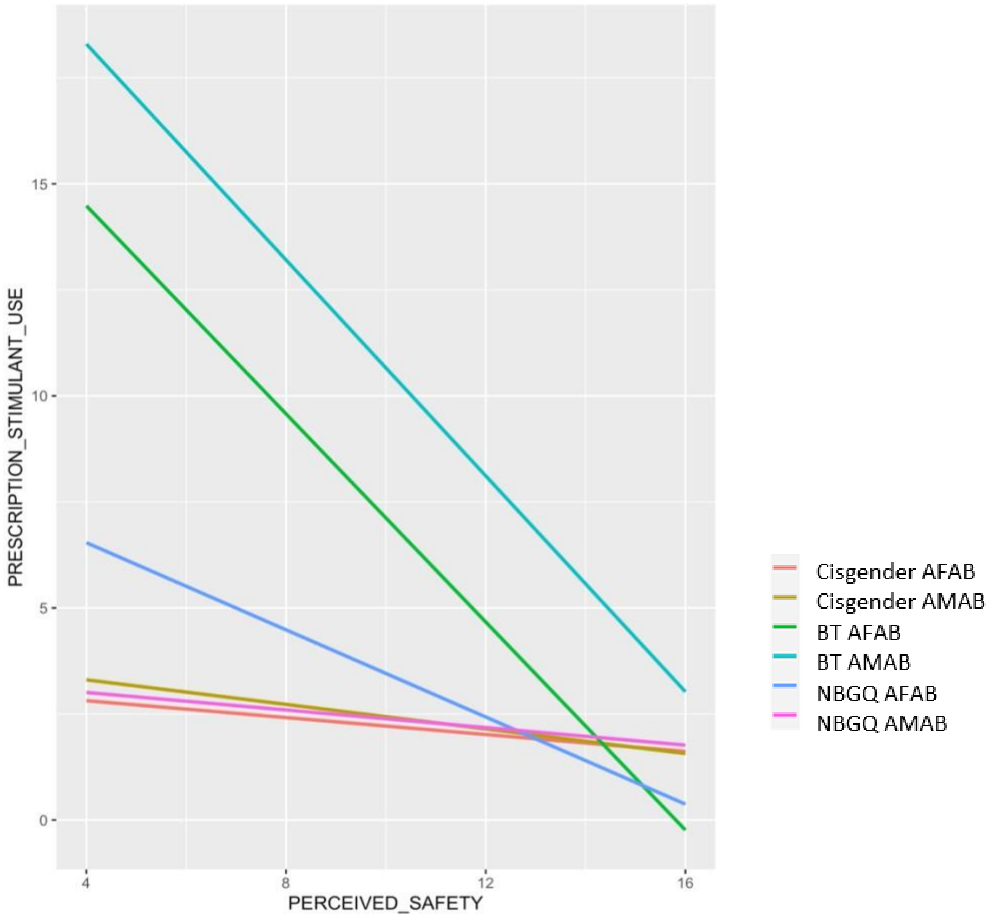
Alcohol. The interaction between perceived safety and gender in predicting alcohol use was not found to be statistically significant [*b* = 0.03, 95% CI (0.01, 0.05),*p*=.001]. In a separate simple moderation analysis, the interaction between perceived safety and race x gender in predicting alcohol use was not found to be statistically significant [*b* = -0.001, 95% CI (-0.01, 0.004),*p*=0.68].

Cannabis. The interaction between perceived safety and gender in predicting cannabis use was not found to be statistically significant [*b* = 0.07, 95% CI (0.05, 0.10), *p*<.001]. In a separate simple moderation analysis, the interaction between perceived safety and race x gender in predicting cannabis use was not found to be statistically significant [*b* = -0.01, 95% CI (-0.01, 0.001),*p*=0.11].

Cocaine. The interaction between perceived safety and gender in predicting cocaine use was not found to be statistically significant [b = -0.04, 95% CI (-.08, -0.005),p= 0.03]. In a separate simple moderation analysis, the interaction between perceived safety and race x gender in predicting cocaine use was not found to be statistically significant [b = -0.001, 95% CI (-0.01, 0.01),p=0.80].

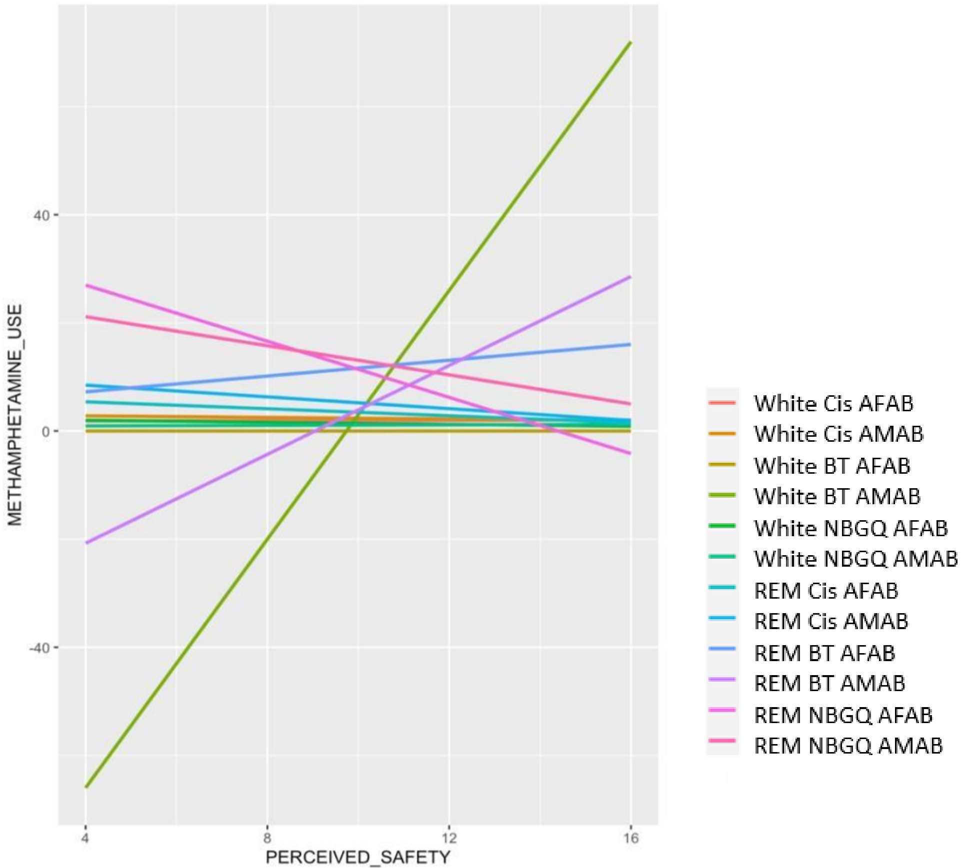
Stimulant. The interaction between perceived safety and gender in predicting prescription stimulant use was found to be statistically significant [b = -0.07, 95% CI (-0.10, .-0.03),p= 0.001]. Follow-up simple regression analyses were conducted to examine the relationships between perceived safety and prescription stimulant use for each gender group. A statistically significant regression equation was found for the cisgender AFAB [F(1271.20)= 15.26, p<.001, R^2= .003] , cisgender AMAB [F(1,2669)= 19.53, p<.001, R^2= 0.007] , and NBGQ AFAB [F(1,339)= 19.91, p<.001, R^2= .06] gender groups. In a separate simple moderation analysis, the interaction between perceived safety and race x gender in predicting prescription stimulant use was not found to be statistically significant [b = -0.01, 95% CI (-0.02, -0.002),p=0.02].

Figure 9. *Moderation of the Association between Perceived Safety and Prescription Stimulant Use by Gender Identity*



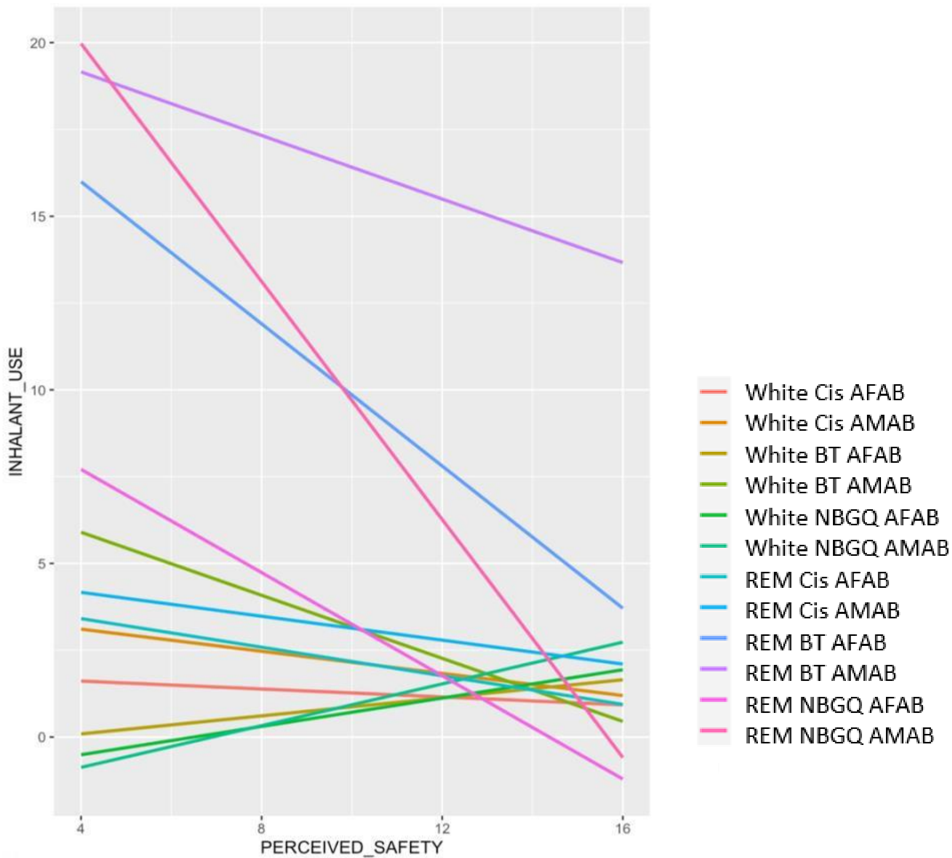
Methamphetamine. The interaction between perceived safety and gender in predicting methamphetamine use was not found to be statistically significant [*b* = -0.22, 95% CI (-0.31, -0.12), *p*=020]. In a separate simple moderation analysis, the interaction between perceived safety and race x gender in predicting methamphetamine use was found to be statistically significant [*b* = -0.07, 95% CI (-0.10, -0.004), $p<0.001$]. Follow-up simple regression analyses were conducted to examine the relationships between perceived safety and methamphetamine use for each race x gender group. A statistically significant regression equation was found for the REM BT AFAB [F(1,49)= 18.59, $p<.001$, R^2= .275] intersectional group.

Figure 10. Moderation of the Association between Perceived Safety and Methamphetamine Use by Intersectional (Race x Gender) Identity



Inhalant. The interaction between perceived safety and gender in predicting inhalant use was not found to be statistically significant [*b* = -0.06, 95% CI (-0.11, -0.02),*p*= 0.002]. In a separate simple moderation analysis, the interaction between perceived safety and race x gender in predicting inhalant use was found to be statistically significant [*b* = -0.04, 95% CI (-0.05, -0.002), *p*<0.001]. Follow-up simple regression analyses were conducted to examine the relationships between perceived safety and inhalant use for each race x gender group. A statistically significant regression equation was found for the White cisgender AMAB [F(1,1904)= 28.56, $p<.001$, R^2= .02], REM cisgender AMAB [F(1,1042)= 29.36, $p<.001$, R^2= .03], and White binary transgender AFAB [F(1,520)= 90.49, $p<.001$, R^2= .15] gender groups.

Figure 11. *Moderation of the Association between Perceived Safety and Inhalant Use by Intersectional (Race x Gender) Identity*



Sedative. The interaction between perceived safety and gender in predicting sedative use was not found to be statistically significant [*b* = -.05, 95% CI (-0.09, -0.01),*p*=.02. In a separate simple moderation analysis, the interaction between perceived safety and race x gender in predicting sedative use was not found to be statistically significant [*b* = -0.02, 95% CI (-0.04, -0.01),*p*= 0.001].

Hallucinogen. The interaction between perceived safety and gender in predicting hallucinogen use was not found to be statistically significant [*b* = -.03, 95% CI (-0.05, -0.002),*p*= 0.03. In a separate simple moderation analysis, the interaction between perceived safety and race x gender in predicting hallucinogen use was not found to be statistically significant [*b* = -0.01, 95% CI (-0.02, -0.001),*p*= 0.02].

Heroin. The interaction between perceived safety and gender in predicting heroin use was not found to be statistically significant [*b* = -0.16, 95% CI (-0.32, -0.01),*p*= 0.06. In a separate simple moderation analysis, the interaction between perceived safety and race x gender in predicting heroin use was not found to be statistically significant [*b* = -0.05, 95% CI (-0.11, 0.01),*p*= 0.10].

Opioid. The interaction between perceived safety and gender in predicting prescription opioid use was found to be statistically significant [*b* = -0.10, 95% CI (-0.15, -0.06), $p<.001$]. Follow-up simple regression analyses were conducted to examine the relationships between perceived safety and prescription opioid use for each gender group. A statistically significant regression equation was found for the cisgender AFAB [F(1,2207)= 12.11, $p<.001$, R^2= .005], cisgender AMAB [F(1,1511)= 18.57, $p<.001$, R^2= 0.012], and NBGQ AFAB [F(1,233)= 13.63, $p<.001$, R^2= 0.06] gender groups.

In a separate simple moderation analysis, the interaction between perceived safety and race x gender in predicting prescription opioid use was found to be statistically significant [*b* = -0.04, 95% CI (-0.05, -0.22), $p<0.001$]. Follow-up simple regression analyses were conducted to examine the relationships between perceived safety and prescription opioid use for each race x gender group. A statistically significant regression equation was found for the REM cisgender AFAB [F(1,814)= 13.28, $p<.001$, R^2= 0.016] intersectional group.

Figure 12. Moderation of the Association between Perceived Safety and Prescription Opioid Use by Gender Identity

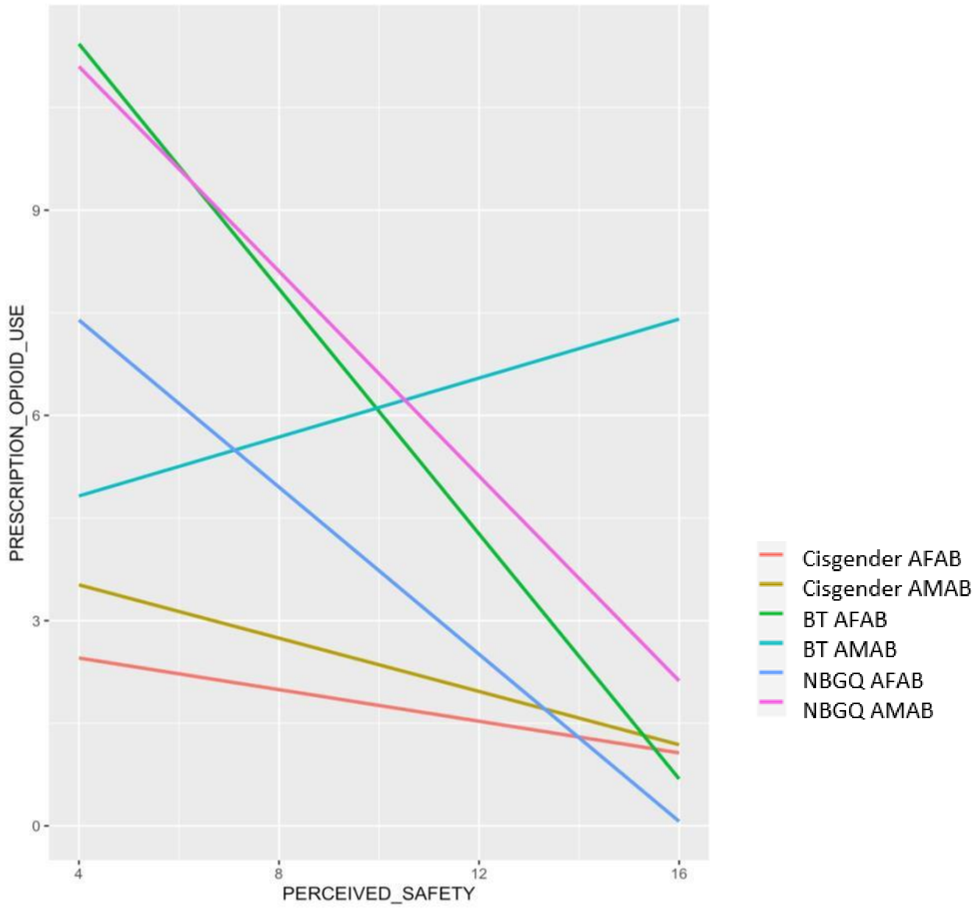
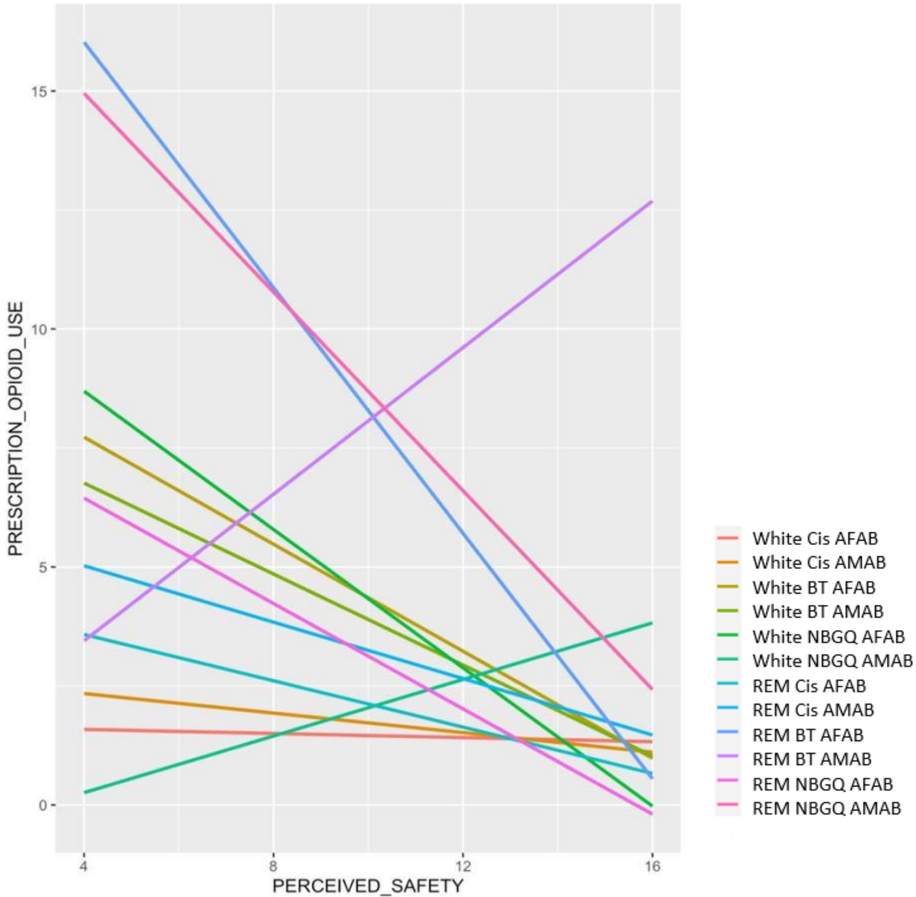


Figure 13. Moderation of the Association between Perceived Safety and Prescription Opioid Use by Intersectional (Race x Gender) Identity



Other Substance. The interaction between perceived safety and gender in predicting other substance was not found to be statistically significant [b = -0.04, 95% CI (-0.24, 0.17),p= 0.73. In a separate simple moderation analysis, the interaction between perceived safety and race x gender in predicting other substance use was not found to be statistically significant [b = -0.001, 95% CI (-0.06, 0.05),p= 0.99].

Interpersonal Violence

Simple moderation analyses were conducted using PROCESS to examine the extent to interpersonal violence (IPV) predicted various mental health (see Table 14) and substance use (see Table 15) variables. Gender and race x gender were included as moderators in separate moderation analyses. Follow-up simple regression analyses were conducted, examining the relationship between perceived safety and mental health and substance use variables for gender (see Table 16) and race x gender (see Table 17) groups, as warranted.

Mental Healthcare Utilization

The interaction between IPV and gender in predicting mental healthcare utilization was not found to be statistically significant [b = -0.02, 95% CI (-.03, .000),p= 0.05]. A separate simple moderation analysis was conducted to examine the interaction between IPV and race x gender in predicting mental healthcare utilization. The interaction between IPV and race x gender was not found to be statistically significant [b = -0.01, 95% CI (0.01, .000),p= 0.05].

Psychological Distress

The interaction between IPV and gender in predicting psychological distress was not found to be statistically significant [b = -.07, 95% CI (-0.12, -0.03),p= 0.001]. A separate simple moderation analysis was conducted to examine the interaction between IPV and race x gender in predicting psychological distress. The interaction between IPV and race x gender was not found to be statistically significant [b = -0.02, 95% CI (-0.03, -0.003),p= 0.01].

Non-Suicidal Self-Injury

The interaction between IPV and gender in predicting NSSI was found to be statistically significant [b = -.01, 95% CI (0.006, 0.013), p=.010]. A separate simple moderation analysis was conducted to examine the interaction between IPV and race x gender in predicting NSSI. The interaction between IPV and race x gender was not found to be statistically significant [b = 0.002, 95% CI (0.001, 0.003),p= 0.001].

Suicidality

The interaction between IPV and gender in predicting suicidality was not found to be statistically significant [b = -0.06, 95% CI (-0.08, -0.03), p=.003]. A separate simple moderation analysis was conducted to examine the interaction between IPV and race x gender in predicting suicidality. The interaction between IPV and race x gender was not found to be statistically significant [*b* = -0.01, 95% CI (-0.02, -0.004),*p*= 0.002].

Flourishing

The interaction between IPV and gender in predicting flourishing was not found to be statistically significant [*b* = 0.04, 95% CI (-0.03, 0.11),*p*= 0.25]. A separate simple moderation analysis was conducted to examine the interaction between IPV and race x gender in predicting flourishing. The interaction between IPV and race x gender was not found to be statistically significant [*b* = 0.03, 95% CI (0.01, 0.05),*p*= 0.001].

Substance Use

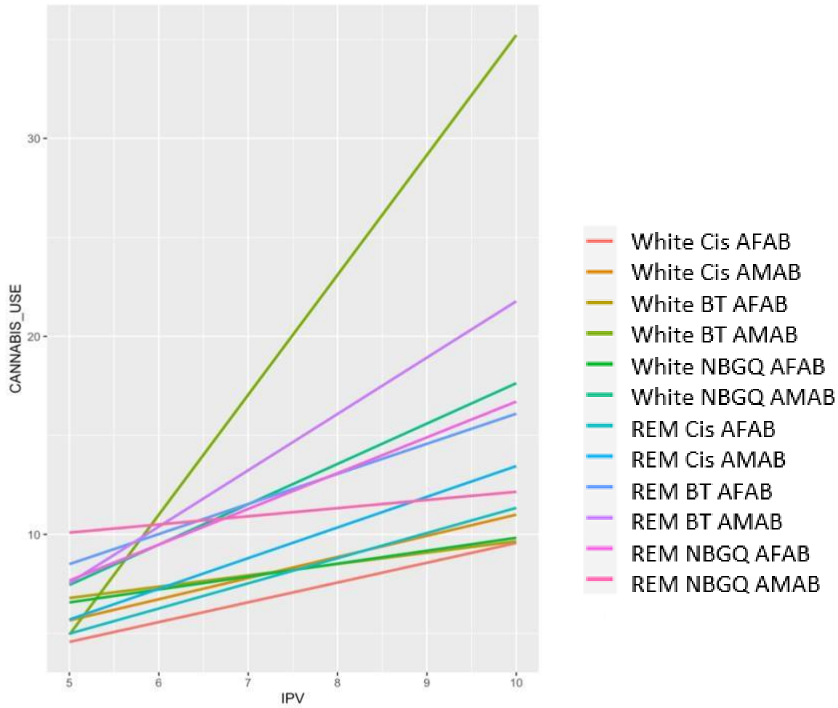
To investigate the extent to which IPV predicted various types of substance use, a simple moderator analysis was performed using PROCESS. Given the number of analyses being conducted and the associated risk for type 1 error, a Bonferroni correction was utilized with a cutoff score of $p < .001$. The outcome variable for the analysis was various substance use indicators. The predictor variable for the analysis was IPV. The moderator variables were gender and race x gender.

Tobacco. The interaction between IPV and gender in predicting tobacco use was not found to be statistically significant [*b* = 0.06, 95% CI (-0.03, 0.15),*p*= 0.21. In a separate simple moderation analysis, the interaction between IPV and race x gender in predicting tobacco use was not found to be statistically significant [*b* = -0.01, 95% CI (-0.04, 0.02),*p*= 0.49].

Alcohol. The interaction between IPV and gender in predicting alcohol use was not found to be statistically significant [*b* = 0.07, 95% CI (0.02, 0.13),*p*= 0.01]. In a separate simple moderation analysis, the interaction between IPV and race x gender in predicting alcohol use was not found to be statistically significant [b = 0.05, 95% CI (0.03, 0.06), $p < .001$].

Cannabis. The interaction between IPV and gender in predicting cannabis use was not found to be statistically significant [b = 0.06, 95% CI (-0.01, 0.13),p= 0.11]. In a separate simple moderation analysis, the interaction between IPV and race x gender in predicting cannabis use was found to be statistically significant [b = 0.07, 95% CI (0.05, 0.09), $p < .001$]. Follow-up simple regression analyses were conducted to examine the relationships between IPV and alcohol use for each race x gender group. A statistically significant regression equation was found for White cisgender AFAB [F(1,14842)= 208.60, $p<.001$, R^2= 0.014], White cisgender AMAB [F(1,6440)= 53.10, $p<.001$, R^2= 0.008], White BT AMAB [F(1,57)= 26.10, $p<.001$, R^2= 0.31], REM cisgender AFAB [F(1,10765)= 204.42, $p<.001$, R^2= 0.019], REM cisgender AMAB [F(1,4344)= 80.25, $p<.001$, R^2= 0.018], and REM NBGQ AFAB [F(1,473)= 18.02, $p<.001$, R^2= 0.037], gender groups.

Figure 14. Moderation of the Association between Interpersonal Violence and Cannabis Use by Intersectional (Race x Gender) Identity



Cocaine. The interaction between IPV and gender in predicting cocaine use was found to be statistically significant [*b* = 0.30, 95% CI (0.22, 0.39), p<.001]. Follow-up simple regression analyses were conducted to examine the relationships between IPV and cocaine use for each gender group. A statistically significant regression equation was found for cisgender AFAB [F(1,4325)= 108.40, p<.001, R^2= 0.156] and cisgender AMAB [F(1,2439)= 98.40, p<.001, R^2= 0.039] gender groups.

In a separate simple moderation analysis, the interaction between IPV and race x gender in predicting cocaine use was found to be statistically significant [*b* = 0.13, 95% CI (0.10, 0.16), p< .001]. Follow-up simple regression analyses were conducted to examine the relationships between IPV and cocaine use for each race x gender group. A statistically significant regression equation was found for White cisgender AFAB [F(1,2695)= 40.74, p<.001, R^2= 0.015], White cisgender AMAB [F(1,1524)= 129.95, p<.001, R^2= 0.028], REM cisgender AFAB [F(1,1598)=

53.76, p<.001, R^2= 0.035], REM cisgender AMAB [F(1,860)= 33.00, p<.001, R^2= 0.037], and REM BT AFAB [F(1,12)= 29.17, p<.001, R^2= 0.71] intersectional groups.

Figure 15. Moderation of the Association between Interpersonal Violence and Cocaine Use by Gender Identity

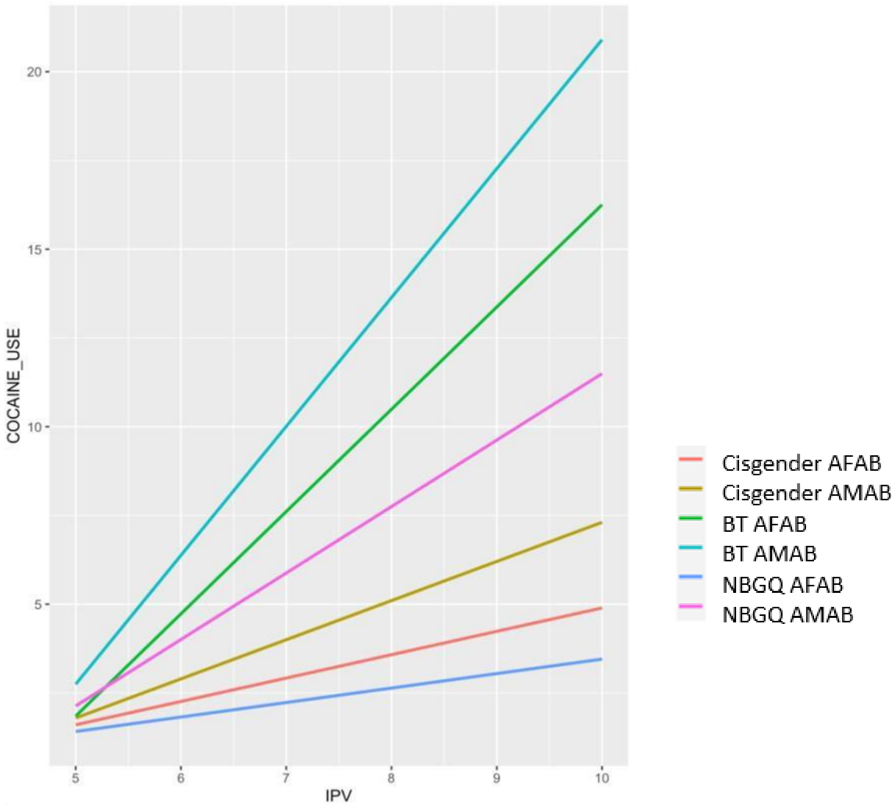
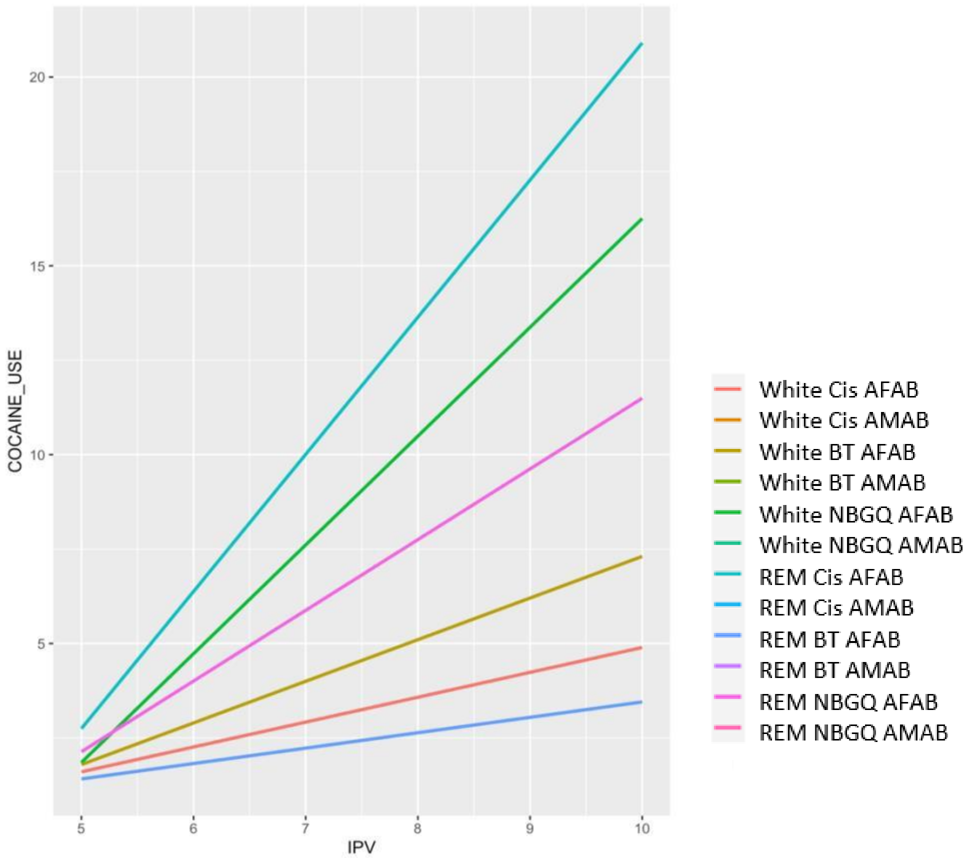


Figure 16. Moderation of the Association between Interpersonal Violence and Cocaine Use by Intersectional (Race x Gender) Identity



Stimulant. The interaction between IPV and gender in predicting prescription stimulant use was found to be statistically significant [*b* = 0.27, 95% CI (0.20, 0.35), p<.001]. Follow-up simple regression analyses were conducted to examine the relationships between IPV and prescription stimulant use for each gender group. A statistically significant regression equation was found for cisgender AFAB [F(1,5068)= 117.30, p<.001, R^2= 0.023], cisgender AMAB [F(1,2661)= 12.01, p<.001, R^2= 0.043], binary transgender AMAB [F(1, 40)= 32.92, p<.001, R^2= 0.45], and NBGQ AMAB [F(1, 751)= 12.09, p<.001, R^2= 0.02] gender groups.

In a separate simple moderation analysis, the interaction between IPV and race x gender in predicting prescription stimulant use was found to be statistically significant [*b* = 0.12, 95% CI (0.10, 0.14), p< .001]. Follow-up simple regression analyses were conducted to examine the relationships between IPV and prescription stimulant use for each race x gender group. A statistically significant regression equation was found for White cisgender AFAB [F(1,3143)= 40.49, p<.001, R^2= 0.013], White cisgender AMAB [F(1,1750)= 31.00, p<.001, R^2= 0.17], REM cisgender AFAB [F(1,1888)= 68.49, p<.001, R^2= 0.035], REM cisgender AMAB [F(1,860)= 63.38, p<.001, R^2= 0.069] intersectional groups.

Figure 17. Moderation of the Association between Interpersonal Violence and Prescription Stimulant Use by Gender Identity

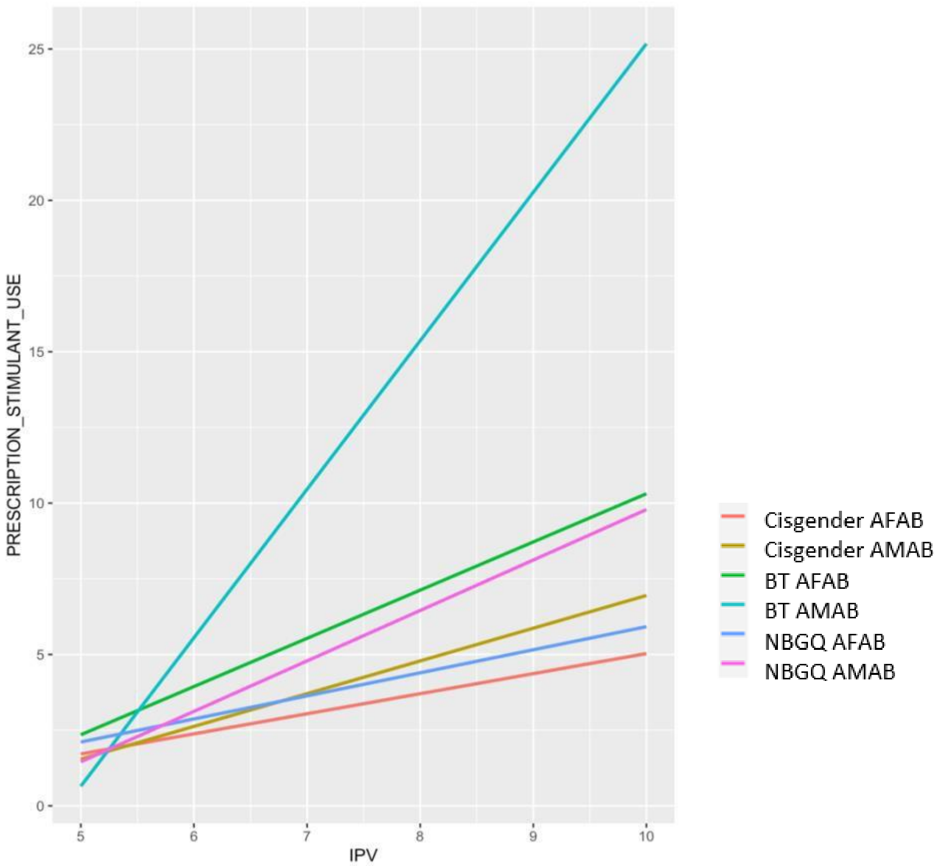
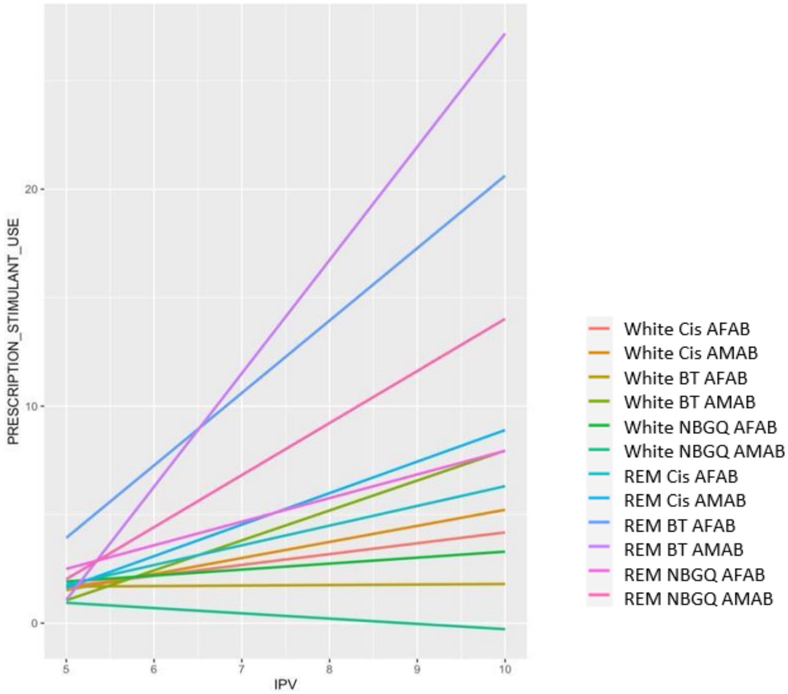


Figure 18. Moderation of the Association between Interpersonal Violence and Prescription Stimulant Use by Intersectional (Race x Gender) Identity



Methamphetamine. The interaction between IPV and gender in predicting methamphetamine use was found to be statistically significant [*b* = 0.65, 95% CI (0.48, 0.82), *p*<.001]. Follow-up simple regression analyses were conducted to examine the relationships between IPV and methamphetamine use for each gender group. A statistically significant regression equation was found for cisgender AFAB [F(1,774)= 29.33, *p*<.001, R^2= 0.037], cisgender AMAB [F(1,501)= 116.51, *p*<.001, R^2= 0.19], and NBGQ AFAB [F(1, 3517)= 45.21, *p*<.001, R^2= 0.01] gender groups.

In a separate simple moderation analysis, the interaction between IPV and race x gender in predicting methamphetamine use was found to be statistically significant [*b* = 0.32, 95% CI (0.26, 0.38), *p*< .001]. Follow-up simple regression analyses were conducted to examine the relationships between IPV and methamphetamine use for each race x gender group. A statistically significant regression equation was found for White cisgender AFAB [F(1,947)= 28.74, *p*<.001, R^2= 0.029], White cisgender AMAB [F(1,280)= 35.44, *p*<.001, R^2= 0.112], and

REM cisgender AFAB [F(1,327)= 16.20, p<.001, R^2= 0.047], REM cisgender AMAB [F(1,203)= 52.28, p<.001, R^2= 0.205] intersectional groups.

Figure 17. Moderation of the Association between Interpersonal Violence and Methamphetamine Use by Intersectional (Race x Gender) Identity

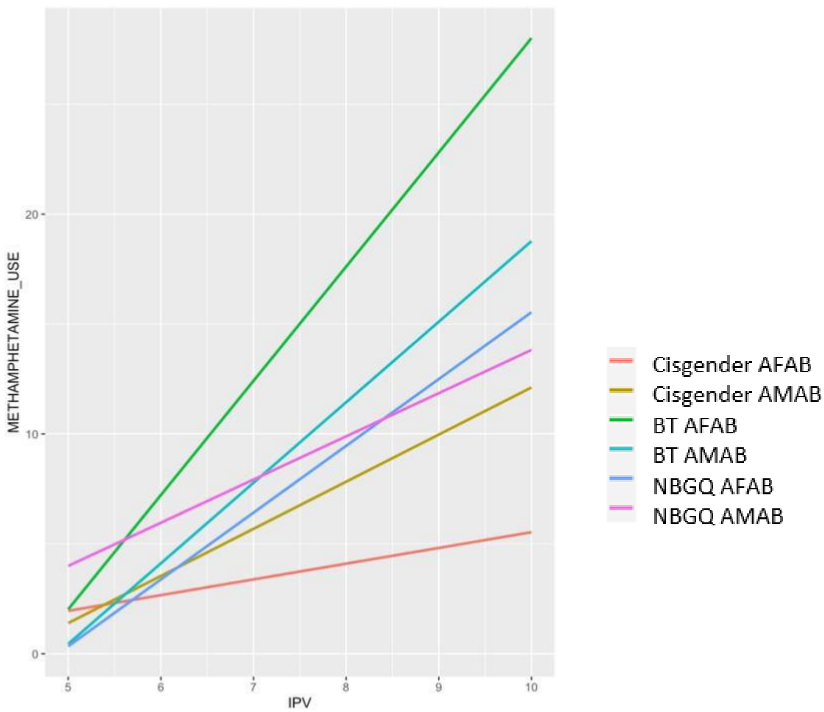
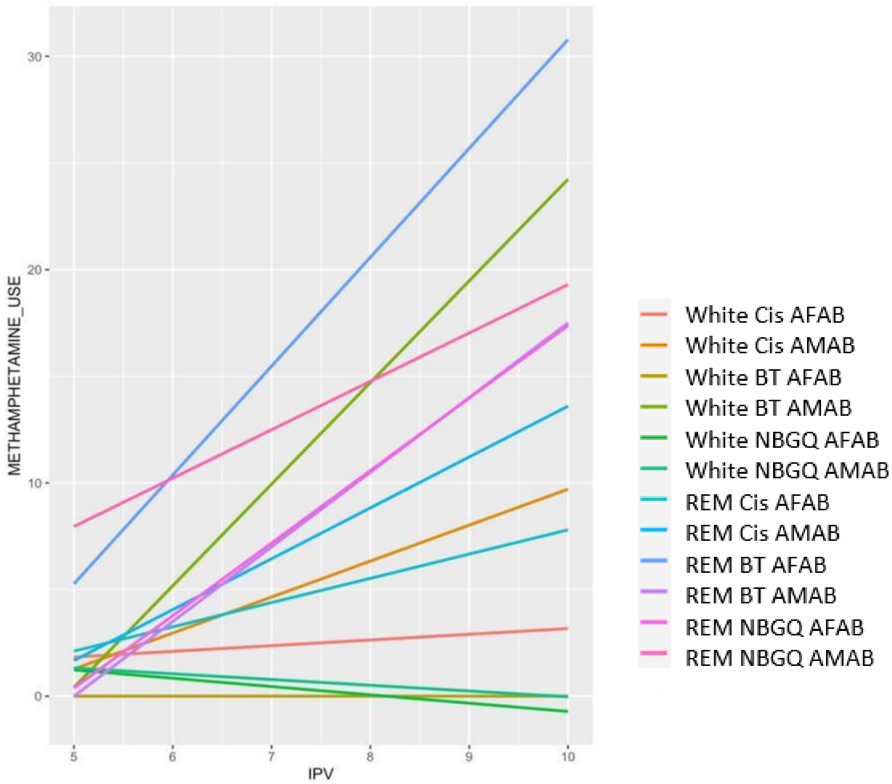


Figure 18. Moderation of the Association between Interpersonal Violence and Methamphetamine Use by Intersectional (Race x Gender) Identity



Inhalant. The interaction between IPV and gender in predicting inhalant use was found to be statistically significant [*b* = 0.44, 95% CI (0.35, 0.53), p<.001]. Follow-up simple regression analyses were conducted to examine the relationships between IPV and inhalant use for each gender group. A statistically significant regression equation was found for cisgender AFAB [F(1,1894)= 66.66, p<.001, R^2= 0.034] and cisgender AMAB [F(1,1592)= 159.52, p<.001, R^2= 0.09] gender groups.

In a separate simple moderation analysis, the interaction between IPV and race x gender in predicting inhalant use was found to be statistically significant [*b* = 0.28, 95% CI (0.25, 0.31), p< .001]. Follow-up simple regression analyses were conducted to examine the relationships between IPV and inhalant use for each race x gender group. A statistically significant regression equation was found for White cisgender AFAB [F(1,1147)= 17.78, p<.001, R^2= 0.015], White cisgender AMAB [F(1,9473)= 28.74, p<.001, R^2= 0.029], REM cisgender AFAB [F(1,727)=

33.50, p<.001, R^2= 0.044], REM cisgender AMAB [F(1,615)= 93.75, p<.001, R^2= 0.132], REM BT AFAB [F(1,8)= 28.57, p<.001, R^2= 0.884] intersectional groups.

Figure 19. Moderation of the Association between Interpersonal Violence and Inhalant Use by Gender Identity

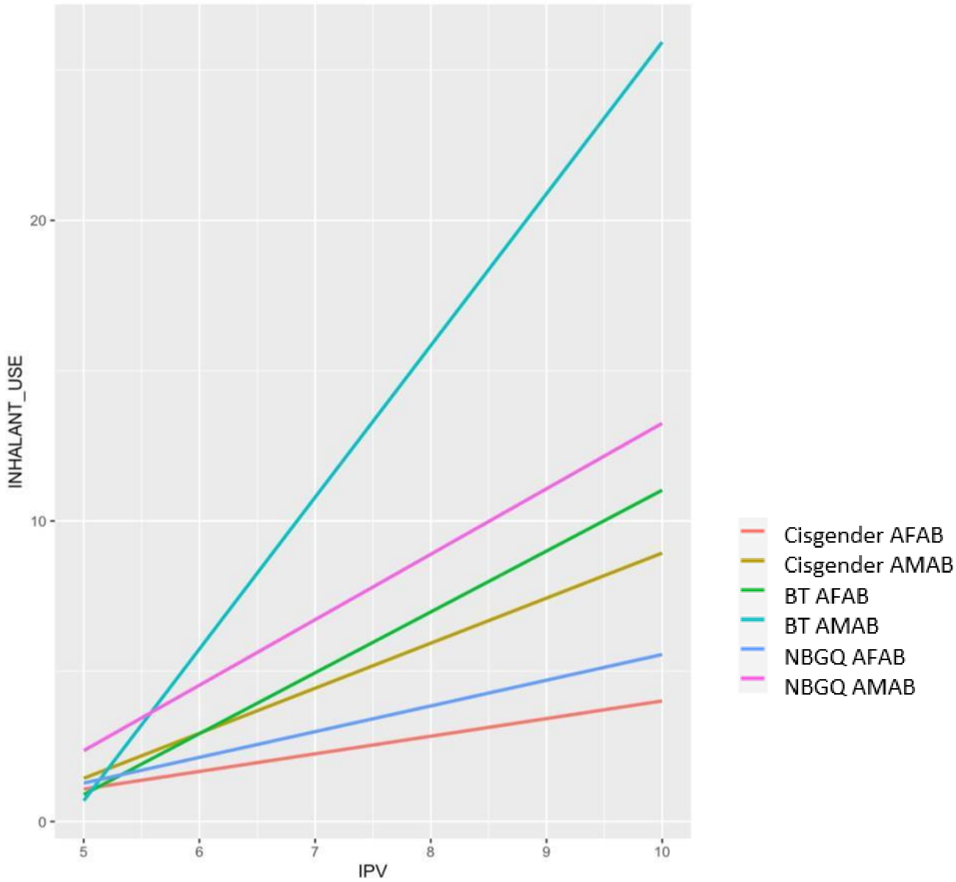
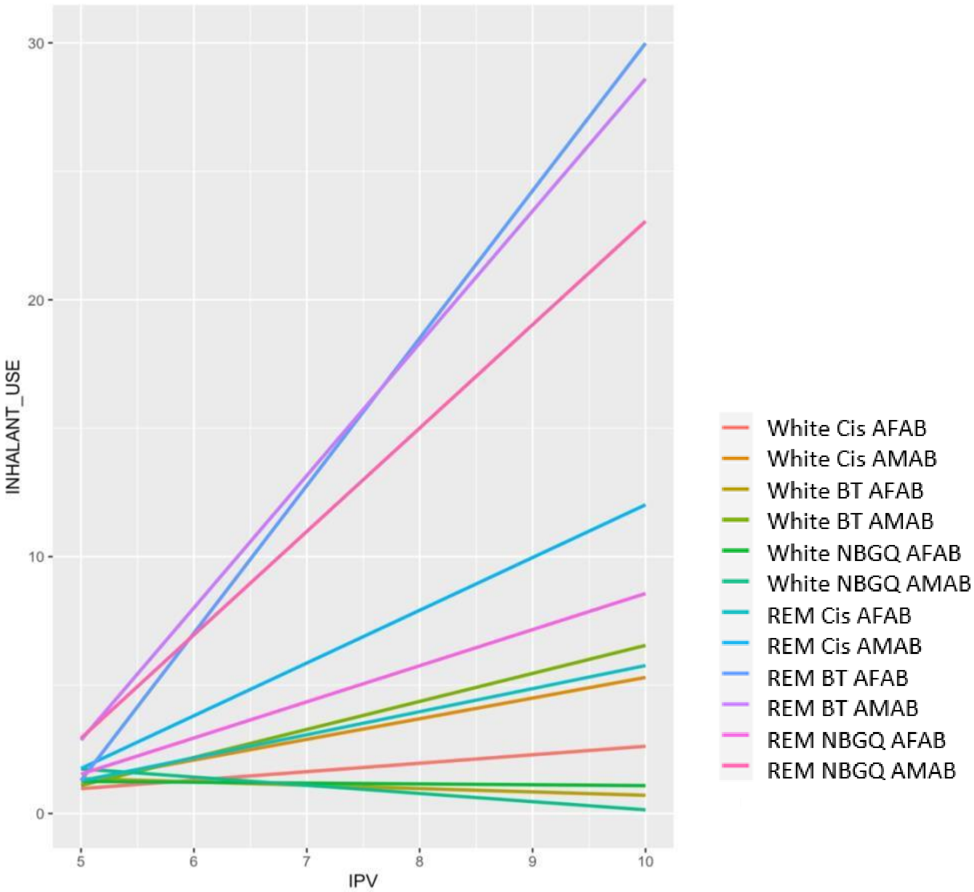
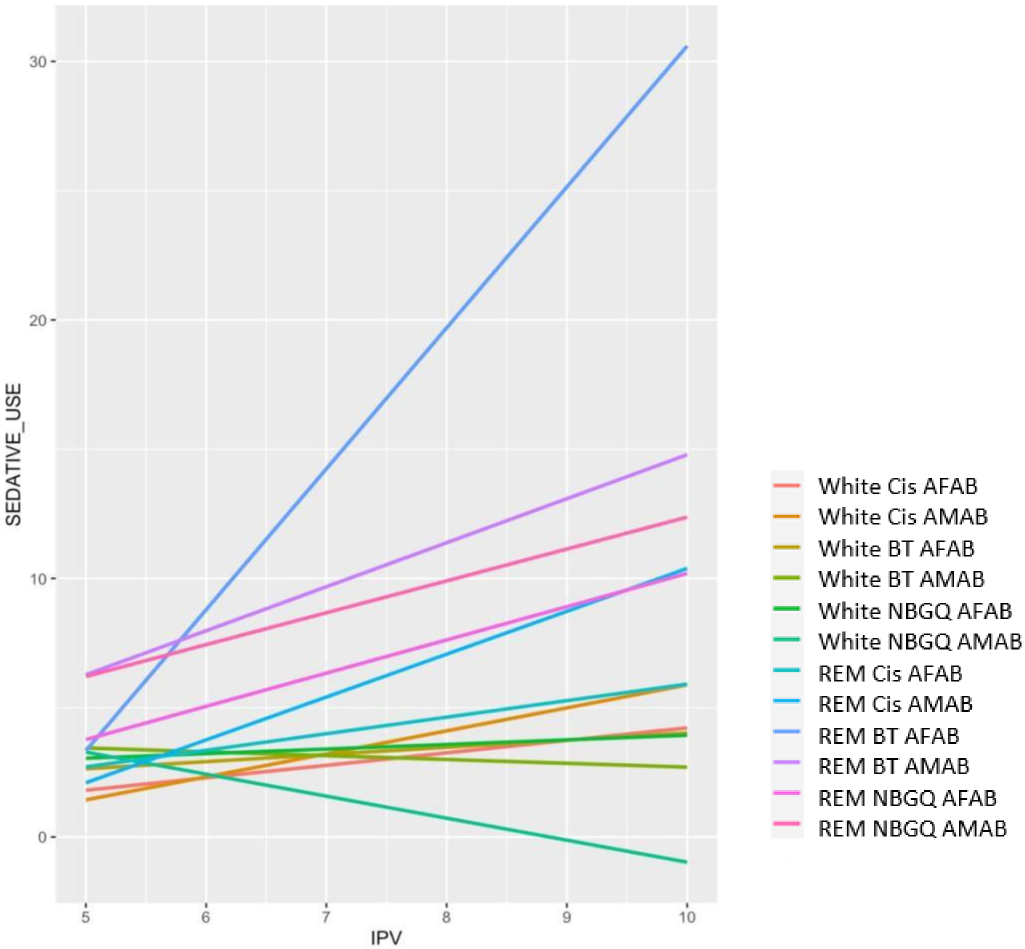


Figure 20. Moderation of the Association between Interpersonal Violence and Inhalant Use by Intersectional (Race x Gender) Identity



Sedative. The interaction between IPV and gender in predicting sedative use was not found to be statistically significant [*b* = 0.22, 95% CI (0.12, 0.32), *p*= 003]. In a separate simple moderation analysis, the interaction between IPV and race x gender in predicting sedative use was found to be statistically significant [*b* = 0.12, 95% CI (0.09, 0.15), *p*< .001]. Follow-up simple regression analyses were conducted to examine the relationships between IPV and sedative use for each race x gender group. A statistically significant regression equation was found for White cisgender AFAB [F(1,2039)= 25.96, p<.001, R^2= 0.013], White cisgender AMAB [F(1,1057)= 36.44, p<.001, R^2= 0.033], REM cisgender AFAB [F(1,1290)= 15.64, p<.001, R^2= 0.012], REM cisgender AMAB [F(1,649)= 56.30, p<.001, R^2= 0.08] intersectional groups.

Figure 21. *Moderation of the Association between Interpersonal Violence and Sedative Use by Intersectional (Race x Gender) Identity*



Hallucinogen. The interaction between IPV and gender in predicting hallucinogen use was found to be statistically significant [*b* = 0.20, 95% CI (0.15, 0.26), *p*<.001]. Follow-up simple regression analyses were conducted to examine the relationships between IPV and hallucinogen use for each gender group. A statistically significant regression equation was found for cisgender AFAB [F(1,6319)= 143.97, *p*<.001, R^2= 0.022], cisgender AMAB [F(1,3956)= 155.40, *p*<.001, R^2= 0.038], NBGQ AFAB [F(1, 710)= 14.74, *p*<.001, R^2= 0.02], and NBGQ AMAB [F(1, 191)= 24.49, *p*<.001, R^2= 0.11] gender groups.

In a separate simple moderation analysis, the interaction between IPV and race x gender in predicting hallucinogen use was found to be statistically significant [*b* = 0.13, 95% CI (0.11, 0.14), $p< .001$]. Follow-up simple regression analyses were conducted to examine the relationships between IPV and hallucinogen use for each race x gender group. A statistically significant regression equation was found for White cisgender AFAB [F(1,3742)= 45.01, $p<.001$, R^2= 0.012], White cisgender AMAB [F(1,2489)= 56.67, $p<.001$, R^2= 0.022], REM cisgender AFAB [F(1,2506)= 76.40, $p<.001$, R^2= 0.03], REM cisgender AMAB [F(1392)= 67.92, $p<.001$, R^2= 0.047], REM BT AMAB [F(1,9)= 28.76, $p<.001$, R^2= 0.762] intersectional groups..

Figure 22. Moderation of the Association between Interpersonal Violence and Hallucinogen Use by Intersectional (Race x Gender) Identity

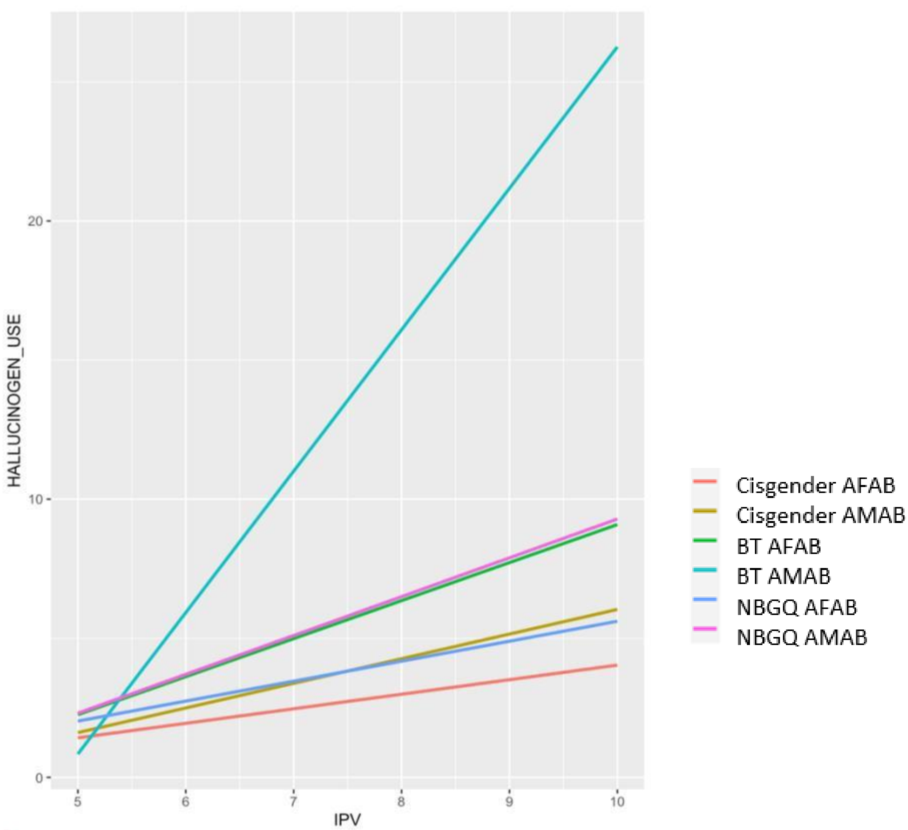
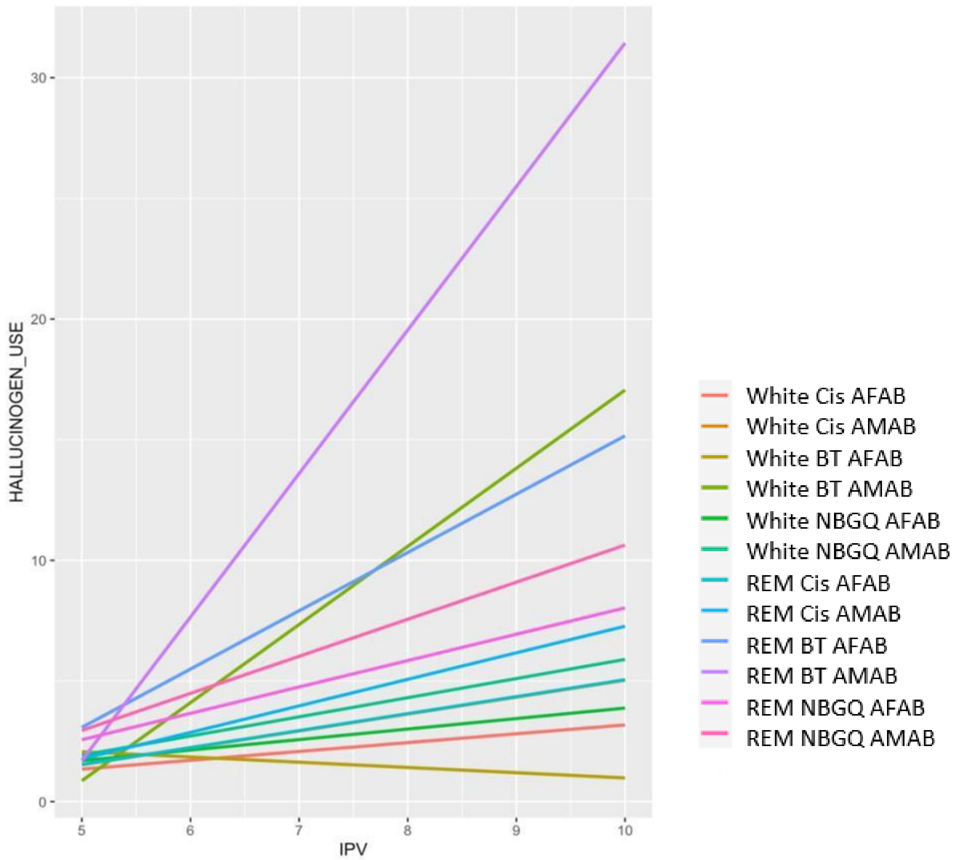


Figure 23. Moderation of the Association between Interpersonal Violence and Hallucinogen Use by Intersectional (Race x Gender) Identity



Heroin. The interaction between IPV and gender in predicting heroin use was found to be statistically significant [*b* = 0.70, 95% CI (0.42, 0.42), p<.001]. Follow-up simple regression analyses were conducted to examine the relationships between IPV and heroin use for each gender group. A statistically significant regression equation was found for cisgender AMAB [F(1,223)= 56.84, p<.001, R^2= 0.20], and NBGQ AFAB [F(1, 20)= 28.11, p<.001, R^2= 0.58] gender groups.

In a separate simple moderation analysis, the interaction between IPV and race x gender in predicting heroin use was found to be statistically significant [*b* = 0.37, 95% CI (0.27, 0.47), p< .001]. Follow-up simple regression analyses were conducted to examine the relationships between IPV and heroin use for each race x gender group. A statistically significant regression equation was found for White cisgender AMAB [$F(1,136)= 13.52$, $p<.001$, $R^2= 0.09$], REM cisgender AMAB [$F(1,78)= 23.32$, $p<.001$, $R^2= 0.23$] intersectional groups.

Figure 24. Moderation of the Association between Interpersonal Violence and Heroin Use by Intersectional (Race x Gender) Identity

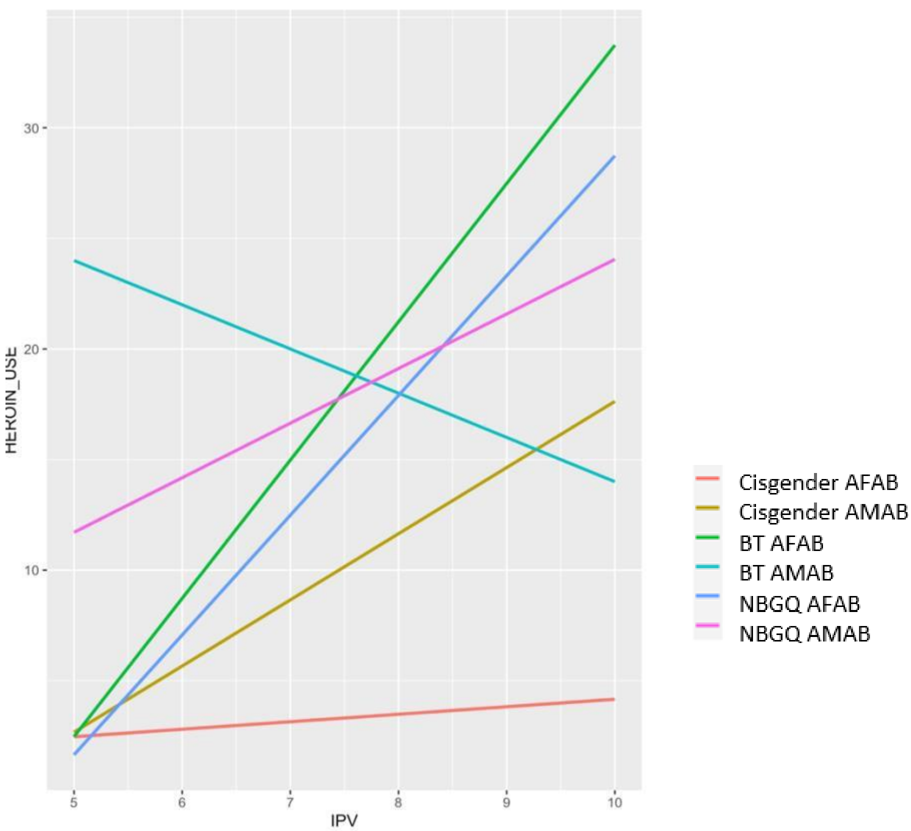
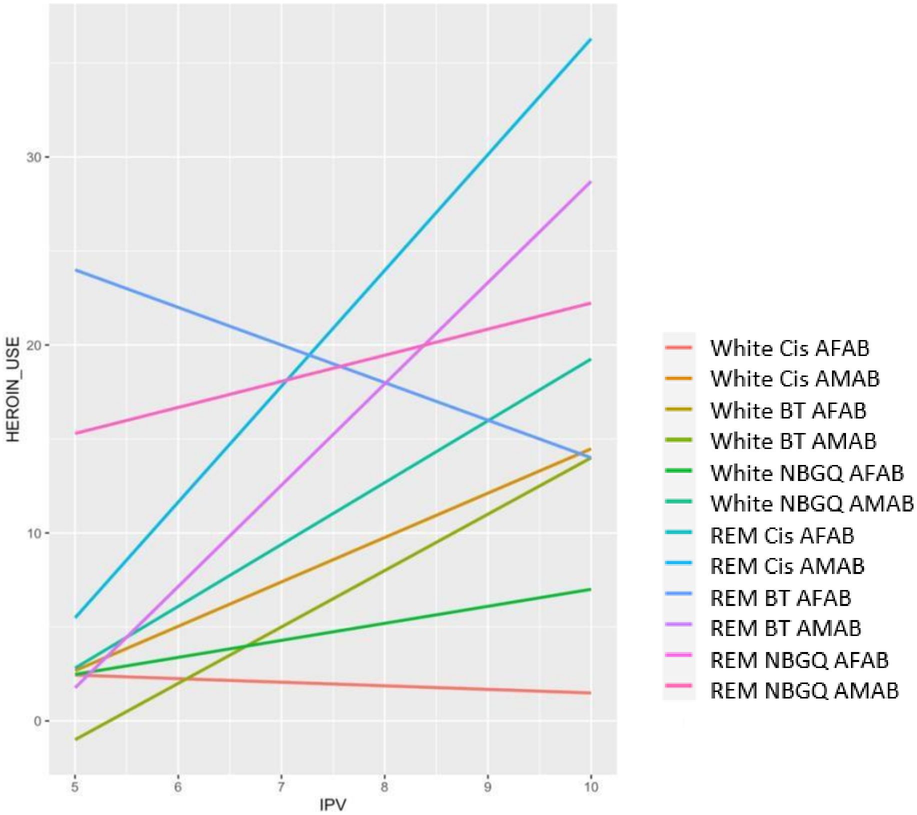


Figure 25. Moderation of the Association between Interpersonal Violence and Heroin Use by Intersectional (Race x Gender) Identity



Opioid. The interaction between IPV and gender in predicting prescription opioid use was found to be statistically significant [b = 0.47, 95% CI (0.38, 0.57), p<.001]. Follow-up simple regression analyses were conducted to examine the relationships between IPV and prescription opioid for each gender group. A statistically significant regression equation was found for cisgender AFAB [F(1,2267)= 67.46, p<.001, R^2= 0.029], and cisgender AMAB [F(1,1510)= 139.46, p<.001, R^2= 0.085] gender groups.

In a separate simple moderation analysis, the interaction between IPV and race x gender in predicting prescription opioid use was found to be statistically significant [b = 0.24, 95% CI (0.21, 0.27), p< .001]. Follow-up simple regression analyses were conducted to examine the relationships between IPV and prescription opioid use for each race x gender group. A statistically significant regression equation was found for White cisgender AMAB [F(1,994)= 30.58, p<.001, R^2= 0.03], REM cisgender AFAB [F(1,840)= 52.48, p<.001, R^2= 0.06], REM cisgender AMAB [F(1,480)= 66.06, p<.001, R^2= 0.121], REM BT AFAB [F(113)= 20.107, p<.001, R^2= 0.607], REM NBGQ AFAB [F(1,56)= 16.28, p<.001, R^2= 0.23] intersectional groups.

Figure 26. *Moderation of the Association between Interpersonal Violence and Prescription Opioid Use by Intersectional (Race x Gender) Identity*

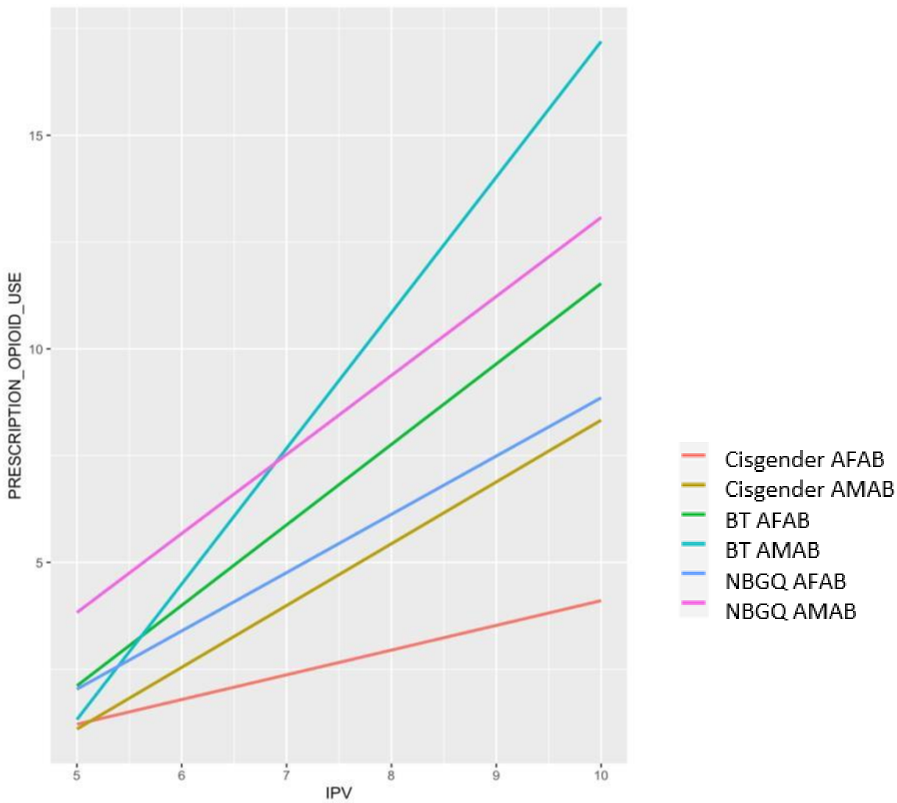
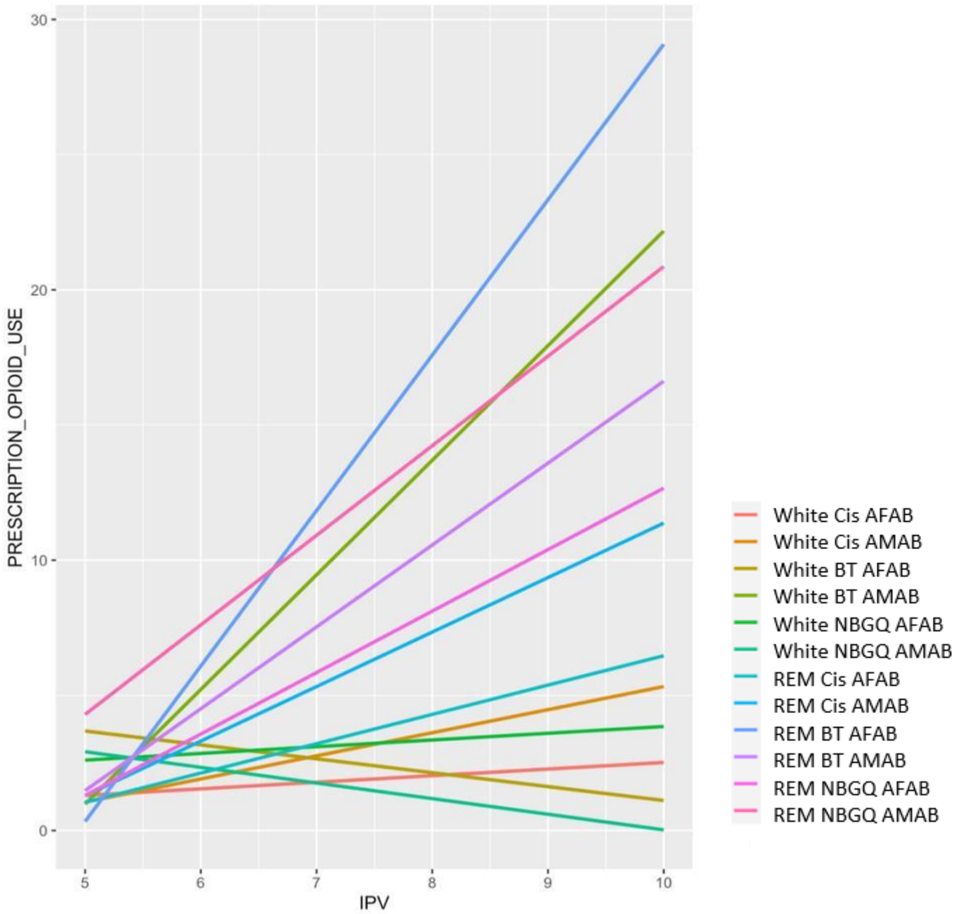


Figure 27. *Moderation of the Association between Interpersonal Violence and Prescription Opioid Use by Intersectional (Race x Gender) Identity*



Other Substance. The interaction between IPV and gender in predicting other substance use was not found to be statistically significant [*b* = 0.72, 95% CI (0.32, 1.12),*p*= 0.001. In a separate simple moderation analysis, the interaction between IPV and race x gender in predicting other substance use was not found to be statistically significant [*b* = 0.24, 95% CI (0.12, 0.37),*p*= 0.001].

General Abuse

Simple moderation analyses were conducted using PROCESS to examine the extent to which perceived safety predicted various mental health (see Table 18) and substance use (see Table 19) variables. Gender and race x gender were included as moderators in separate moderation analyses. Follow-up simple regression analyses were conducted, examining the relationship between perceived safety and mental health and substance use variables for gender (see Table 20) and race x gender (see Table 21) groups, as warranted.

Mental Healthcare Utilization

The interaction between general abuse and gender in predicting mental healthcare utilization was not found to be statistically significant [b = 0.01, 95% CI (-0.01, 0.02),p= 0.19]. A separate simple moderation analysis was conducted to examine the interaction between general abuse and race x gender in predicting mental healthcare utilization. The interaction between general abuse and race x gender was not found to be statistically significant [b = 0.002, 95% CI (-0.002, .001),p= 0.28].

Psychological Distress

The interaction between general abuse and gender in predicting psychological distress was not found to be statistically significant [b = 0.03, 95% CI (-0.002, 0.07),p= 0.07]. A separate simple moderation analysis was conducted to examine the interaction between general abuse and race x gender in predicting psychological distress. The interaction between general abuse and race x gender was not found to be statistically significant [b = -0.002, 95% CI (-0.01, 0.01),p= 0.67].

Non-Suicidal Self-Injury

The interaction between general abuse and gender in predicting NSSI was found to be statistically significant [b = 0.01, 95% CI (0.01, 0.02), p<.001]. Follow-up simple regression analyses were conducted to examine the relationships between general abuse and NSSI for each gender group. A statistically significant regression equation was found for all gender groups: cisgender AFAB [F(1,62289)= 1689.89, p<.001, R^2= 0.026], cisgender AMAB [F(1,27276)= 346.29, p<.001, R^2= .01], binary transgender AFAB [F(1,818)= 67.58, p<.001, R^2= .08], binary transgender AMAB [F(1, 9)= 0.04, $p<.001$, $R^2= .01$], NBGQ AFAB [F(1, 3530)= 67.95, $p<.001$, $R^2= .02$], and NBGQ AMAB [F(1, 757)= 53.58, $p<.001$, $R^2= .07$].

In a separate simple moderation analysis, the interaction between general abuse and race x gender in predicting NSSI was found to be statistically significant [b = 0.003, 95% CI (0.002, 0.003), $p< .001$]. Follow-up simple regression analyses were conducted to examine the relationships between general abuse and NSSI for each race x gender group. A statistically significant regression equation was found for White cisgender AFAB [F(1,32123)= 898.287, $p<.001$, $R^2= 0.027$], White cisgender AMAB [F(1,14091)= 134.84, $p<.001$, $R^2= 0.009$], White NBGQ AFAB [F(1,1284)= 19.24, $p<.001$, $R^2= 0.015$], REM cisgender AFAB [F(1,29464)= 722.77, $p<.001$, $R^2= 0.024$], REM cisgender AMAB [F(1,12650)= 188.70, $p<.001$, $R^2= 0.15$], REM BT AFAB [F(1,162)= 14.55, $p<.001$, $R^2= 0.08$], and REM BT AMAB [F(1,81)= 42.46, $p<.001$, $R^2= 0.343$], REM NBGQ AFAB [F(1,883)= 20.90, $p<.001$, $R^2= 0.023$], and REM NBGQ AMAB [F(1,187)= 89.78, $p<.001$, $R^2= 0.324$], gender groups.

Figure 28. *Moderation of the Association between General Abuse and NSSI by Gender Identity*

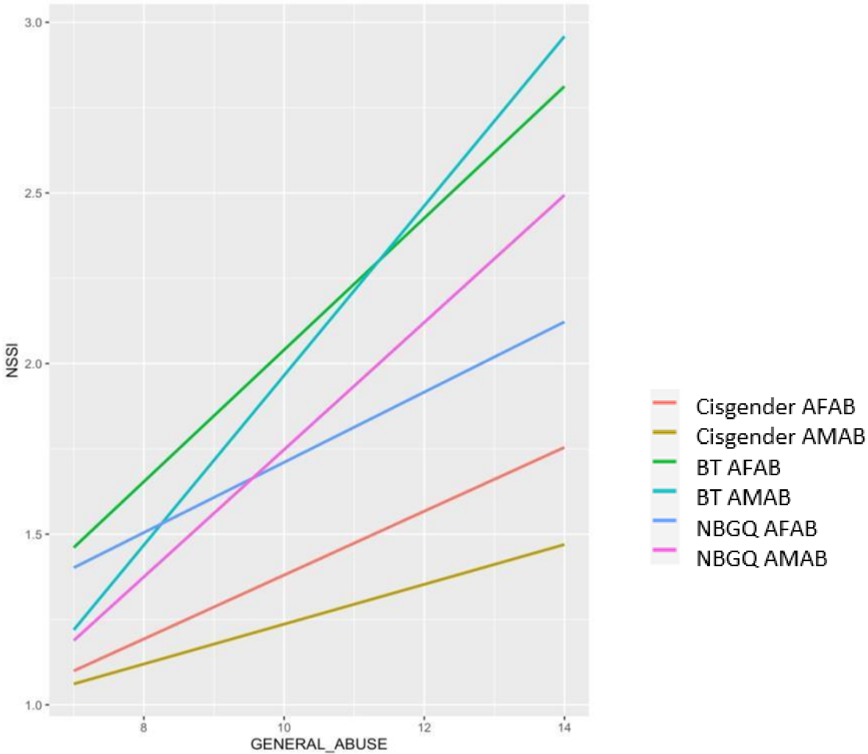
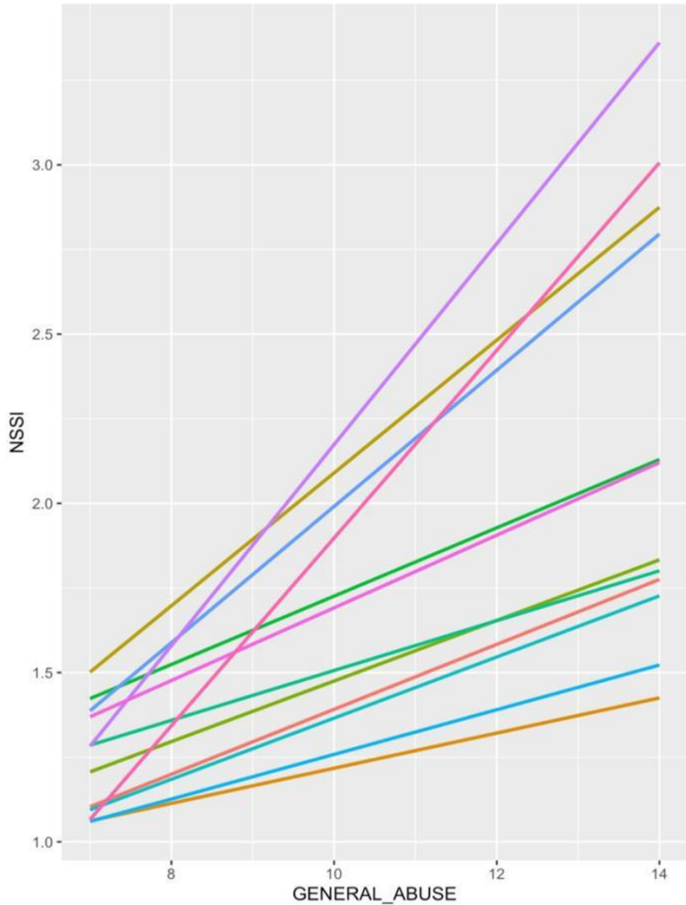


Figure 29. Moderation of the Association between General Abuse and NSSI by Intersectional (Race x Gender) Identity



Suicidality

The interaction between general abuse and gender in predicting suicidality was not found to be statistically significant [*b* = 0.001, 95% CI (-.02, 0.02),*p*= 0.90]. In a separate simple moderation analysis, the interaction between general abuse and race x gender in predicting suicidality was found to be statistically significant [*b* = 0.0002, 95% CI (-0.01, 0.01),*p*= 0.94].

Flourishing

The interaction between general abuse and gender in predicting flourishing was not found to be statistically significant [*b* = -.04, 95% CI (-.09, .02),*p*= 0.16]. In a separate simple moderation analysis, the interaction between general abuse and race x gender in predicting flourishing was not found to be statistically significant [*b* = -0.01, 95% CI (-0.03, 0.01),*p*= 0.26].

Substance Use

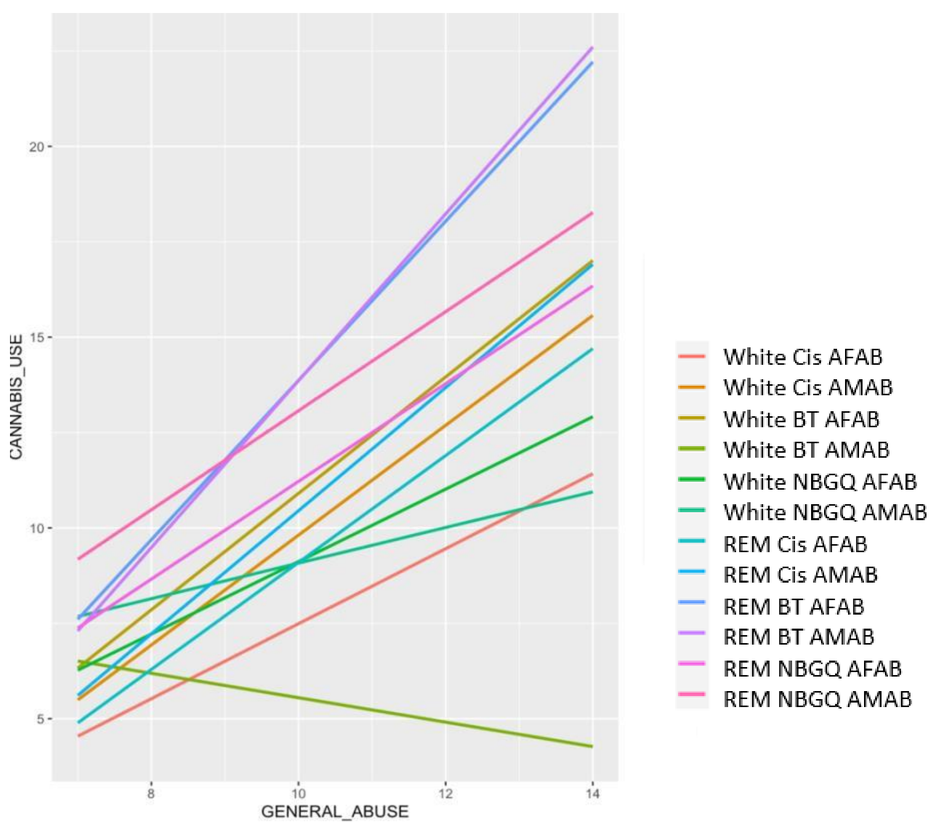
To investigate the extent to which general abuse predicted various substance use indicators, simple moderator analyses were performed using PROCESS. Given the number of analyses being conducted and the associated risk for type 1 error, a Bonferroni correction was utilized with a cutoff score of $p < .001$. The outcome variable for the analysis was substance use indicators. The predictor variable for the analysis was general abuse. The moderator variables included in separate moderation analyses were gender and race x gender.

Tobacco. The interaction between general abuse and gender in predicting tobacco use was not found to be statistically significant [b = 0.06, 95% CI (-0.02, 0.13), p= 0.13]. In a separate simple moderation analysis, the interaction between general abuse and race x gender in predicting tobacco use was not found to be statistically significant [b = -0.01, 95% CI (-0.03, 0.02), p= 0.62].

Alcohol. The interaction between general abuse and gender in predicting alcohol use was not found to be statistically significant [b = 0.03, 95% CI (-0.01, 0.08), p= 0.13]. In a separate simple moderation analysis, the interaction between general abuse and race x gender in predicting alcohol use was not found to be statistically significant [b = 0.03, 95% CI (0.01, 0.04), p=.020].

Cannabis. The interaction between general abuse and gender in predicting cannabis use was not found to be statistically significant [b = 0.01, 95% CI (-.04, .07), p= 0.13]. In a separate simple moderation analysis, the interaction between general abuse and race x gender in predicting cannabis use was found to be statistically significant [b = -0.31, 95% CI (-0.45, 0.18), $p < .001$]. A statistically significant regression equation was found for White cisgender AFAB [F(1,14820)= 258.606, $p<.001$, R^2= 0.017], White cisgender AMAB [F(1,6445)= 133.03, *p*<.001, R^2= 0.02], White NBGQ AFAB [F(1,741)= 13.82, *p*<.001, R^2= 0.018], REM cisgender AFAB [F(1,10749)= 318.38, *p*<.001, R^2= 0.029], REM cisgender AFAB [F(1,4325)= 103.58, *p*<.001, R^2= 0.02], REM NBGQ AFAB [F(1,477)= 17.758, *p*<.001, R^2= 0.036], intersectional groups.

Figure 30. *Moderation of the Association between General Abuse and Cannabis Use by Intersectional (Race x Gender) Identity*



Cocaine. The interaction between general abuse and gender in predicting cocaine use was found to be statistically significant [b = 0.24, 95% CI (0.17,0.30), p<.001]. Follow-up simple regression analyses were conducted to examine the relationships between general abuse and cocaine use for each gender group. A statistically significant regression equation was found for cisgender AFAB [F(1,4330)= 166.52, p<.001, R^2= .037], cisgender AMAB [F(1,2442)= 183.00, p<.001, R^2= 0.07], binary transgender AFAB [F(1,50)= 49.25, p<.001, R^2= 0.50], NBGQ AFAB [F(1, 311)= 15.70, p<.001, R^2= .05], and NBGQ AMAB [F(1, 87)= 49.66, p<.001, R^2= .36] gender groups.

In a separate simple moderation analysis, the interaction between general abuse and race x gender in predicting cocaine use was found to be statistically significant [b = 0.10, 95% CI (0.08, 0.13), p< .001]. A statistically significant regression equation was found for White cisgender AFAB [F(1,2695)= 87.90, p<.001, R^2= 0.032], White cisgender AMAB [F(1,1526)= 111.23, p<.001, R^2= 0.068], REM cisgender AFAB [F(1,1603)= 65.25, p<.001, R^2= 0.039], REM cisgender AMAB [F(1,860)= 51.76, p<.001, R^2= 0.057], REM BT AFAB [F(1,13)= 48.88, p<.001, R^2= 0.79], and REM NBGQ AMAB [F(1,19)= 57.37, p<.001, R^2= 0.75] gender groups.

Figure 31. Moderation of the Association between General Abuse and Cocaine Use by Gender Identity

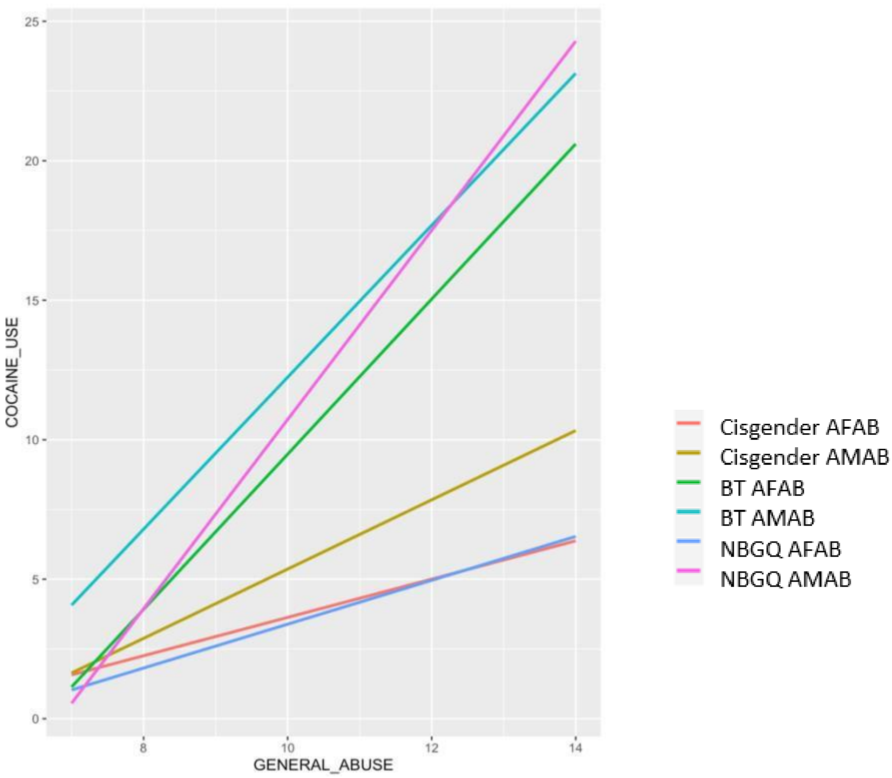
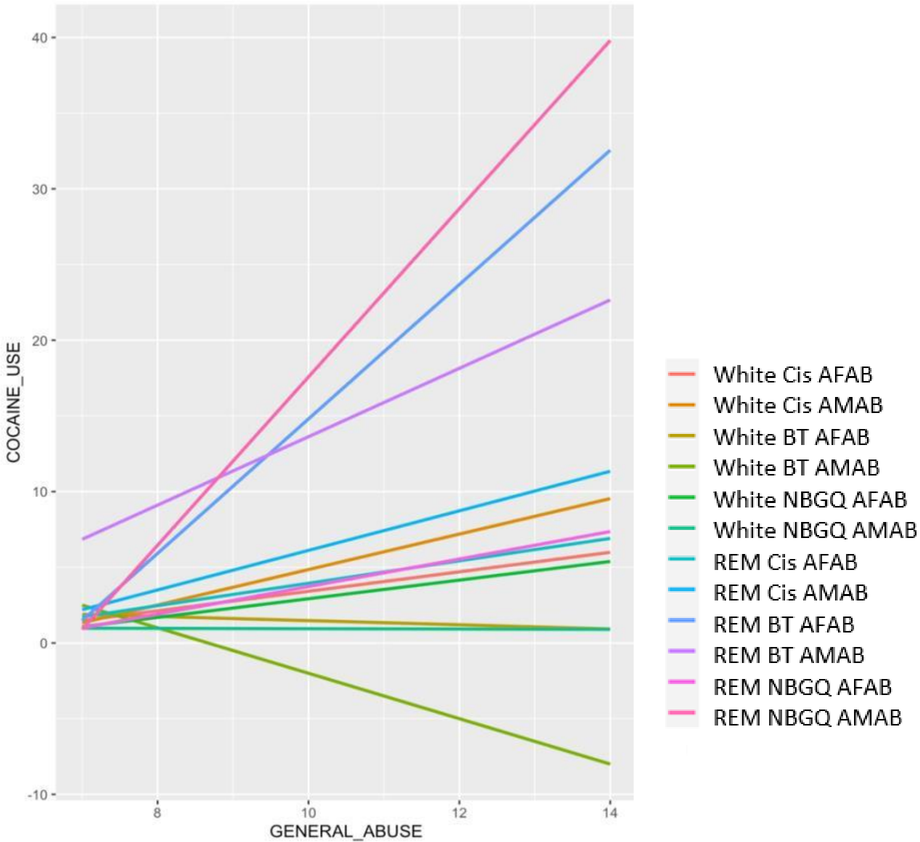


Figure 32. Moderation of the Association between General Abuse and Cocaine Use by Intersectional (Race x Gender) Identity



Stimulant. The interaction between general abuse and gender in predicting prescription stimulant use was found to be statistically significant [b = 0.26, 95% CI (0.20, 0.32), p<.001]. Follow-up simple regression analyses were conducted to examine the relationships between general abuse and prescription stimulant use for each gender group. A statistically significant regression equation was found for all gender groups: cisgender AFAB [F(1,5057)= 155.58, p<.001, R^2= .03], cisgender AMAB [F(1,2661)= 180.32, p<.001, R^2= .0.06], binary transgender AFAB [F(1,76)= 39.14, p<.001, R^2= 0.34], binary transgender AMAB [F(1, 38)= 17.25, p<.001, R^2= 0.31], NBGQ AFAB [F(1, 405)= 20.97, p<.001, R^2= 0.05], and NBGQ AMAB [F(1, 109)= 48.13, p<.001, R^2= 0.31].

In a separate simple moderation analysis, the interaction between general abuse and race x gender in predicting prescription stimulant use was found to be statistically significant [b = 0.11, 95% CI (0.09, 0.13), p< .001]. A statistically significant regression equation was found for

White cisgender AFAB [F(1,3140)= 71.73, p<.001, R^2= 0.022], White cisgender AMAB [F(1,1753)= 76.67, p<.001, R^2= 0.042], REM cisgender AFAB [F(1,1881)= 65.70, p<.001, R^2= 0.034], REM cisgender AMAB [F(1,857)= 66.58, p<.001, R^2= 0.072], REM BT AFAB [F(1,14)= 21.91, p<.001, R^2= 0.61], REM NBGQ AMAB [F(1,29)= 26.28, p<.001, R^2= 0.475], race x gender groups.

Figure 33. Moderation of the Association between General Abuse and Prescription Stimulant Use by Gender Identity

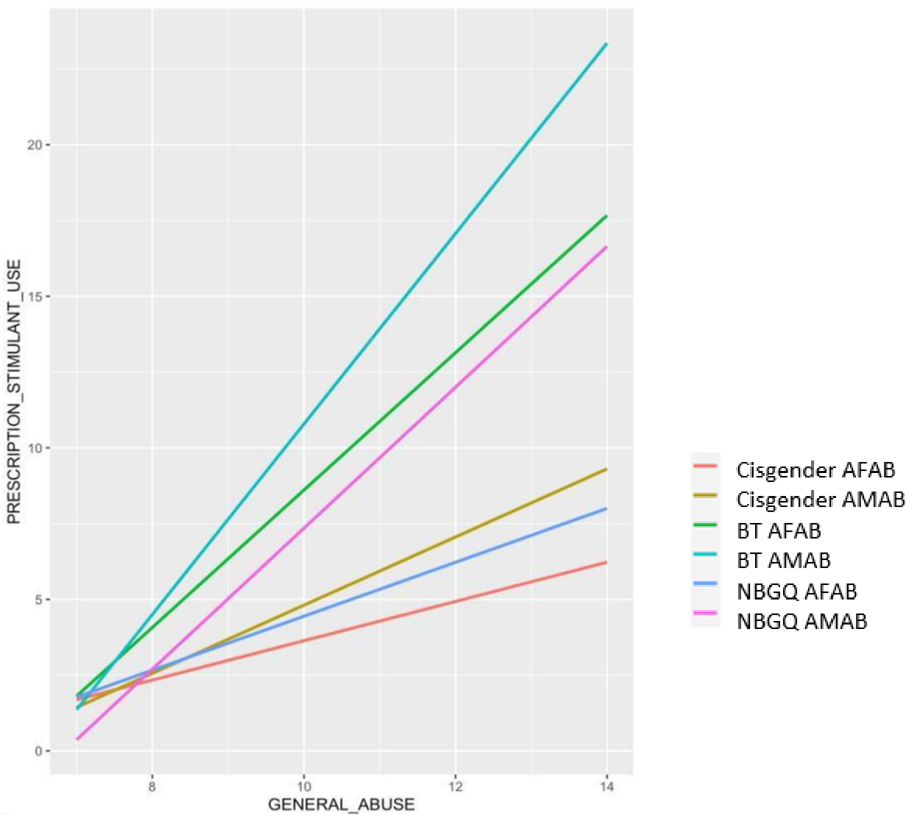
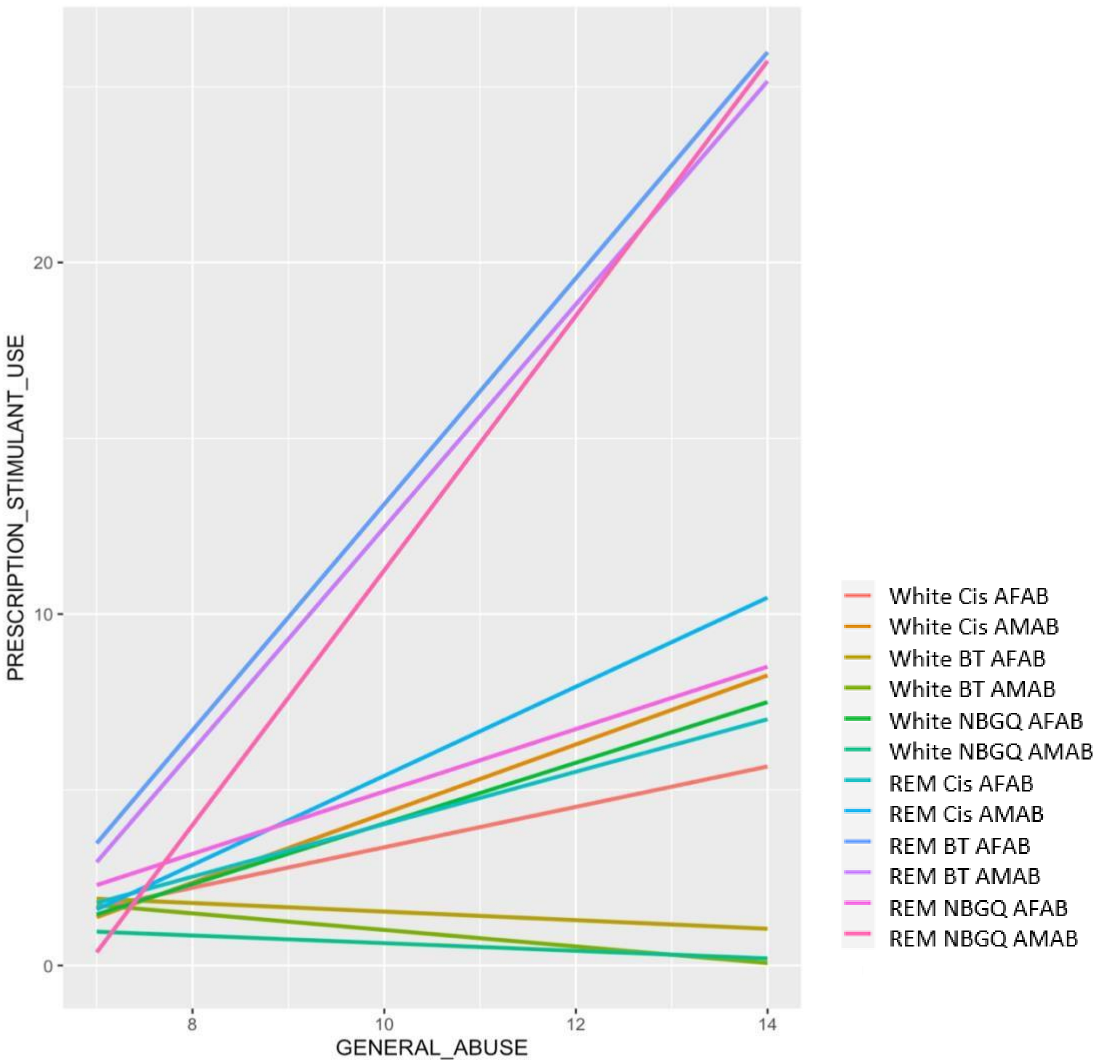


Figure 34. Moderation of the Association between General Abuse and Prescription Stimulant Use by Intersectional (Race x Gender) Identity


PRESCRIPTION_STIMULANT_USE
GENERAL_ABUSE
0
10
20
8
10
12
14
White Cis AFAB
White Cis AMAB
White BT AFAB
White BT AMAB
White NBGQ AFAB
White NBGQ AMAB
REM Cis AFAB
REM Cis AMAB
REM BT AFAB
REM BT AMAB
REM NBGQ AFAB
REM NBGQ AMAB

Methamphetamine. The interaction between general abuse and gender in predicting methamphetamine use was found to be statistically significant [*b* = 0.51, 95% CI (0.39, 0.64), $p<.001$]. Follow-up simple regression analyses were conducted to examine the relationships between general abuse and methamphetamine use for each gender group. A statistically significant regression equation was found for cisgender AFAB [$F(1,774)= 54.63$, $p<.001$, $R^2=.066$], cisgender AMAB [$F(1,500)= 147.92$, $p<.001$, $R^2= 0.228$], binary transgender AFAB [$F(1,17)= 34.60$, $p<.001$, $R^2= 0.67$], and NBGQ AFAB [$F(1, 59)= 20.67$, $p<.001$, $R^2= 0.26$], gender groups.

In a separate simple moderation analysis, the interaction between general abuse and race x gender in predicting methamphetamine use was found to be statistically significant [*b* = 0.25, 95% CI (0.20, 0.29), $p< .001$]. A statistically significant regression equation was found for White cisgender AMAB [$F(1,281)= 52.63$, $p<.001$, $R^2= 0.158$], REM cisgender AFAB [$F(1,325)= 40.48$, $p<.001$, $R^2= 0.11$], REM cisgender AMAB [$F(1,201)= 67.86$, $p<.001$, $R^2= 0.252$], and REM NBGQ AMAB [$F(1,10)= 33.76$, $p<.001$, $R^2= 0.771$].

Figure 35. Moderation of the Association between General Abuse and Methamphetamine Use by Gender Identity

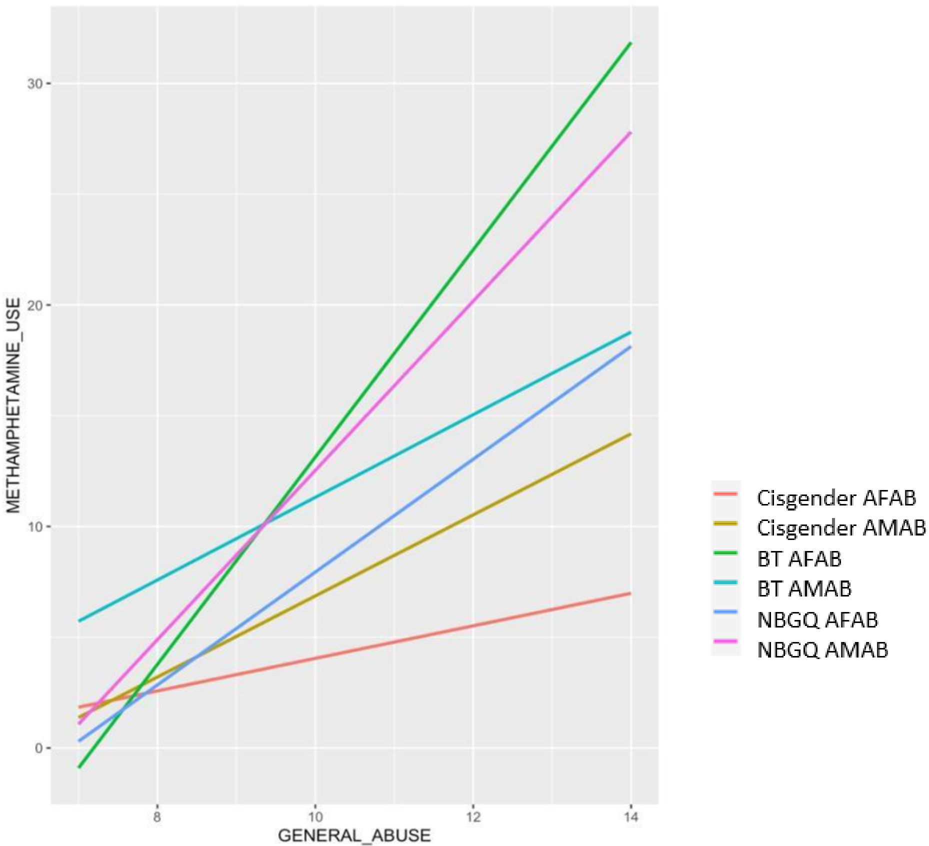
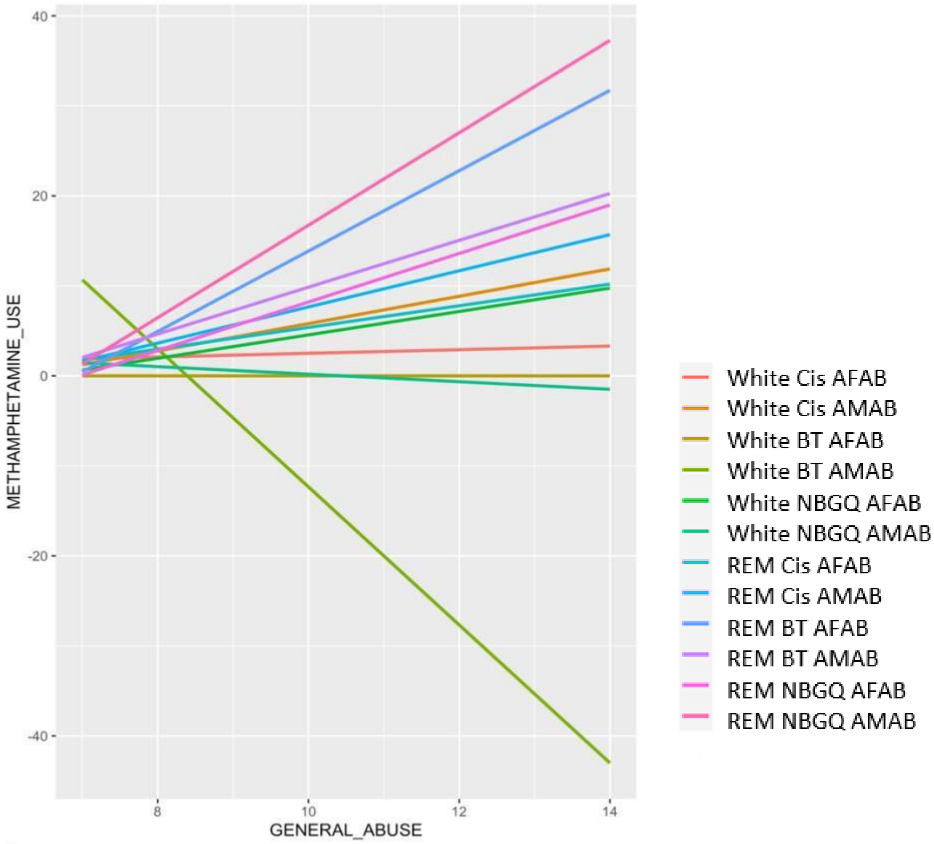


Figure 36. Moderation of the Association between General Abuse and Methamphetamine Use by Intersectional (Race x Gender) Identity



Inhalant. The interaction between general abuse and gender in predicting inhalant use was found to be statistically significant [*b* = 0.26, 95% CI (0.19, 0.32), $p<.001$]. Follow-up simple regression analyses were conducted to examine the relationships between general abuse and inhalant use for each gender group. A statistically significant regression equation was found for cisgender AFAB [F(1,1900)= 132.82, $p<.001$, R^2= 0.065], cisgender AMAB [F(1,1587)= 194.31, $p<.001$, R^2= 0.109], binary transgender AFAB [F(1,61)= 40.10, $p<.001$, R^2= 0.40], NBGQ AFAB [F(1, 279)= 30.28, $p<.001$, R^2= 0.10], and NBGQ AMAB [F(1, 121)= 56.58, $p<.001$, R^2= 0.32] gender groups.

In a separate simple moderation analysis, the interaction between general abuse and race x gender in predicting inhalant use was found to be statistically significant [*b* = 0.22, 95% CI (0.19, 0.24), $p< .001$]. A statistically significant regression equation was found for White cisgender AFAB [F(1,1148)= 37.33, p<.001, R^2= 0.031], White cisgender AMAB [F(1,947)= 70.49, p<.001, R^2= 0.069], REM cisgender AFAB [F(1,732)= 67.68, p<.001, R^2= 0.085], REM cisgender AMAB [F(1,611)= 83.19, p<.001, R^2= 0.12], and REM NBGQ AMAB [F(1,37)= 72.01, p<.001, R^2= 0.66].

Figure 37. Moderation of the Association between General Abuse and Inhalant Use by Gender Identity

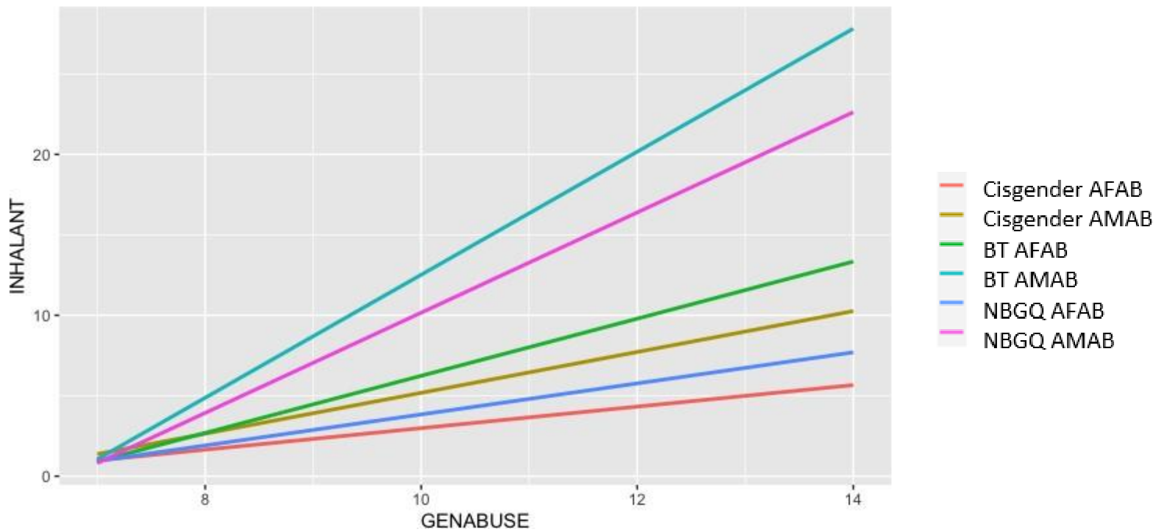
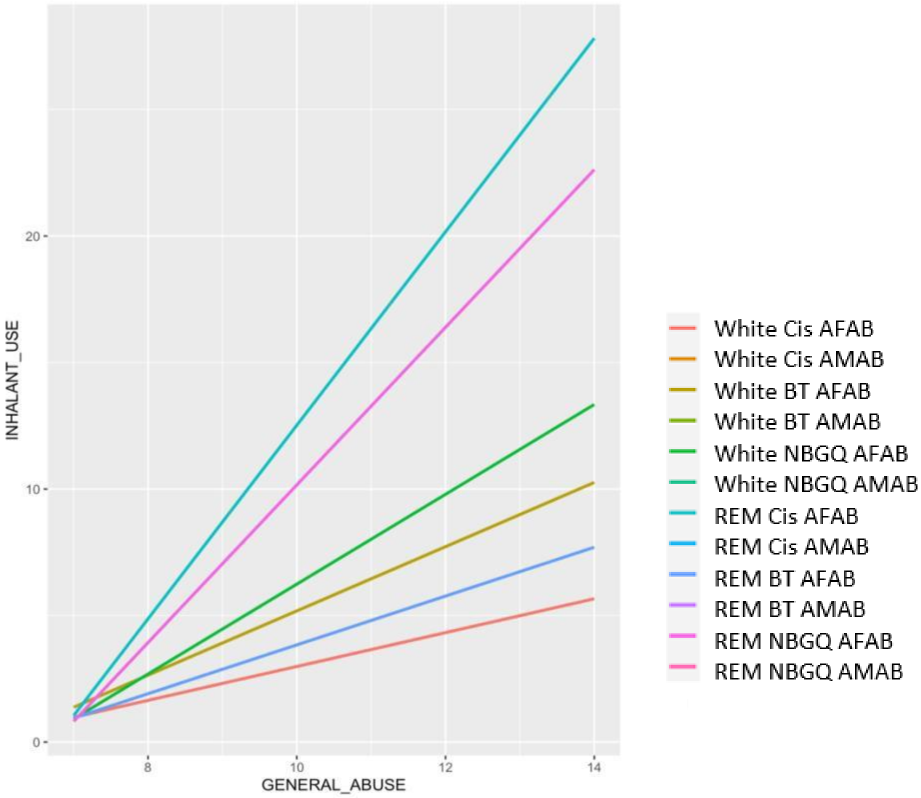


Figure 38. Moderation of the Association between General Abuse and Inhalant Use by Intersectional (Race x Gender) Identity



Sedative. The interaction between general abuse and gender in predicting sedative use was found to be statistically significant [b = 0.24, 95% CI (0.16, 0.31), p<.001]. Follow-up simple regression analyses were conducted to examine the relationships between general abuse and sedative use for each gender group. A statistically significant regression equation was found for cisgender AFAB [F(1,3359)= 98.06, p<.001, R^2= 0.028], cisgender AMAB [F(1,1749)= 112.43, p<.001, R^2= 0.06], binary transgender AFAB [F(1,85)= 65.85, p<.001, R^2= 0.44], and NBGQ AFAB [F(1, 340)= 21.26, p<.001, R^2= 0.06] gender groups.

In a separate simple moderation analysis, the interaction between general abuse and race x gender in predicting sedative use was found to be statistically significant [b = 0.12, 95% CI (0.09, 0.14), p< .001]. A statistically significant regression equation was found for White cisgender AFAB [F(1,2027)= 52.85, p<.001, R^2= 0.025], White cisgender AMAB [F(1,1055)= 42.09, p<.001, R^2= 0.038], REM cisgender AFAB [F(1,1292)= 33.08, p<.001, R^2= 0.025], REM cisgender AMAB [F(1,649)= 42.94, p<.001, R^2= 0.062], REM BT AFAB [F(1,14)= 66.78, p<.001, R^2= 0.83], REM NBGQ AFAB [F(1,73)= 12.25, p<.001, R^2= 0.144], and REM NBGQ AMAB [F(1,22)= 20.84, p<.001, R^2= 0.486] intersectional groups.

Figure 39. Moderation of the Association between General Abuse and Sedative Use by Gender Identity

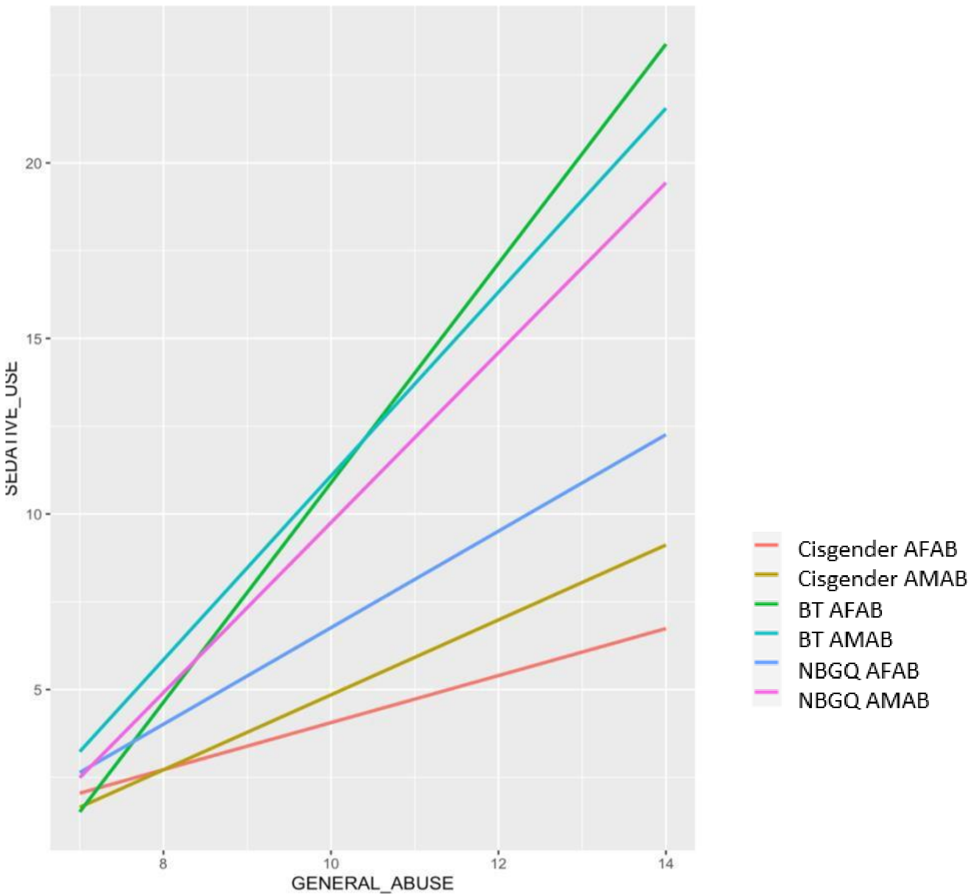
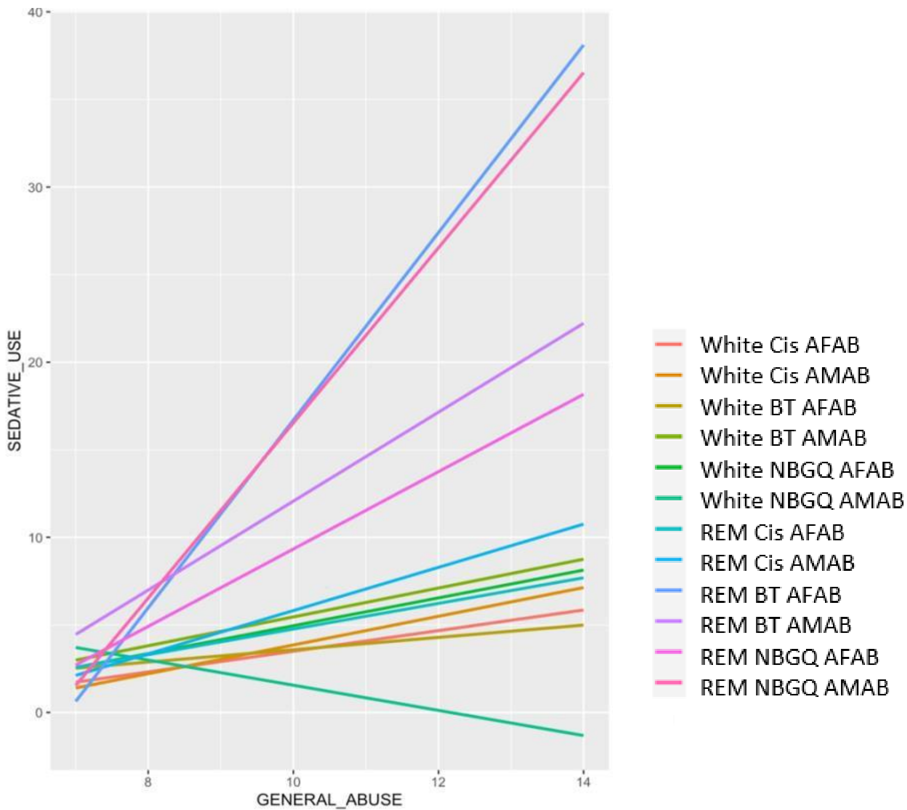


Figure 40. Moderation of the Association between General Abuse and Sedative Use by Intersectional (Race x Gender) Identity



Hallucinogen. The interaction between general abuse and gender in predicting hallucinogen use was found to be statistically significant [b = 0.14, 95% CI (0.10, 0.18), p<.001]. Follow-up simple regression analyses were conducted to examine the relationships between general abuse and hallucinogen use for each gender group. A statistically significant regression equation was found for all gender groups: cisgender AFAB [F(1,6326)= 298.04, p<.001, R^2= 0.045], cisgender AMAB [F(1,3959)= 272.08, p<.001, R^2= 0.064], binary transgender AFAB [F(1,121)= 45.14, p<.001, R^2= 0.27], binary transgender AMAB [F(1,67)= 16.55, p<.001, R^2= 0.20], NBGQ AFAB [F(1, 713)= 27.44, p<.001, R^2= 0.04], and NBGQ AMAB [F(1, 191)= 25.63, p<.001, R^2= 0.12].

In a separate simple moderation analysis, the interaction between general abuse and race x gender in predicting hallucinogen use was found to be statistically significant [b = 0.11, 95% CI (0.09, 0.12), p< .001]. A statistically significant regression equation was found for White cisgender AFAB [F(1,3746)= 124.29, p<.001, R^2= 0.03], White cisgender AMAB [F(1,2495)= 129.41, p<.001, R^2= 0.049], REM cisgender AFAB [F(1,2509)= 137.01, p<.001, R^2= 0.05], REM cisgender AMAB [F(1,1390)= 111.47, p<.001, R^2= 0.074], REM NBGQ AFAB [F(1,179)= 19.67, p<.001, R^2= 0.099], and REM NBGQ AMAB [F(1,48)= 20.17, p<.001, R^2= 0.296].

Figure 40. Moderation of the Association between General Abuse and Hallucinogen Use by Gender Identity

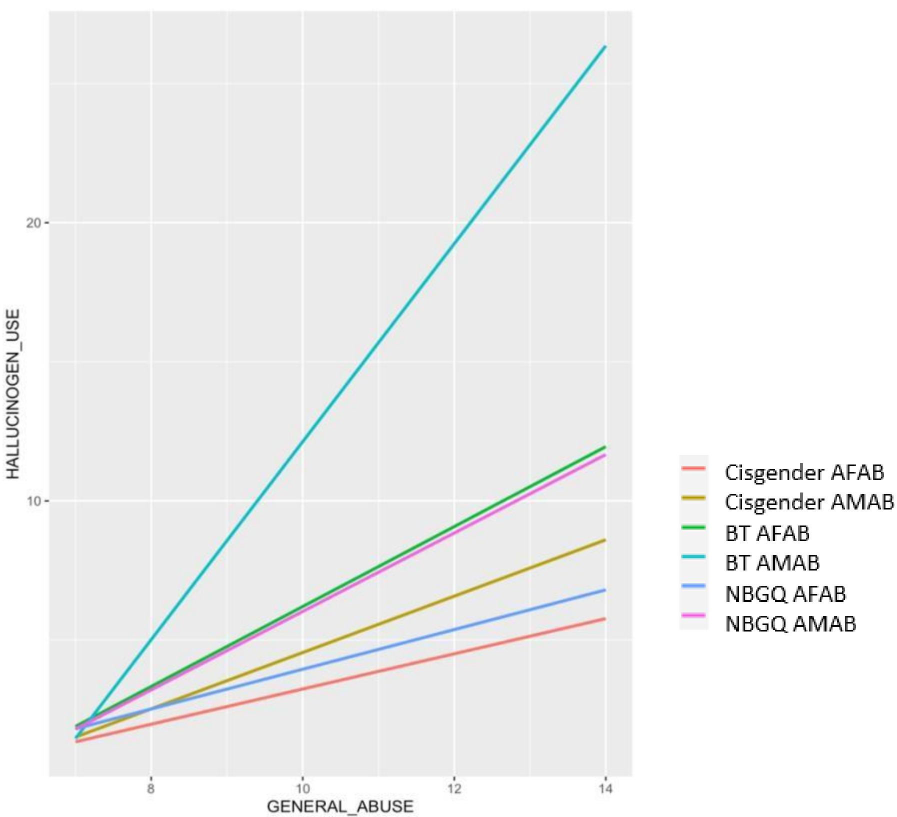
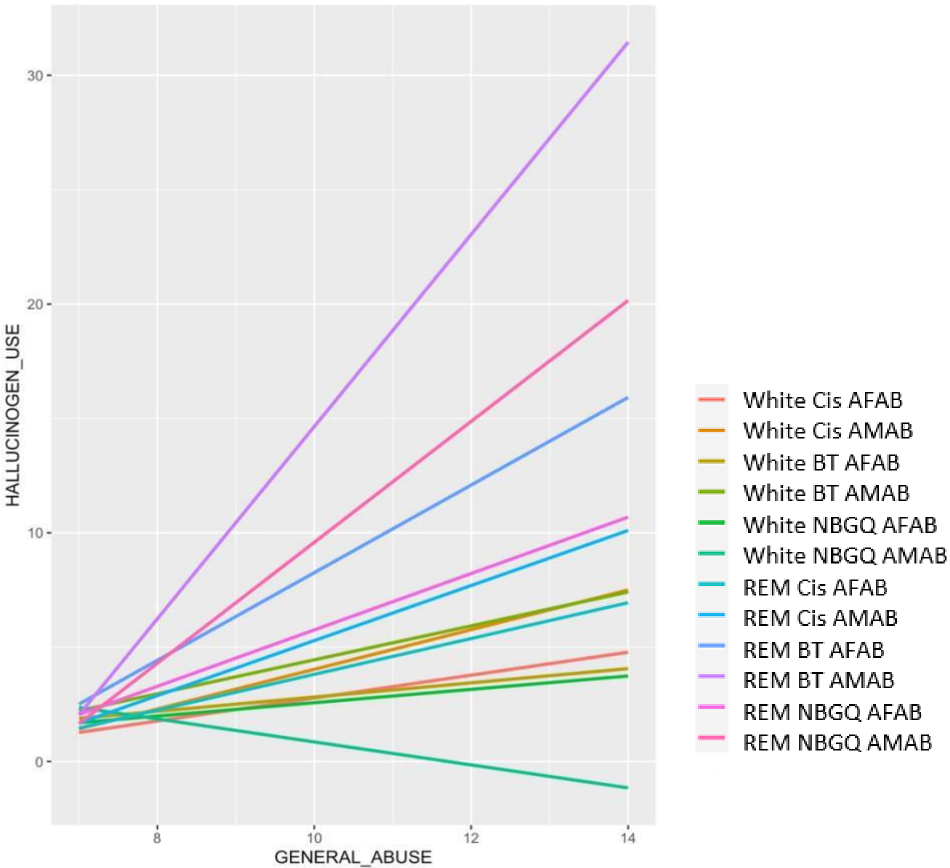


Figure 41. Moderation of the Association between General Abuse and Hallucinogen Use by Intersectional (Race x Gender) Identity



Heroin. The interaction between general abuse and gender in predicting heroin use was found to be statistically significant [*b* = 0.65, 95% CI (0.45, 0.86), p<.001]. Follow-up simple regression analyses were conducted to examine the relationships between general abuse and heroin use for each gender group. A statistically significant regression equation was found for cisgender AFAB [F(1,304)= 14.51, p<.001, R^2= 0.046], cisgender AMAB [F(1,222)= 54.24, p<.001, R^2= 0.196], NBGQ AFAB [F(1, 22)= 37.80, p<.001, R^2= 0.63], and NBGQ AMAB [F(1, 22)= 37.80, p<.001, R^2= 0.63] gender groups.

In a separate simple moderation analysis, the interaction between general abuse and race x gender in predicting heroin use was found to be statistically significant [*b* = 0.29, 95% CI (0.22, 0.36), p< .001]. A statistically significant regression equation was found for White cisgender AMAB [F(1,135)= 21.24, p<.001, R^2= 0.136], REM cisgender AMAB [F(1,78)=

19.56, p<.001, R^2= 19.56], and REM NBGQ AFAB [F(1,7)= 55.23, p<.001, R^2= 0.89] intersectional groups.

Figure 42. Moderation of the Association between General Abuse and Heroin Use by Gender Identity

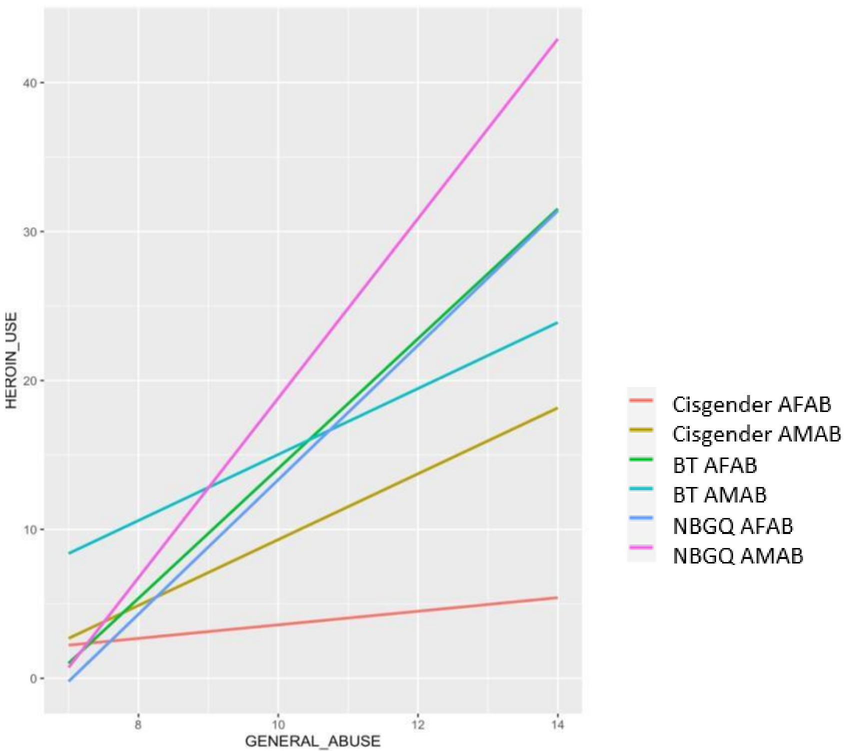
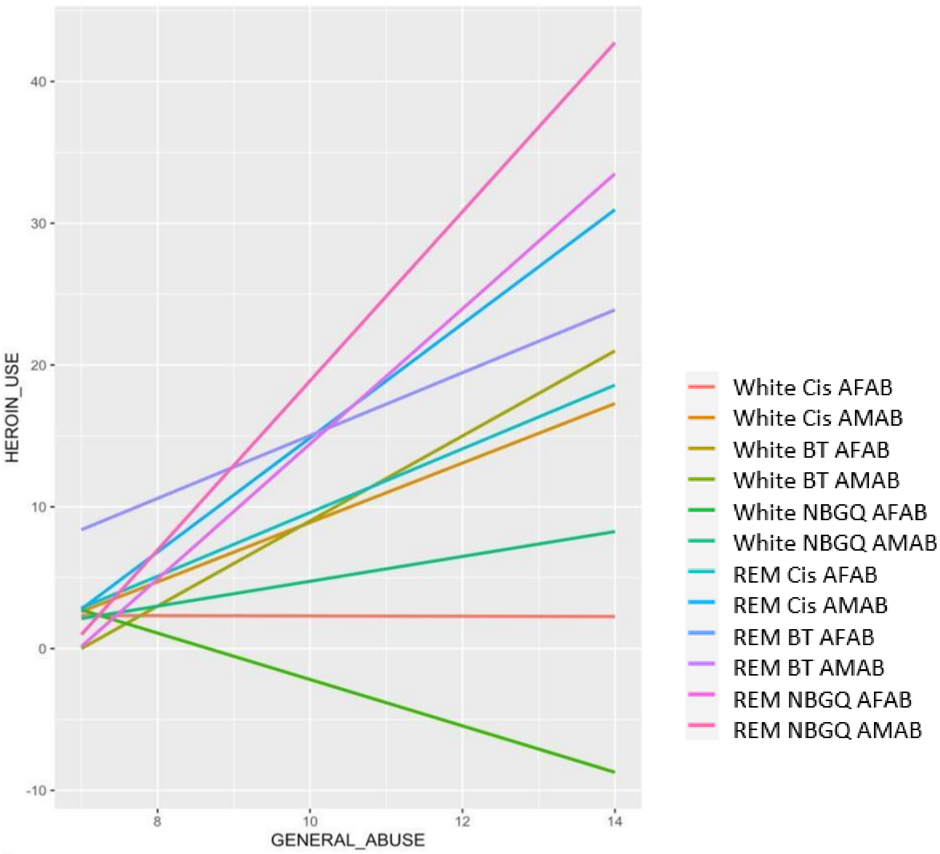


Figure 43. Moderation of the Association between General Abuse and Heroin Use by Intersectional (Race x Gender) Identity



Opioid. The interaction between general abuse and gender in predicting prescription opioid use was found to be statistically significant [*b* = 0.39, 95% CI (0.32, 0.47), *p*<.001]. Follow-up simple regression analyses were conducted to examine the relationships between general abuse and opioid use for each gender group. A statistically significant regression equation was found for cisgender AFAB [F(1,2260)= 135.47, *p*<.001, R^2= 0.057], cisgender AMAB [F(1,1510)= 465.19, *p*<.001, R^2= 0.218.430], binary transgender AFAB [F(1,71)= 44.38, *p*<.001, R^2= 0.39], NBGQ AFAB [F(1, 240)= 24.38, *p*<.001, R^2= .09], and NBGQ AMAB [F(1, 43)= 23.74, *p*<.001, R^2= 0.36] gender groups.

In a separate simple moderation analysis, the interaction between general abuse and race x gender in predicting prescription opioid use was found to be statistically significant [*b* = 0.23, 95% CI (0.20, 0.25), *p*< .001]. A statistically significant regression equation was found for

White cisgender AFAB [F(1,1399)= 23.64, p<.001, R^2= 0.017], White cisgender AMAB [F(1,993)= 30.29, p<.001, R^2= 0.030], REM cisgender AFAB [F(1,833)= 98.49, p<.001, R^2= 0.106], REM cisgender AMAB [F(1,482)= 137.83, p<.001, R^2= 0.222], REM BT AFAB [F(1,12)= 72.84, p<.001, R^2= 0.859], REM NBGQ AFAB [F(1,57)= 18.86, p<.001, R^2= 0.249], and REM NBGQ AMAB [F(1,20)= 69.08, p<.001, R^2= 0.78] intersectional groups.

Figure 44. *Moderation of the Association between General Abuse and Prescription Opioid Use by Gender Identity*

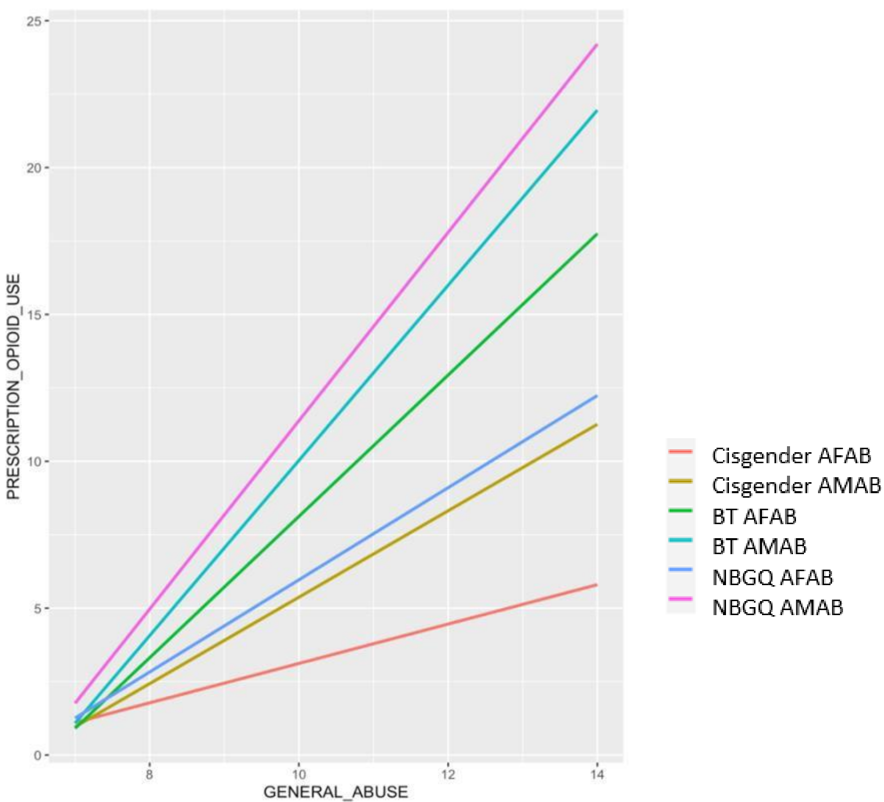
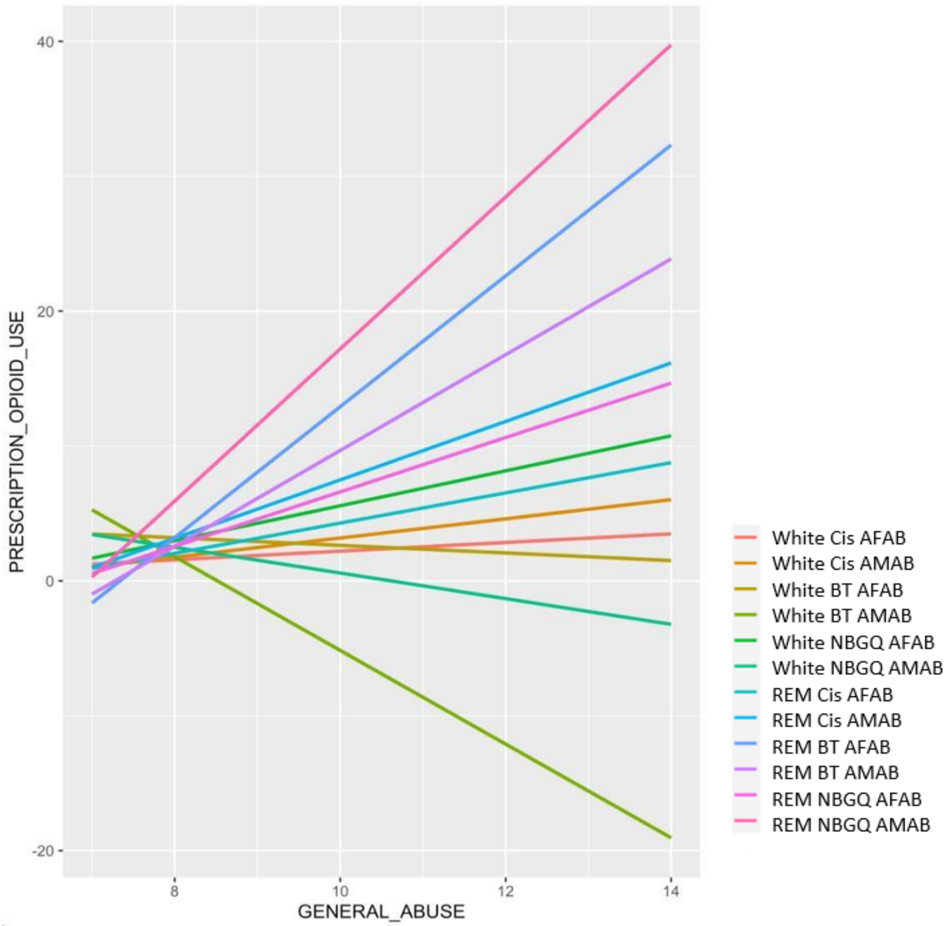


Figure 45. *Moderation of the Association between General Abuse and Prescription Opioid Use by Intersectional (Race x Gender) Identity*



Other Substance. The interaction between general abuse and gender in predicting other substance use was not found to be statistically significant [*b* = 0.50, 95% CI (0.22, 0.78),*p*= 0.001]. In a separate simple moderation analysis, the interaction between general abuse and race x gender in predicting other substance use was not found to be statistically significant [*b* = 0.18, 95% CI (0.09, 0.28),*p*= 001].

Bullying

Simple moderation analyses were conducted using PROCESS to examine the extent to which bullying predicted various mental health (see Table 22) and substance use (see Table 23) variables. Gender and race x gender were included as moderators in separate moderation analyses. Follow-up simple regression analyses were conducted, examining the relationship between perceived safety and mental health and substance use variables for gender (see Table 24) and race x gender (see Table 25) groups, as warranted.

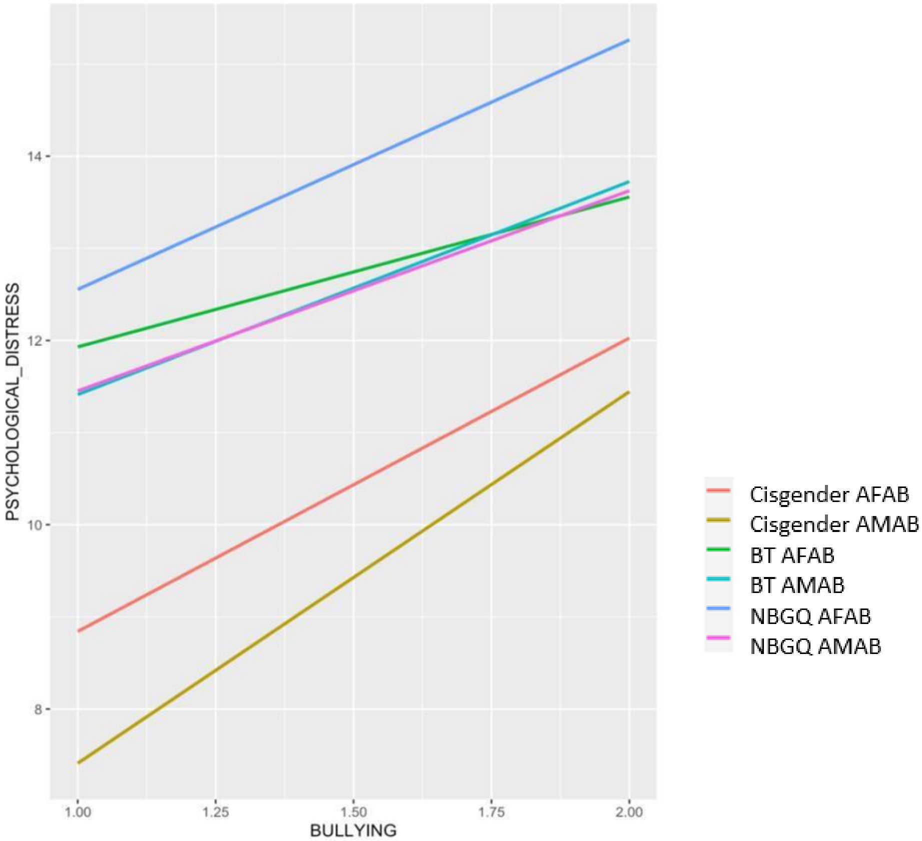
Mental Healthcare Utilization

The interaction between bullying and gender in predicting mental healthcare utilization was not found to be statistically significant [b = 0.13, 95% CI (0.09, 0.17), p=.001]. A separate simple moderation analysis was conducted to examine the interaction between bullying and race x gender in predicting mental healthcare utilization. The interaction between bullying and race x gender was not found to be statistically significant [b = 0.03, 95% CI (0.01, 0.04), p=.004].

Psychological Distress

The interaction between bullying and gender in predicting psychological distress was found to be statistically significant [b = 0.37, 95% CI (0.27, 0.47), p< .001]. Follow-up simple regression analyses were conducted to examine the relationships between bullying and psychological distress for each gender group. A statistically significant regression equation was found for cisgender AFAB [F(1,62422)= 1487.28, p<.001, R^2= 0.023], cisgender AMAB [F(1,27350)= 874.92, p<.001, R^2= 0.03], binary transgender AFAB [F(1,442)= 4.87, p<.001, R^2= 0.01], and NBGQ AFAB [F(1, 3574)= 98.89, p<.001, R^2= 0.03] gender groups. A separate simple moderation analysis was conducted to examine the interaction between bullying and race x gender in predicting psychological distress. The interaction between bullying and race x gender was not found to be statistically significant [b = 0.07, 95% CI (0.04, 0.10), p=.006].

Figure 46. Moderation of the Association between Bullying and Psychological Distress by Gender Identity

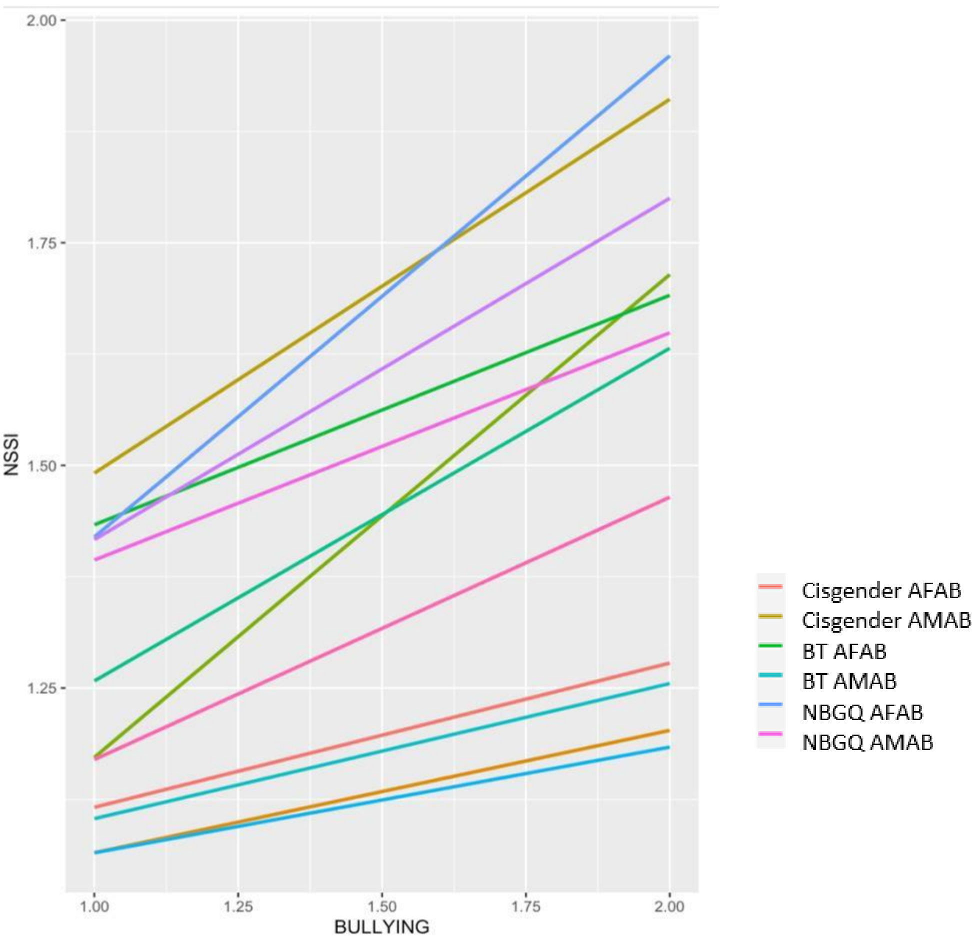


Non-Suicidal Self-Injury

The interaction between NSSI and gender in predicting NSSI was not found to be statistically significant [*b* = -.04, 95% CI (0.04, .05), *p*=.001]. A separate simple moderation analysis was conducted to examine the interaction between bullying and race x gender in predicting NSSI. The interaction between bullying and race x gender was found to be statistically significant [*b* = 0.01, 95% CI (0.003, 0.008), $p < .001$]. Follow-up simple regression analyses were conducted to examine the relationships between bullying and NSSI for each race x gender group. A statistically significant regression equation was found for White cisgender AFAB [F(1,32418)= 308.28, $p<.001$, R^2= 0.009], White cisgender AMAB [F(1,14232)= 119.19, $p<.001$, R^2= 0.008], White BT AMAB [F(1,134)= 12.29, $p<.001$, R^2= 0.084], and White NBGQ AFAB [F(1, 1293)= 17.12, $p<.001$, R^2= 0.013], REM cisgender AFAB [F(1,29845)= 263.09, $p<.001$, R^2= 0.009], REM cisgender AMAB [F(1,12800)= 90.76, $p<.001$, R^2= 0.007], REM BT

AFAB [F(1,166)= 8.33, p<.001, R^2= 0.048], REM NBGQ AFAB [F(1,896)= 11.93, p<.001, R^2= 0.013], and REM NBGQ AMAB [F(1,191)= 7.32, p<.001, R^2= 0.00.037] intersectional groups.

Figure 47. Moderation of the Association between Bullying and NSSI by Intersectional (Race x Gender) Identity



Suicidality

The interaction between bullying and gender in predicting suicidality was found to be statistically significant [b = 0.21, 95% CI (0.15, .0.26), p=01].

A separate simple moderation analysis was conducted to examine the interaction between bullying and race x gender in predicting suicidality. The interaction between bullying and race x gender was not found to be statistically significant [b = 0.05, 95% CI (0.03, 0.07), p= .02].

Flourishing

The interaction between bullying and gender in predicting flourishing was not found to be statistically significant [b = -0.24, 95% CI (-0.39, -0.08) ,p= 0.003]. A separate simple moderation analysis was conducted to examine the interaction between bullying and race x gender in predicting flourishing. The interaction between bullying and race x gender was not found to be statistically significant [b = -0.04, 95% CI (-0.09, 0.01), p= 0.081].

Substance Use

To investigate the extent to which bullying predicted various substance use indicators, a simple moderator analysis was performed using PROCESS. Given the number of analyses being conducted and the associated risk for type 1 error, a Bonferroni correction was utilized with a cutoff score of p< .001. The outcome variables for the analyses were various substance use indicators. The predictor variable for the analysis was bullying. The moderator variables were gender and race x gender in separate moderation analyses.

Tobacco. The interaction between bullying and gender in predicting tobacco use was not found to be statistically significant [b = -0.001, 95% CI (-0.23, .0.22),p= 0.993]. A separate simple moderation analysis was conducted to examine the interaction between bullying and race x gender in predicting tobacco use. The interaction between bullying and race x gender was not found to be statistically significant [b = 0.07, 95% CI (-0.01, 0.14),p= 0.074].

Alcohol. The interaction between bullying and gender in predicting alcohol use was not found to be statistically significant [b = 0.01, 95% CI (-0.11, .0.14),p= 0.838]. A separate simple moderation analysis was conducted to examine the interaction between bullying and race x gender in predicting alcohol use. The interaction between bullying and race x gender was not found to be statistically significant [*b* = 0.06, 95% CI (0.02, 0.10),*p*= 0.002].

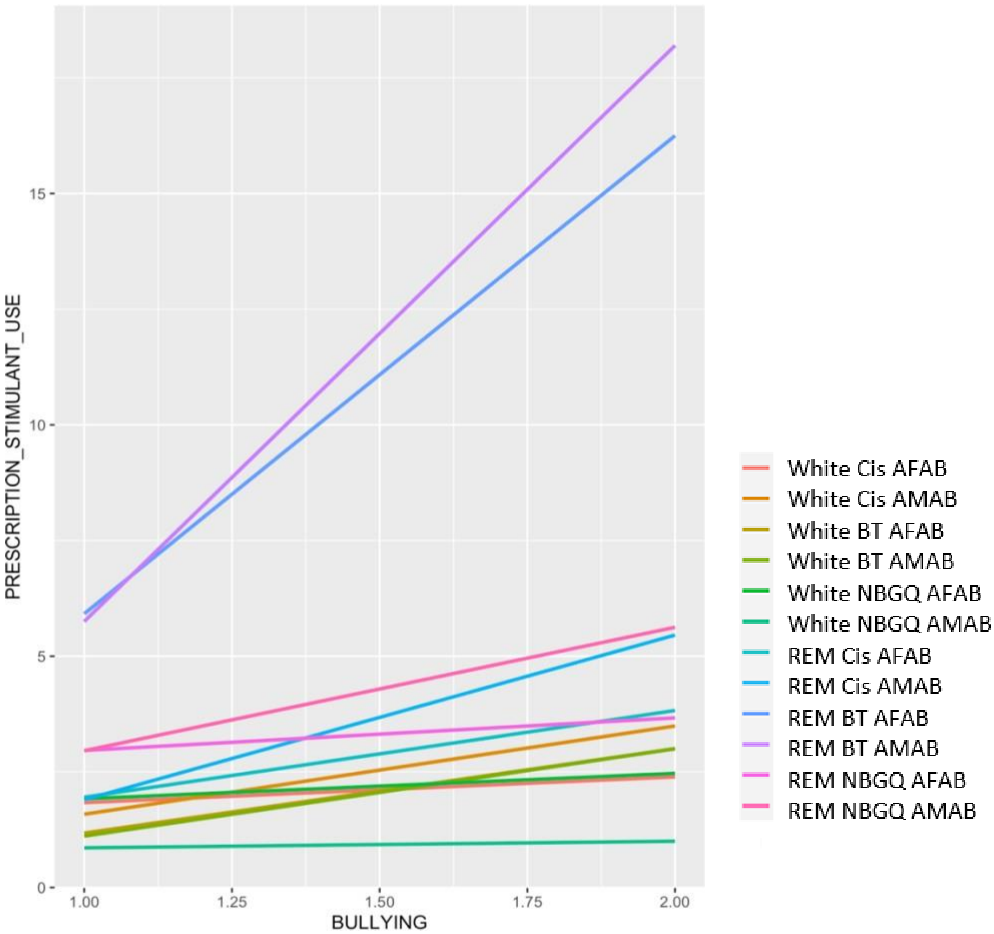
Cannabis. The interaction between bullying and gender in predicting cannabis use was not found to be statistically significant [*b* = 0.09, 95% CI (-0.09, .0.26),*p*= 0.339]. A separate simple moderation analysis was conducted to examine the interaction between bullying and race x gender in predicting cannabis use. The interaction between bullying and race x gender was not found to be statistically significant [*b* = 0.05, 95% CI (0.03, 0.07), *p*= .006].

Cocaine. The interaction between bullying and gender in predicting cocaine use was not found to be statistically significant [*b* = 0.34, 95% CI (0.09, .0.59) ,*p*= 0.007]. A separate simple moderation analysis was conducted to examine the interaction between bullying and race x gender in predicting cocaine use. The interaction between bullying and race x gender was not found to be statistically significant [*b* = 0.17, 95% CI (0.09, 0.25) ,*p*= .001].

Stimulant. The interaction between bullying and gender in predicting prescription stimulant use was not found to be statistically significant [*b* = 0.09, 95% CI (-0.09, .0.26),*p*= 0.001]. A separate simple moderation analysis was conducted to examine the interaction between bullying and race x gender in predicting stimulant use. The interaction between bullying and race x gender was found to be statistically significant [*b* = 0.29, 95% CI (0.22, 0.36), $p < .001$]. Follow-up simple regression analyses were conducted to examine the relationships between bullying and stimulant use for each race x gender group. A statistically significant regression equation was found for White cisgender AFAB [F(1,3167)= 5.48, $p<.001$, R^2= .002], White cisgender AMAB [F(1,1770)= 28.31, $p<.001$, R^2= 0.016], REM cisgender AFAB [F(1,1901)=

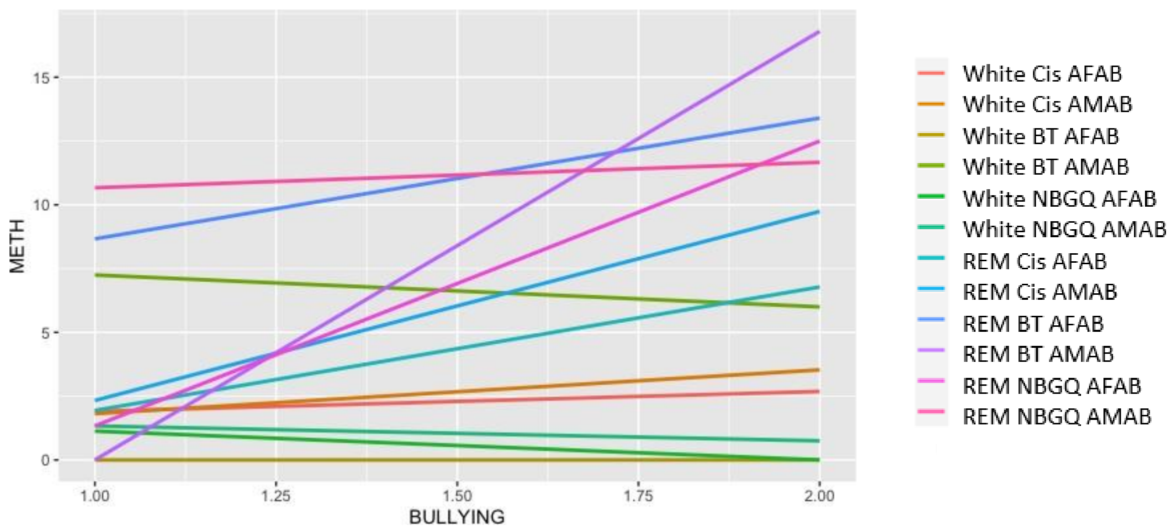
31.89, p<.001, R^2= .016], and REM cisgender AMAB [F(1,865)= 36.88, p<.001, R^2= .041], intersectional groups.

Figure 48. Moderation of the Association between Bullying and Prescription Stimulant Use by Intersectional (Race x Gender) Identity



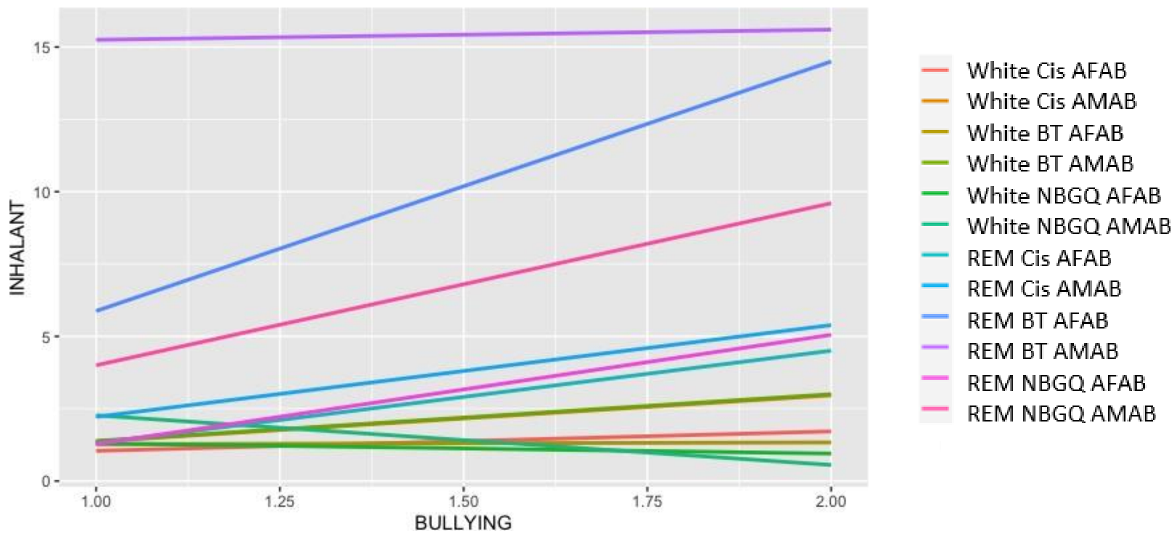
Methamphetamine. The interaction between bullying and gender in predicting methamphetamine use was not found to be statistically significant [*b* = 0.83, 95% CI (0.21, 1.45),*p*= 0.009]. A separate simple moderation analysis was conducted to examine the interaction between bullying and race x gender in predicting methamphetamine use. The interaction between bullying and race x gender was found to be statistically significant [*b* = 0.83, 95% CI (0.62, 1.05), $p < .001$]. Follow-up simple regression analyses were conducted to examine the relationships between bullying and methamphetamine use for each race x gender group. A statistically significant regression equation was found for REM cisgender AFAB [F(1,327)= 30.48, $p < .001$, $R^2 = .085$] and REM cisgender AMAB [F(1,12800)= 90.76, $p < .001$, $R^2 = .007$] intersectional groups.

Figure 49. Moderation of the Association between Bullying and Methamphetamine Use by Intersectional (Race x Gender) Identity



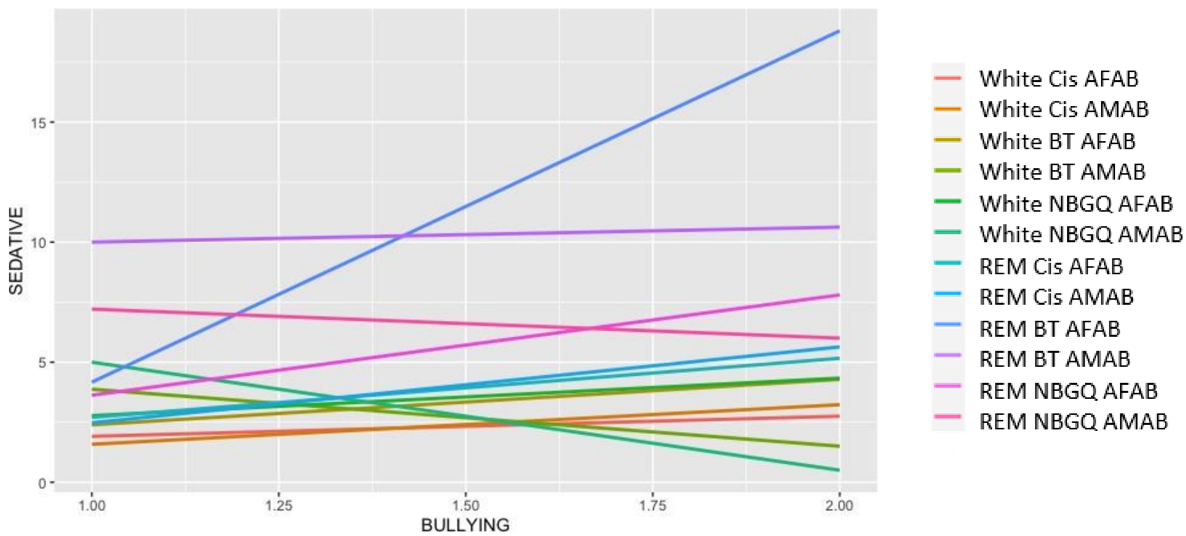
Inhalant. The interaction between bullying and gender in predicting inhalant use was not found to be statistically significant [b = 0.14, 95% CI (-0.10, 0.39),p= 0.258]. A separate simple moderation analysis was conducted to examine the interaction between bullying and race x gender in predicting inhalant use. The interaction between bullying and race x gender was found to be statistically significant [b = 0.53, 95% CI (0.44, 0.63), p< .001]. Follow-up simple regression analyses were conducted to examine the relationships between bullying and inhalant use for each race x gender group. A statistically significant regression equation was found for White cisgender AMAB [F(1,960)= 17.20, p<.001, R^2= .018], REM cisgender AFAB [F(1,735)= 517.846, p<.001, R^2= 0.06] intersectional groups.

Figure 50. Moderation of the Association between Bullying and Inhalant Use by Intersectional (Race x Gender) Identity



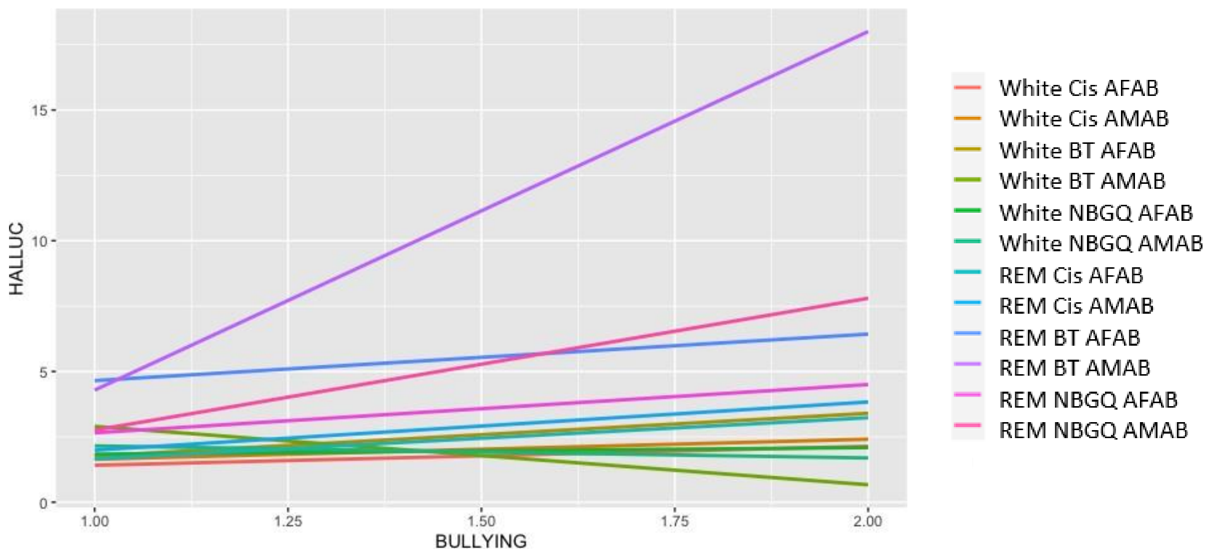
Sedative. The interaction between bullying and gender in predicting sedative use was not found to be statistically significant [*b* = 0.28, 95% CI (0.02, 0.54) ,*p*= 0.033]. A separate simple moderation analysis was conducted to examine the interaction between bullying and race x gender in predicting sedative use. The interaction between bullying and race x gender was found to be statistically significant [*b* = 0.26, 95% CI (0.17, 0.36), *p*< .001]. Follow-up simple regression analyses were conducted to examine the relationships between bullying and sedative use for each race x gender group. A statistically significant regression equation was found for White cisgender AMAB [F(1,1063)= 17.94, *p*<.001, R^2= .017], REM cisgender AFAB [F(1,1303)= 27.24, *p*<.001, R^2= .02], REM cisgender AMAB [F(1,623)= 23.61, *p*<.001, R^2= .037], and REM cisgender AMAB [F(1,656)= 21.11, *p*<.001, R^2= .031] intersectional groups.

Figure 51. Moderation of the Association between Bullying and Sedative Use by Intersectional (Race x Gender) Identity



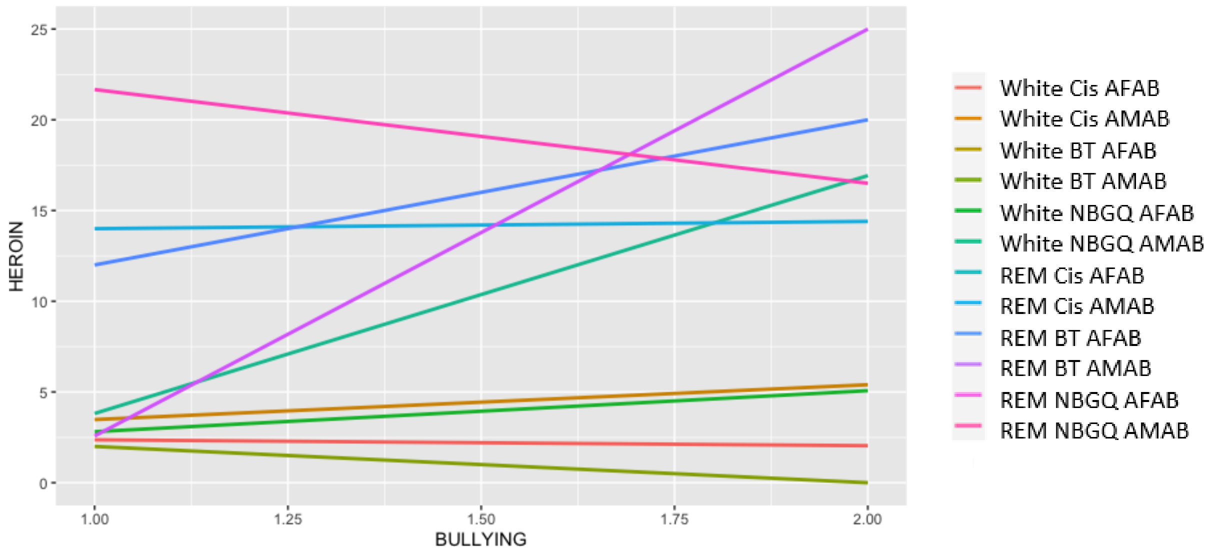
Hallucinogen. The interaction between bullying and gender in predicting hallucinogen use was not found to be statistically significant [*b* = 0.21, 95% CI (0.07, 0.36), *p*= 0.004]. A separate simple moderation analysis was conducted to examine the interaction between bullying and race x gender in predicting hallucinogen use. The interaction between bullying and race x gender was found to be statistically significant [*b* = 0.28, 95% CI (0.22, 0.34), *p*< .001]. Follow-up simple regression analyses were conducted to examine the relationships between bullying and sedative use for each race x gender group. A statistically significant regression equation was found for White cisgender AFAB [F(1,3774)= 20.18, *p*<.001, R^2= 0.005], REM cisgender AFAB [F(1,2532)= 42.39, *p*<.001, R^2= .016], and REM cisgender AMAB [F(1,1400)= 19.30, *p*<.001, R^2= .014] intersectional groups.

Figure 52. Moderation of the Association between Bullying and Hallucinogen Use by Intersectional (Race x Gender) Identity



Heroin. The interaction between bullying and gender in predicting heroin use was found to be statistically significant [b = 1.98, 95% CI (0.73, 3.23),p< .001]. A separate simple moderation analysis was conducted to examine the interaction between bullying and race x gender in predicting heroin use. The interaction between bullying and race x gender was found to be statistically significant [b = 1.15, 95% CI (0.75, 1.55), p< .001]. Follow-up simple regression analyses were conducted to examine the relationships between bullying and heroin use for each race x gender group. A statistically significant regression equation was found for the REM cisgender AMAB [F(1,81)= 24.19, p<.001, R^2= 0.48] intersectional groups.

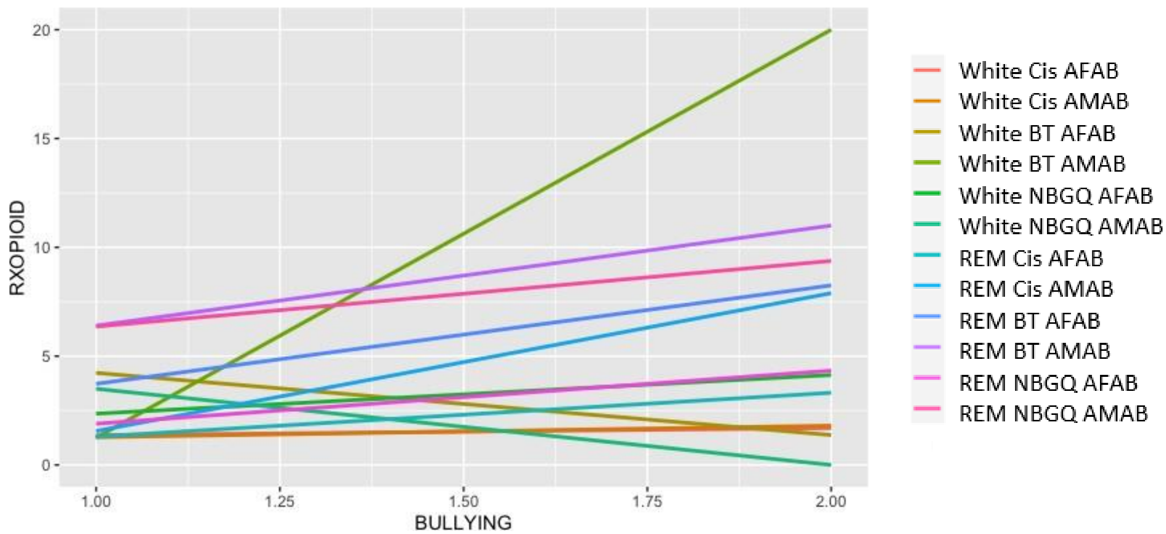
Figure 53. Moderation of the Association between Bullying and Heroin Use by Intersectional (Race x Gender) Identity



Opioid. The interaction between bullying and gender in predicting prescription opioid use was not found to be statistically significant [*b* = 0.81, 95% CI (0.54, 1.07), *p*=.006].

A separate simple moderation analysis was conducted to examine the interaction between bullying and race x gender in predicting prescription opioid use. The interaction between bullying and race x gender was found to be statistically significant [*b* = 0.52, 95% CI (0.43, 0.61), *p*< .001]. Follow-up simple regression analyses were conducted to examine the relationships between bullying and prescription opioid use for each race x gender group. A statistically significant regression equation was found for White BT AMAB [F(1,7)= 69.44, $p<.001$, R^2= 0.91], REM cisgender AFAB [F(1,846)= 20.65, $p<.001$, R^2= .024], and REM cisgender AMAB [F(1,487)= 65.12, $p<.001$, R^2= .118] intersectional groups.

Figure 54. Moderation of the Association between Bullying and Prescription Opioid Use by Intersectional (Race x Gender) Identity



Other Substance. The interaction between bullying and gender in predicting other substance use was not found to be statistically significant [*b* = 0.14, 95% CI (0.79, 1.16), *p*= 0.787]. A separate simple moderation analysis was conducted to examine the interaction between bullying and race x gender in predicting other substance use. The interaction between bullying and race x gender was not found to be statistically significant [*b* = 0.37, 95% CI (0.01, 0.73), *p*= 0.044].

Discrimination

Simple moderation analyses were conducted using PROCESS to examine the extent to which discrimination predicted various mental health (see Table 26) and substance use (see Table 27) outcomes. Gender and race x gender were included as moderators in separate moderation analyses. Follow-up simple regression analyses were conducted, examining the relationship between discrimination and mental health and substance use variables for gender (see Table 28) and race x gender (see Table 29) groups, as warranted.

Mental Healthcare Utilization

The interaction between discrimination and gender in predicting mental healthcare utilization was found to be statistically significant [b = 0.03, 95% CI (0.02, 0.04), $p < .001$]. Follow-up simple regression analyses were conducted to examine the relationships between discrimination and mental healthcare utilization for each gender group. A statistically significant regression equation was found for cisgender AFAB [F(1,62997)= 648.54, $p<.001$, R^2= .01], cisgender AMAB [F(1,27602)= 306.57, $p<.001$, R^2= 0.011], BT AFAB [F(1,839)= 35.27, $p<.001$, R^2= 0.04], BT AMAB [F(1,442)= 34.32, $p<.001$, R^2= 0.07], and NBGQ AFAB [F(1, 3597)= 54.73, $p<.001$, R^2= 0.02] gender groups.

A separate simple moderation analysis was conducted to examine the interaction between discrimination and race x gender in predicting mental healthcare utilization. The interaction between bullying and race x gender was found to be statistically significant [b = 0.59, 95% CI (0.53, 0.65), $p < .001$]. Follow-up simple regression analyses were conducted to examine the relationships between discrimination and mental healthcare utilization for each race x gender group. A statistically significant regression equation was found for White cisgender AFAB [F(1,132434)= 494.70, $p<.001$, R^2= .015], White cisgender AMAB [F(1,14237)= 144.64, $p<.001$, R^2= 0.01], REM cisgender AFAB [F(1,29875)= 617.51, $p<.001$, R^2= 0.02], REM cisgender AMAB [F(1,12824)= 261.49, $p<.001$, R^2= 0.02], REM BT AFAB [F(1, 166)= 12.96, $p<.001$, R^2= 0.72], and REM BT AMAB [F(1,86)= 11.76, $p<.001$, R^2= 0.12], and REM NBGQ AFAB [F(1,899)= 42.29, $p<.001$, R^2= 0.045] intersectional groups.

Figure 55. Moderation of the Association between Discrimination and Mental Healthcare Utilization by Gender Identity

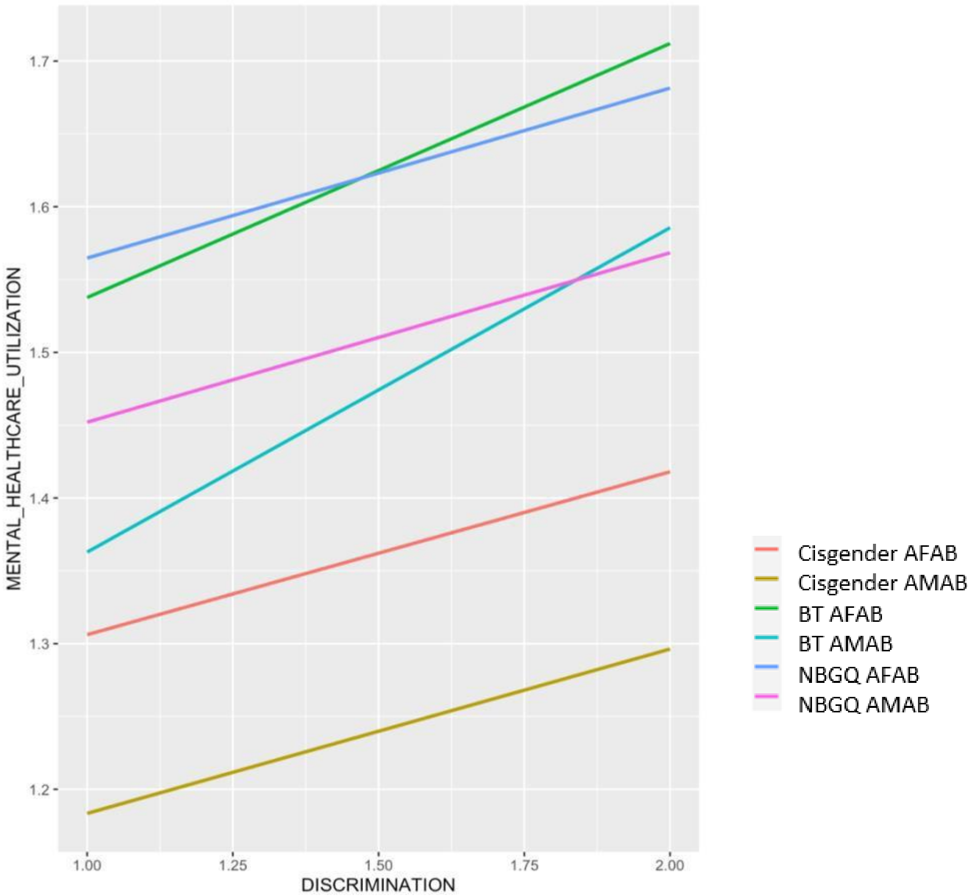
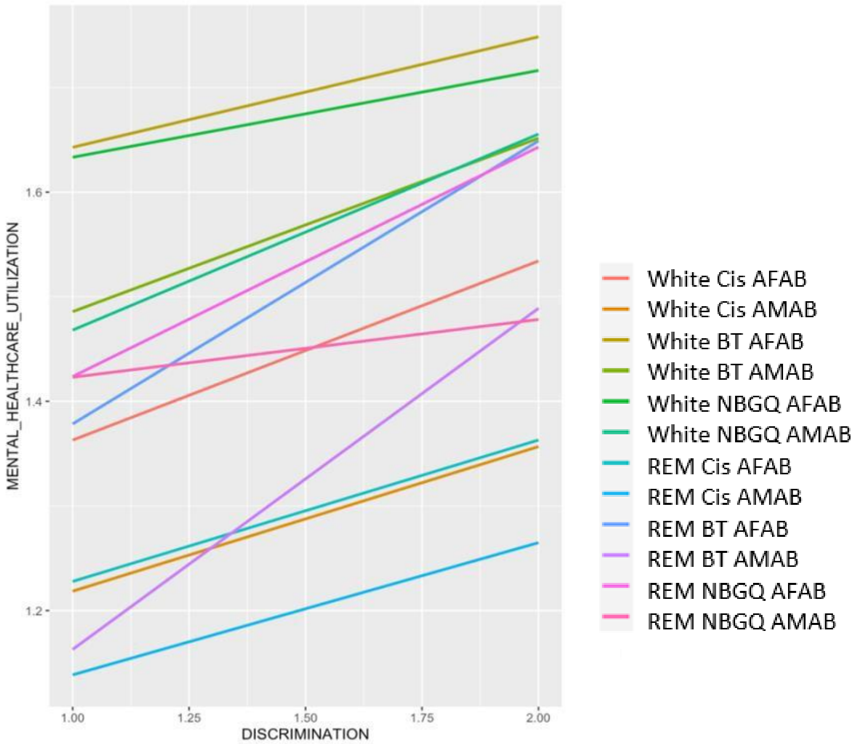


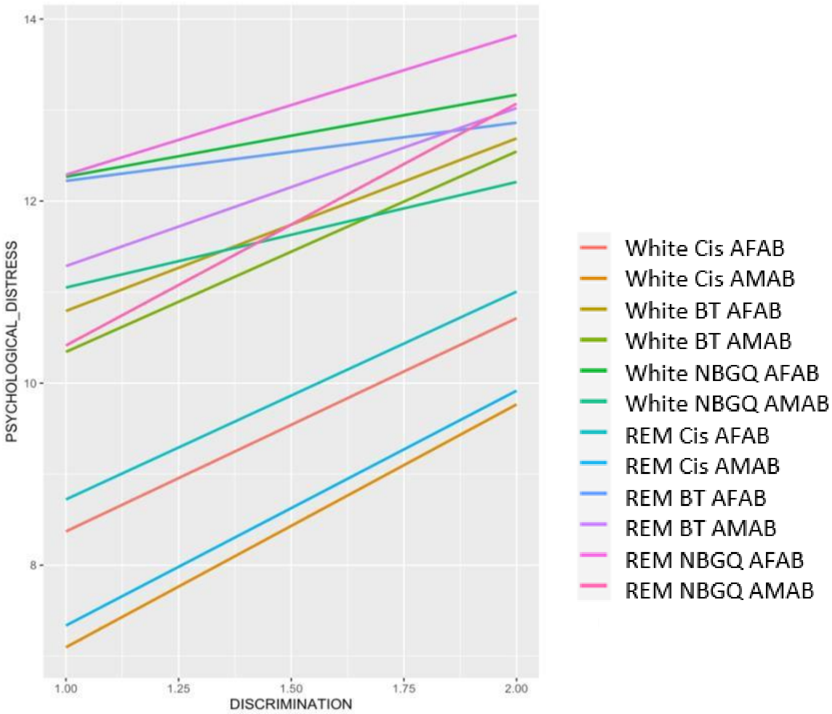
Figure 56. Moderation of the Association between Discrimination and Mental Healthcare Utilization by Intersectional (Race x Gender) Identity



Psychological Distress

The interaction between discrimination and gender in predicting psychological distress was not found to be statistically significant [*b* = 0.59, 95% CI (0.53, 0.65), *p* = 0.04]. A separate simple moderation analysis was conducted to examine the interaction between discrimination and race x gender in predicting psychological distress. The interaction between discrimination and race x gender was found to be statistically significant [*b* = 0.03, 95% CI (0.01, 0.05), $p<.001$]. Follow-up simple regression analyses were conducted to examine the relationships between bullying and psychological distress for each race x gender group. A statistically significant regression equation was found for White cisgender AFAB [F(1,32191)= 823.83, $p<.001$, R^2= 0.025], White cisgender AMAB [F(1,14136)= 375.10, $p<.001$, R^2= .026], REM cisgender AFAB [F(1,29557)= 1126.12, $p<.001$, R^2= .04], REM cisgender AMAB [F(1, 12689)= 531.28, $p<.001$, R^2= .04], REM NBGQ AFAB AMAB [F(1, 893)= 18.59, $p<.001$, R^2= .02], intersectional groups.

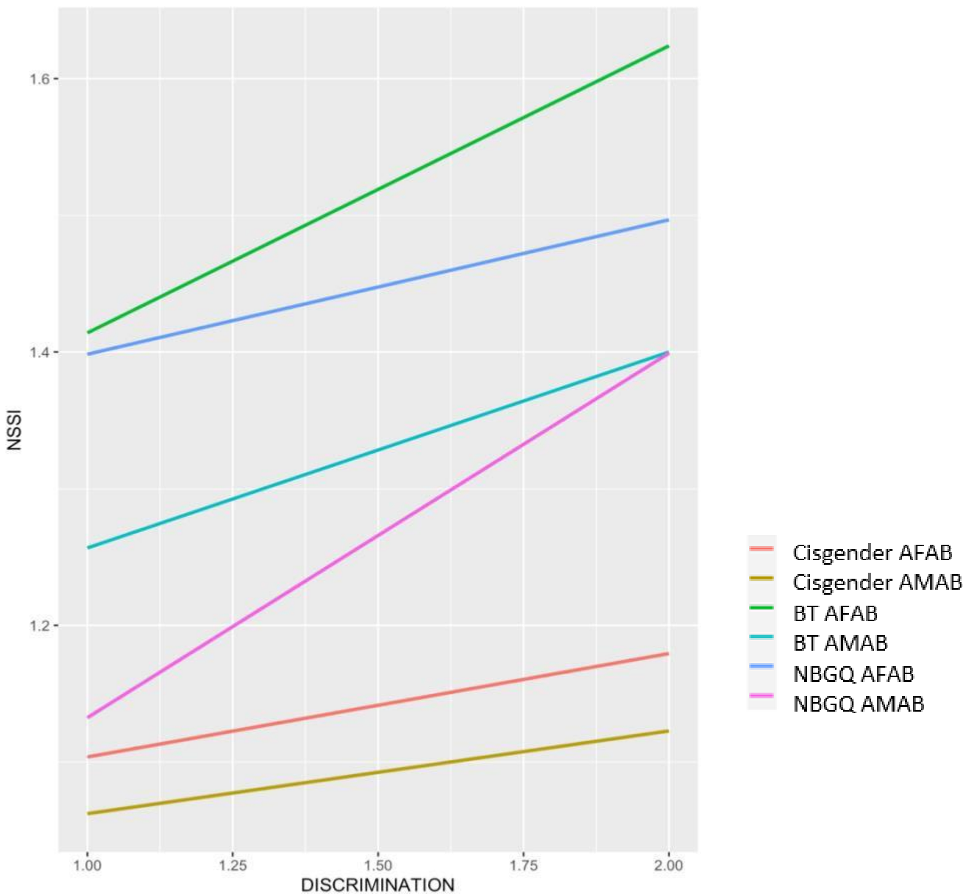
Figure 57. Moderation of the Association between Discrimination and Psychological Distress by Intersectional (Race x Gender) Identity



Non-Suicidal Self-Injury

The interaction between discrimination and gender in predicting NSSI was found to be statistically significant [*b* = 0.05, 95% CI (0.05, 0.06), $p<.001$]. Follow-up simple regression analyses were conducted to examine the relationships between discrimination and NSSI for each gender group. A statistically significant regression equation was found for cisgender AFAB [F(1,162961)= 357.67, $p<.001$, R^2= 0.006], cisgender AMAB [F(1,27586)= 125.30, $p<.001$, R^2= 0.005], binary transgender AFAB [F(1,833)= 17.08, $p<.001$, R^2= 0.02], and NBGQ AMAB [F(1, 768)= 15.15, $p<.001$, R^2= .02] gender groups. A separate simple moderation analysis was conducted to examine the interaction between discrimination and race x gender in predicting NSSI. The interaction between discrimination and race x gender was not found to be statistically significant [*b* = -0.004, 95% CI (-0.01, -0.003), $p=$ .003].

Figure 58. Moderation of the Association between Discrimination and NSSI by Gender Identity



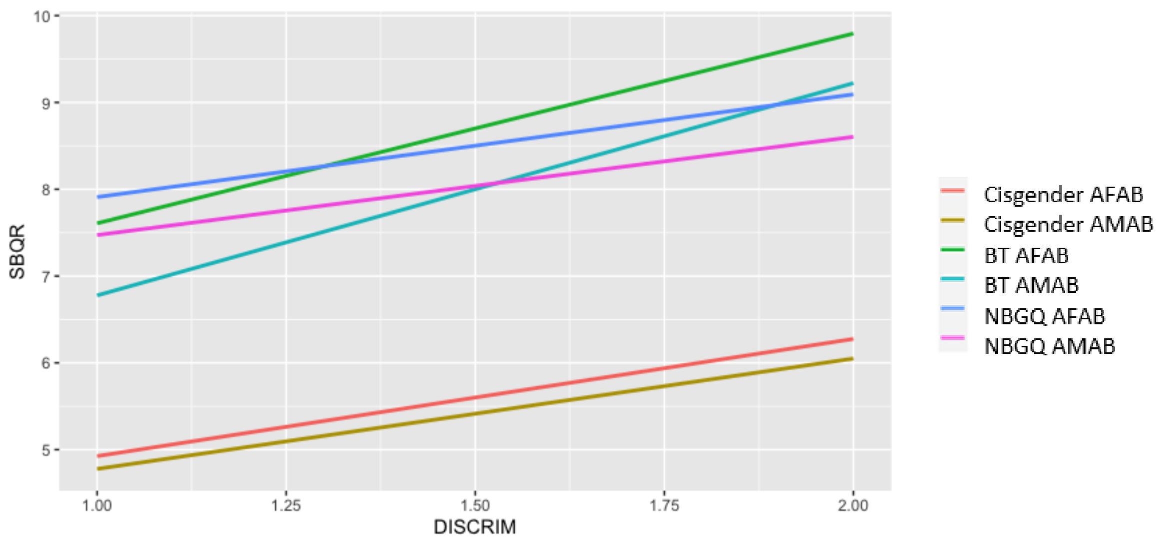
Suicidality

The interaction between discrimination and gender in predicting suicidality was found to be statistically significant [b = 0.30, 95% CI (0.26, 0.33), p<.001]. Follow-up simple regression analyses were conducted to examine the relationships between discrimination and suicidality for each gender group. A statistically significant regression equation was found for cisgender AFAB [F(1,62775)= 2324.49, p<.001, R^2= .036], cisgender AMAB [F(1,27501)= 796.63, p<.001, R^2= 0.03], binary transgender AFAB [F(1,837)= 65.44, p<.001, R^2= 0.07], binary transgender

AMAB [F(1, 448)= 30.48, p<.001, R^2= 0.06], and NBGQ AFAB [F(1, 3566)= 84.05, p<.001, R^2= .02] gender groups.

A separate simple moderation analysis was conducted to examine the interaction between discrimination and race x gender in predicting suicidality. The interaction between discrimination and race x gender was not found to be statistically significant [b = 0.0002, 95% CI (-0.01, 0.01), p= 0.97].

Figure 59. Moderation of the Association between Discrimination and Suicidality by Gender Identity



Flourishing

The interaction between discrimination and gender in predicting flourishing was not found to be statistically significant [b = 0.07, 95% CI (-0.03, 0.17), p= 0.17]. A separate simple moderation analysis was conducted to examine the interaction between discrimination and race x gender in predicting flourishing. The interaction between discrimination and race x gender was not found to be statistically significant [b = 0.04, 95% CI (0.01, 0.07) ,p= 0.007].

Substance Use

To investigate the extent to which discrimination predicted various substance use indicators, a simple moderator analysis was performed using PROCESS. Given the number of analyses being conducted and the associated risk for type 1 error, a Bonferroni correction was utilized with a cutoff score of $p < .001$. The outcome variable for the analyses were various substance use indicators. The predictor variable for the analysis was discrimination. The moderator variables were gender and race x gender in separate moderation analyses.

Tobacco. The interaction between discrimination and gender in predicting tobacco use was not found to be statistically significant [b = -0.18, 95% CI (-0.34, -0.02), p= 0.03]. A separate simple moderation analysis was conducted to examine the interaction between discrimination and race x gender in predicting tobacco use. The interaction between discrimination and race x gender was not found to be statistically significant [b = -0.04, 95% CI (-0.09, 0.01), p = 0.14].

Alcohol. The interaction between discrimination and gender in predicting alcohol use was not found to be statistically significant [b = -0.04, 95% CI (-0.13, 0.04), p = 0.30]. A separate simple moderation analysis was conducted to examine the interaction between discrimination and race x gender in predicting alcohol use. The interaction between discrimination and race x gender was not found to be statistically significant [b = -0.003, 95% CI (-0.03, 0.02), p = 0.84].

Cannabis. The interaction between discrimination and gender in predicting cannabis use was not found to be statistically significant [*b* = -0.16, 95% CI (-0.28, -0.04) , *p* = 0.007]. A separate simple moderation analysis was conducted to examine the interaction between discrimination and race x gender to predict cannabis use. The interaction between discrimination and race x gender in predicting cannabis use was not found to be statistically significant [*b* = 0.01, 95% CI (-0.03, 0.05), *p* = 0.56].

Cocaine. The interaction between discrimination and gender in predicting cocaine use was not found to be statistically significant [*b* = 0.18, 95% CI (-0.01, 0.37), *p* = 0.06]. A separate simple moderation analysis was conducted to examine the interaction between discrimination and race x gender to predict cocaine use. The interaction between discrimination and race x gender in predicting cocaine use was not found to be statistically significant [*b* = -0.05, 95% CI (-0.10, 0.01) ,*p* = 0.11].

Stimulant. The interaction between discrimination and gender in predicting prescription stimulant use was not found to be statistically significant [*b* = 0.06, 95% CI (0.02, 0.11), *p*= 0.004]. A separate simple moderation analysis was conducted to examine the interaction between discrimination and race x gender in predicting prescription stimulant use. The interaction between discrimination and race x gender was not found to be statistically significant [*b* = 0.06, 95% CI (0.02, 0.11), *p* = 0.01].

Methamphetamine. The interaction between discrimination and gender in predicting methamphetamine use was not found to be statistically significant [b = -0.02, 95% CI (-0.57, 0.54), p = 0.95]. A separate simple moderation analysis was conducted to examine the interaction between discrimination and race x gender in predicting methamphetamine use. The interaction between discrimination and race x gender was not found to be statistically significant [b = 0.15, 95% CI (-0.03, 0.32), p = 0.10].

Inhalant. The interaction between discrimination and gender in predicting inhalant use was not found to be statistically significant [b = -0.002, 95% CI (-0.20, 0.20),p= 0.98]. A separate simple moderation analysis was conducted to examine the interaction between discrimination and race x gender in predicting inhalant use. The interaction between discrimination and race x gender was not found to be statistically significant [b = 0.09, 95% CI (0.02, 0.16),p= 0.01].

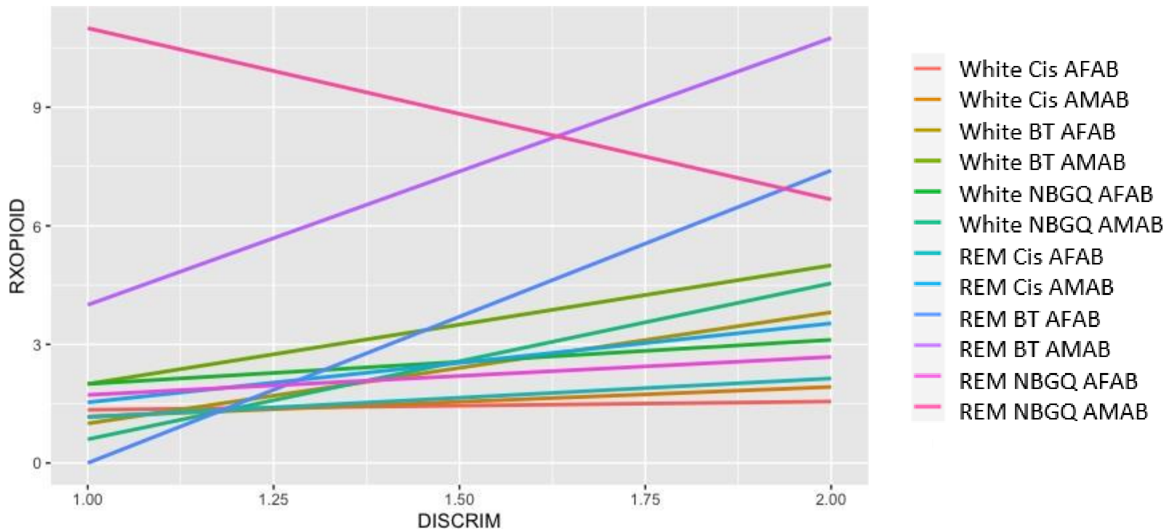
Sedative. The interaction between discrimination and gender in predicting sedative use was not found to be statistically significant [b = 0.06, 95% CI (-0.15, 0.28),p= 0.56]. A separate simple moderation analysis was conducted to examine the interaction between discrimination and race x gender in predicting sedative use. The interaction between discrimination and race x gender was not found to be statistically significant [b = 0.06, 95% CI (-0.01, 0.13),p= 0.09].

Hallucinogen. The interaction between discrimination and gender in predicting hallucinogen use was not found to be statistically significant [b = 0.002, 95% CI (-0.11, 0.11),p= 0.97]. A separate simple moderation analysis was conducted to examine the interaction between discrimination and race x gender in predicting hallucinogen use. The interaction between discrimination and race x gender was not found to be statistically significant [b = 0.04, 95% CI (-0.0002, 0.07),p= 0.05].

Heroin. The interaction between discrimination and gender in predicting heroin use was not found to be statistically significant [*b* = 1.38, 95% CI (0.30, 2.46),*p*= 0.01]. A separate simple moderation analysis was conducted to examine the interaction between discrimination and race x gender in predicting heroin use. The interaction between discrimination and race x gender was not found to be statistically significant [*b* = 0.45, 95% CI (0.11, 0.80),*p*= 0.01].

Opioid. The interaction between discrimination and gender in predicting opioid use was not found to be statistically significant [*b* = 0.31, 95% CI (0.09, 0.52),*p* = 0.01]. A separate simple moderation analysis was conducted to examine the interaction between discrimination and race x gender in predicting prescription opioid use. The interaction between discrimination and race x gender was found to be statistically significant [*b* = 0.11, 95% CI (0.04, 0.17),$p <$ 0.001]. Follow-up simple regression analyses were conducted to examine the relationships between discrimination and prescription opioid for each gender group. A statistically significant regression equation was found for REM cisgender AMAB [F(1,489)= 13.67, $p<.001$, R^2= 0.027], binary transgender AFAB [F(1,837)= 65.44, $p<.001$, R^2= 0.07], binary transgender AMAB [F(1, 448)= 30.48, $p<.001$, R^2= 0.06], and NBGQ AFAB [F(1, 3566)= 84.05, $p<.001$, R^2= .02] race x gender groups.

Figure 60. Moderation of the Association between Discrimination and Prescription Opioid Use by Intersectional (Race x Gender) Identity



Other Substance. The interaction between discrimination and gender in predicting other substance use was not found to be statistically significant [*b* = 0.13, 95% CI (-0.82, 1.07),*p* = 0.79]. A separate simple moderation analysis was conducted to examine the interaction between discrimination and race x gender in predicting other substance use. The interaction between discrimination and race x gender was not found to be statistically significant [*b* = 0.28, 95% CI (-0.01, 0.57),*p* = 0.06].

CHAPTER FIVE

DISCUSSION

Findings of the current study provide a nuanced perspective of the unique role of gender identity, intersectional racial/ethnic and gender identity, and various minority stressors in the experience of several mental health and substance use outcomes in a nationally representative sample of college students. While a few studies have examined minority stress (e.g., Goldberg et al., 2019; Grant et al., 2011; Lefevor et al., 2019), mental health (e.g., Lefevor et al., 2019), and substance use (e.g., Aparicio-Garcia et al., 2018; Lefevor et al., 2019; Reisner & Hughto, 2019; Stanton et al., 2021) outcomes among the TGD population, no studies to date have examined the direct associations between minority stress and mental health and/or substance use outcomes. Further, only few studies have differentiated between NBGQ and binary transgender individuals (e.g., Platt, 2020) or sex assigned at birth (Newcomb et al., 2020; Valente et al., 2020). This is the first study to examine the experiences of TGD individuals by intersections of sex assigned at birth, gender identity, and racial/ethnic identity.

Minority Stress

Results of the current study were consistent with prior studies on transgender minority stress in that TGD participants reported higher rates of minority stressors than their cisgender counterparts (e.g, Grant et al., 2011; Lefevor et al., 2019). BT AFAB individuals endorsed the highest rates of bullying and discrimination, whereas BT AMAB individuals endorsed the highest rates of interpersonal violence compared to other gender groups. NBGQ individuals also endorsed elevated experiences of minority stress, as NBGQ AFAB and NBGQ AMAB individuals endorsed the highest rates of general abuse. Further, NBGQ AFAB individuals endorsed the lowest rate of perceived safety within the campus and community.

These findings reflect the unique experiences of various gender groups and also highlight the benefit of differentiating by both sex assigned at birth and TGD subgroup in order to better understand the rates of minority stress within the TGD community. This is because—with the exception of IPV—TGD individuals assigned female at birth endorsed the greatest rates of minority stressors compared to those assigned male at birth.

Further delineation of minority stress experience by racial/ethnic identity highlighted the disproportionate rates at which REM individuals experience some forms of minority stress. For example, REM BT AMAB individuals endorsed the highest rates of IPV, general abuse, and bullying; additionally, REM NBGQ AFAB and REM NBGQ AMAB individuals reported the highest rates of discrimination compared to other gender groups. Notably, REM cisgender AFAB individuals reported the lowest rates of perceived safety, followed by that of REM NBGQ AMAB individuals. Taken together, findings suggest that REM TGD college students are most likely to endorse experiences of minority stress, compared to White TGD college students. These findings are consistent with the tenants of intersectionality theory, which highlights the unique experiences of individuals, based on intersections of multiple identities. These findings are additive to the current literature, as no studies to date have examined the distinct experiences of minority stress among TGD subgroups, by racial/ethnic identity.

Overall, it is evident that while trends in minority stress experiences can be observed across gender identities, sexes assigned at birth, and racial/ethnic identities, the clearest and most nuanced understanding of minority stress is elucidated with the examination of intersectional identities.

Mental Health

BT vs. NBGQ

TGD participants assigned female at birth demonstrated the highest rates of reported mental health concerns. The BT AFAB participants endorsed the highest rates of NSSI and experience of suicidal thoughts and behavior, whereas NBGQ AFAB individuals reported the highest rates of psychological distress. Overall, these findings suggest that while there were differences among NBGQ and BT individuals in rates of mental health concerns endorsed, trends related to sex assigned at birth were observed, as TGD individuals AFAB reported higher rates of suicidality, NSSI, and psychological distress than their AMAB counterparts. These findings are additive to the somewhat mixed literature regarding rates of mental health concerns within the TGD community by sex assigned at birth. Consistent with their rates of mental health concerns, the highest rates of mental healthcare utilization were reported by BT AFAB and NBGQ AFAB participants. This finding is contrary to that of some previous studies, which have indicated that TGD individuals utilize mental health services at a lower rate than their cisgender counterparts.

REM TGD

Further delineating TGD subgroups by racial/ethnic identity provided a more nuanced understanding of the prevalence of mental health concerns among various subgroups of the TGD population. Both racial/ethnic groups of NBGQ AFAB individuals reported the highest rates of psychological distress, with REM NBGQ AFAB participants reporting the highest rate of all. Similarly, both racial/ethnic BT AFAB groups both reported the highest rates of NSSI and suicidality, with White BT AFAB reporting higher rates than REM BT AFAB.

Role of Minority Stress

Perceived safety was found to predict psychological distress for all cisgender and NBGQ intersectional groups. IPV primarily predicted outcomes for cisgender groups. General abuse significantly predicted NSSI and prescription stimulant use for all gender groups. Further, bullying predicted psychological distress for both cisgender and TGD AFAB groups. Discrimination was also found to predict mental health outcomes, including mental healthcare utilization, NSSI, and suicidality for most gender groups, except for NBGQ AMAB (e.g., in predicting mental healthcare utilization and suicidality), and BT AMAB and NBGQ AFAB (e.g., in predicting NSSI). The findings of the current study also highlighted the role of racial/ethnic identity, as examination of outcomes for intersectional groups indicated that the predictive value of minority stressors differed for TGD groups among racial/ethnic identities. For example, bullying was found to predict NSSI for White BT AMAB and White NBGQ AFAB participants, whereas general abuse significantly predicted prescription opioid use in REM NBGQ individuals.

While several studies have examined the rates of minority stress experienced among the TGD population, this is the first to examine the extent to which experiences of minority stress predict mental health outcomes among TGD subgroups. Given the prevalence of mental health concerns among the TGD population, it is essential to understand the extent to which experiences of minority stress predict those prevalence rates. Findings indicated that perceived safety was the minority stressor that most consistently predicted psychological distress across TGD groups.

Substance Use

BT vs. NBGQ

Trends emerged when examining substance use outcomes by TGD subgroup and sex assigned at birth. NBGQ AMAB individuals endorsed use at the highest rate for all substances except alcohol, methamphetamine, and other substances. BT AMAB individuals endorsed methamphetamine and other substance use at the highest rate, and NBGQ AFAB individuals endorsed alcohol use at the highest rate.

While NBGQ AMAB individuals endorsed use of most substances at the highest rate compared to other genders, BT AMAB individuals endorsed the highest risk use for all substances except tobacco and cannabis; NBGQ AMAB participants demonstrated the highest risk use of tobacco and cannabis. BT AMAB individuals endorsed moderate risk use of all substances except alcohol, suggesting that they are at moderate risk of health and other problems associated with their use and may be experiencing them currently. Further, the rates of use endorsed by BT AMAB individuals for all substances except alcohol reflects a potential for dependence, particularly for those with a history of substance use and dependence (World Health Organization, 2010). NBGQ AMAB individuals also endorsed moderate risk use of tobacco, cannabis, methamphetamines, sedatives, heroin, and other substances.

While AMAB TGD individuals were found to engage in higher risk substance use, findings from the current study suggest that AFAB TGD individuals also engage in moderate risk substance use. Specifically, NBGQ AFAB individuals endorsed moderate risk opioid, heroin, cannabis, and tobacco use. BT AFAB individuals reported moderate risk use of all of the aforementioned substances, in addition to cocaine, stimulant, methamphetamine, and other substances.

Together, these findings highlight the potential role of sex assigned at birth in TGD substance use rates, as both TGD AMAB groups endorsed higher risk substance use than their AFAB counterparts. These findings are additive to the prior literature, which has been somewhat mixed in terms of rates of substance use among TGD subgroups (Dinger et al., 2020; Lipson et al., 2019; Platt, 2020).

REM TGD

Differentiating between White and REM TGD participants in the examination of substance use in the current study indicated a clear trend toward more elevated risky substance use in REM TGD individuals compared to their White counterparts. Specifically, REM BT AMAB individuals had the highest substance use involvement scores for alcohol, cocaine, stimulant, inhalant, opioid, and other substance use. Further, REM BT AFAB participants had the highest substance use involvement scores for methamphetamine use, and REM NBGQ AMAB had the highest SSIS for tobacco, cannabis, and heroin use. Given that no studies to date have specifically compared REM vs. White transgender substance use rates, the current findings provide important additive information that highlight the importance of differentiating by racial/ethnic identity when examining substance use in the TGD population.

Role of Minority Stress

While the role of minority stress was somewhat limited in the prediction of substance use among TGD subgroups, significant relationships were observed for the association between forms of minority stress and REM TGD substance use. For example, general abuse predicted both cocaine and prescription stimulant use among REM NBGQ AMAB participants. Further, IPV predicted cocaine and hallucinogen use among REM BT AMAB, cannabis use among REM

NBGQ AFAB individuals. These findings suggest that there is the potential for minority stress experiences to predict substance use outcomes, particularly for REM TGD subgroups.

Limitations

An important limitation of the current study is the elevated risk of Type I error due to the number of analyses completed. In many ways, the number of analyses completed in the current study is a strength, as the various analyses provided further detail on the role of intersectional identities on minority stress, substance use, and mental health outcomes in the TGD population. Additionally, the results provide far more nuanced information regarding rates and risk levels of specific substance use for each gender group than has been provided by any other study of TGD college students to date. In addition to the elevated risk for type 1 error associated with the completion of more nuanced analyses of substance use behaviors (e.g., delineation by substance type, gender group, and intersectional identity), another limitation of such analyses is the smaller sample sizes for specific substances

Another limitation of the current study is the utilization of proxies for minority stress. Perceptions of safety, interpersonal violence, general abuse, bullying, and discrimination are all constructs and experiences that are associated with an individual's minority status. However, the means of measurement in the current study did not distinguish that the aforementioned stressors were specifically related to the individuals' gender and/or racial/ethnic minority identities, thus making them proxies of minority stress. Lefevor et al. (2019) similarly examined minority stress in the TGD population using proxies of minority stress. This is a limitation, as it does not distinguish whether these experiences were specifically related to minority identity.

Future Directions

Given the findings of the current study, which highlighted the importance of delineating TGD research by gender identity, sex assigned at birth, *and* racial/ethnic identity, further research of the TGD community should continue to utilize an intersectional approach. It may be beneficial in future research to also delineate by sexual identity, as this is another identity associated with unique experiences of minority stress. Additionally, this was the first study to date to examine the role of minority stress in predicting mental health and substance use outcomes in TGD subgroups. Given the pronounced rate at which TGD individuals experience minority stress, it is recommended that further research continue to examine the extent to which these experiences predict mental health and substance use outcomes.

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Table 2. Percentage of participants who endorsed any substance use in the past 3 months, by gender group.

	Cis AFAB	Cis AMAB	BT AFAB	BT AMAB	NBGQ AFAB	NBGQ AMAB
Tobacco	29.7	36.1	34.8	30.6	36.2	41.5
Alcohol	70.1	67.3	71.9	57.0	74.5	70.5
Cannabis	41.1	39.9	54.7	40.0	55.8	58.7
Cocaine	6.9	8.9	6.9	10.6	9.1	11.8
Rx Stim	8.1	9.7	9.2	8.5	11.6	14.9
Meth	1.2	1.8	2.5	5.5	2.0	5.5
Inhalant	3.0	5.8	8.9	10.2	8.0	18.3
Sedative	5.4	6.4	10.5	10.2	9.0	11.4
Hallucinogen	10.1	14.4	17.0	14.5	21.0	26.7
Heroin	0.5	0.8	2.2	2.1	0.6	2.3
Opioid	3.6	5.5	8.3	8.5	6.8	9.5
Other	0.6	1.0	1.6	2.1	1.3	1.9

Table 3. Percentage of White participants who endorsed any substance use in the past 3 months, by intersectional race x gender group

	White Cis AFAB	White Cis AMAB	White BT AFAB	White BT AMAB	White NBGQ AFAB	White NBGQ AMAB
Tobacco	35.0	42.4	37.7	33.1	37.1	26.0
Alcohol	76.7	72.8	75.0	62.5	76.5	48.5
Cannabis	46.0	45.5	58.9	44.9	57.4	39.7
Cocaine	8.4	10.8	5.8	7.4	9.0	8.0
Rx Stim	9.7	12.4	8.7	8.1	11.8	11.8
Meth	1.3	2.0	1.1	3.7	1.9	4.6
Inhalant	3.6	6.7	10.5	11.0	8.4	15.3
Sedative	6.3	7.5	10.9	7.4	9.3	9.2
Hallucinogen	11.6	26.4	17.4	16.9	21.8	19.5
Heroin	0.6	1.0	1.1	0.0	0.3	3.4
Opioid	4.3	7.1	7.6	6.6	6.7	8.4
Other	0.5	1.1	0.7	1.5	1.2	1.5

Table 4. Percentage of REM participants who endorsed any substance use in the past 3 months, by intersectional race x gender group

	REM Cis AFAB	REM Cis AMAB	REM BT AFAB	REM BT AMAB	REM NBGQ AFAB	REM NBGQ AMAB
Tobacco	24.1	29.0	30.4	27.8	34.7	35.2
Alcohol	63.4	61.6	67.3	50.0	72.0	65.8
Cannabis	36.2	34.0	0.5	35.6	53.8	53.9
Cocaine	5.4	6.8	8.9	16.7	9.3	10.9
Rx Stim	6.3	6.7	9.5	10.0	11.3	16.1
Meth	1.1	1.6	4.7	8.9	2.0	6.2
Inhalant	2.5	4.8	6.0	10.0	7.3	20.7
Sedative	4.4	5.1	10.1	12.2	8.4	12.4

Hallucinogen	8.4	10.9	16.1	12.2	20.0	26.4
Heroin	0.4	0.6	4.2	5.6	1.0	4.7
Opioid	2.8	3.8	8.9	12.2	6.5	11.4
Other	0.6	0.9	3.0	3.3	1.4	2.1

Table 5. Means and Standard Deviations of all study variables for AFAB gender groups

	Cisgender AFAB			BT AFAB			NBGQ AFAB		
Variable	N	M	SD	N	M	SD	N	M	SD
Safety	61946	12.02	2.30	433	**12.19**	2.44	2189	11.55	2.29
IPV	62512	5.20	0.65	440	**5.29**	0.89	2189	5.23	0.77
General Abuse	62458	7.23	0.73	440	7.42	1.00	2202	**7.46**	1.02
Bullying	63100	1.07	0.26	447	**1.16**	0.37	2222	1.14	0.35
Discrimination	63103	1.23	0.42	448	**1.58**	0.49	2224	1.56	0.50
MH care	63248	1.33	0.47	447	**1.64**	0.48	2232	1.63	0.48
NSSI	63208	1.12	0.42	448	**1.53**	0.86	2225	1.45	0.78
Distress	62635	9.07	5.40	445	12.13	5.76	2217	**12.95**	5.05
Flourishing	62864	**44.82**	8.37	447	38.54	10.13	2218	39.31	9.17
Suicidality	63012	5.23	2.99	447	**8.83**	4.06	2208	8.58	3.81
Tobacco	18840	5.60	7.79	156	**7.29**	9.02	808	6.24	8.15
Alcohol	44478	6.50	5.54	322	**7.27**	6.88	1663	6.42	6.07
Cannabis	26073	5.06	6.59	245	**7.76**	8.71	1245	7.27	7.62
Cocaine	4374	1.88	3.99	31	**4.48**	8.09	204	1.58	3.65
Stimulant	5116	2.00	4.20	41	**4.83**	8.21	259	2.46	5.16
Meth	785	2.40	5.24	11	**8.45**	11.58	45	2.60	7.87
Inhalant	1915	1.38	3.61	40	**3.40**	7.19	178	1.65	4.07
Sedative	3404	2.42	4.79	47	**4.87**	8.48	201	3.59	6.37
Hallucinogen	6393	1.62	3.24	76	**3.18**	5.51	470	2.31	4.11
Heroin	310	2.76	5.52	10	**10.60**	12.85	14	5.50	10.07
Opioid	2290	1.49	3.75	37	**4.46**	8.27	151	2.52	5.33
Other	370	6.87	8.10	7	**10.57**	13.44	29	5.62	6.06

AFAB = Assigned Female at Birth; AMAB = Assigned Male at Birth; BT = Binary Transgender; NBGQ = Non-Binary/Genderqueer

Table 6. Means and Standard Deviations of all study variables for AMAB gender groups

	Cisgender AMAB			BT AMAB			NBGQ AMAB		
Variable	N	M	SD	N	M	SD	N	M	SD
Safety	27392	**13.50**	2.24	224	12.09	2.43	453	12.41	2.46
IPV	27404	5.16	0.56	226	**5.31**	0.96	449	5.26	0.82
General Abuse	27370	7.20	0.63	225	7.42	1.08	455	**7.46**	0.97
Bullying	27651	1.06	0.23	232	1.14	0.35	460	**1.15**	0.35
Discrimination	27662	1.16	0.37	232	1.49	0.50	460	**1.52**	0.50
MH care	27722	1.20	0.40	234	1.47	0.50	464	**1.52**	0.50
NSSI	27707	1.07	0.33	232	**1.32**	0.64	462	1.28	0.68
Distress	27462	7.64	5.25	231	**11.86**	5.93	457	11.76	5.61
Flourishing	27574	**44.12**	9.02	231	37.61	11.06	459	39.29	10.10
Suicidality	27620	4.98	2.82	230	8.00	4.05	458	**8.09**	3.73
Tobacco	10030	6.44	7.99	72	7.19	8.92	193	**7.85**	8.78
Alcohol	18720	6.88	6.04	134	**7.63**	7.41	328	7.40	6.59
Cannabis	11107	5.96	7.48	94	7.41	9.17	273	**8.79**	8.60
Cocaine	2475	2.16	4.65	25	**7.84**	12.43	56	3.43	7.71
Stimulant	2700	1.89	4.36	20	**6.50**	10.12	71	2.49	6.39
Meth	512	2.64	5.97	13	**9.15**	12.84	26	5.73	9.75
Inhalant	1618	1.95	4.32	24	**6.79**	11.38	87	3.54	7.13
Sedative	1774	2.16	4.62	22	**6.77**	10.07	54	4.83	8.18
Hallucinogen	4005	1.86	3.45	34	**4.76**	9.02	127	2.97	6.00
Heroin	231	4.55	8.29	5	**16.80**	15.60	11	15.45	13.76
Opioid	1535	1.66	4.51	20	**6.40**	10.58	45	5.76	9.74
Other	279	7.16	9.33	5	**20.00**	13.58	9	11.00	12.62

AFAB = Assigned Female at Birth; AMAB = Assigned Male at Birth; BT = Binary Transgender; NBGQ = Non-Binary/Genderqueer

Table 7. Means and Standard Deviations of all study variables for cisgender intersectional gender groups

	White Cis AFAB			REM Cis AFAB			White Cis AMAB			REM Cis AMAB		
Variable	N	M	SD	N	M	SD	N	M	SD	N	M	SD
Safety	31945	12.27	2.22	29307	11.75	2.35	14163	**13.89**	2.08	12692	13.07	2.32
IPV	32203	**5.21**	0.68	29603	5.19	0.63	14132	5.16	0.55	12738	5.16	0.57
General Abuse	32205	**7.25**	0.75	29545	7.22	0.70	14123	7.21	0.63	12708	7.18	0.62
Bullying	32481	**1.07**	0.26	29920	**1.07**	0.25	14262	1.05	0.22	12846	1.06	0.23
Discrimination	32472	1.15	0.35	29935	**1.32**	0.47	14268	1.05	0.31	12852	1.22	0.42
MH care	32531	1.39	0.49	30001	1.27	0.44	14285	1.23	0.42	12886	**1.67**	0.37
NSSI	32503	**1.13**	0.44	29983	1.11	0.41	14289	1.07	0.34	12864	1.07	0.33
Distress	32272	8.70	5.17	29656	**9.47**	5.59	14176	7.38	5.10	12743	7.91	5.37
Flourishing	32359	**45.51**	8.10	29792	44.09	8.58	14232	44.50	8.87	12795	43.72	9.09
Suicidality	32421	**5.24**	2.99	29887	5.22	3.00	14243	5.12	2.88	12836	4.83	2.74
Tobacco	11392	6.04	8.02	7257	4.88	7.33	6080	**6.62**	8.02	3745	6.07	7.88
Alcohol	24996	6.92	5.58	19066	5.96	5.43	10424	**7.35**	6.10	7957	6.26	5.87
Cannabis	14973	4.86	6.38	10895	5.34	6.86	6519	5.88	7.32	4390	**6.06**	7.66
Cocaine	2722	1.76	3.79	1622	2.08	4.27	1548	1.77	3.88	873	**2.80**	5.59
Stimulant	3173	1.89	3.94	1908	2.16	4.54	1778	1.71	3.85	872	**2.22**	5.11
Meth	439	2.00	3.85	333	2.86	6.43	288	2.07	4.81	208	**3.42**	7.10
Inhalant	1158	1.11	2.59	739	1.74	4.62	964	1.49	3.30	626	**2.58**	5.30
Sedative	2057	2.00	3.93	1309	**3.03**	5.81	1070	1.72	3.66	661	2.84	5.75
Hallucinogen	3784	1.47	2.77	2539	1.83	3.76	2523	1.69	3.05	1409	**2.12**	3.99
Heroin	184	2.32	2.91	119	3.33	7.76	140	3.64	6.91	84	**5.85**	9.94
Opioid	1413	1.41	3.00	851	1.62	4.69	1010	1.31	3.50	491	**2.28**	5.87
Other	176	5.37	7.37	189	8.15	8.46	159	5.89	7.81	111	**8.70**	10.72

AFAB = Assigned Female at Birth; AMAB = Assigned Male at Birth; BT = Binary Transgender; NBGQ = Non-Binary/Genderqueer

Table 8. Means and Standard Deviations of all study variables for BT intersectional gender groups

	White BT AFAB			REM BT AFAB			White BT AMAB			REM BT AMAB		
Variable	N	M	SD	N	M	SD	N	M	SD	N	M	SD
Safety	264	**12.36**	2.39	165	11.95	2.40	131	12.31	2.19	86	11.84	2.70
IPV	270	5.28	0.85	166	5.30	0.96	133	5.11	0.50	85	**5.56**	1.32
General Abuse	272	7.33	0.76	164	7.56	1.26	134	7.28	0.68	84	**7.67**	1.52
Bullying	275	1.16	0.37	168	1.15	0.36	136	1.10	0.31	88	**1.18**	0.39
Discrimination	276	**1.59**	0.49	168	1.56	0.50	136	1.49	0.50	88	1.51	0.50
MH care	275	**1.71**	0.46	168	1.53	0.50	136	1.57	0.50	90	1.32	0.47
NSSI	276	**1.56**	0.85	168	1.50	0.88	136	1.23	0.57	88	1.48	0.71
Distress	275	11.92	5.62	166	**12.58**	5.96	136	11.41	5.49	88	12.19	6.40
Flourishing	276	**39.22**	10.21	167	37.28	9.92	136	37.92	9.59	87	37.55	12.55
Suicidality	275	**8.90**	4.07	168	8.83	4.03	132	8.05	3.90	90	7.87	4.28
Tobacco	104	7.21	9.13	51	7.24	8.82	45	**7.89**	9.41	25	6.00	8.18
Alcohol	207	7.50	7.11	113	6.94	6.49	85	7.41	6.79	45	**8.22**	8.66
Cannabis	159	6.96	8.16	84	9.07	9.25	61	6.34	7.67	32	**9.59**	11.42
Cocaine	16	1.75	2.38	15	7.40	10.79	10	2.10	4.70	15	**11.67**	14.54
Stimulant	24	1.71	3.94	16	8.50	10.41	11	1.45	2.84	9	**12.67**	12.47
Meth	3	0.00	0.00	8	**11.63**	12.22	5	7.00	10.91	8	10.50	14.46
Inhalant	29	1.24	2.26	10	7.60	11.22	15	1.60	2.06	9	**15.44**	15.18
Sedative	30	2.83	4.55	17	8.47	**12.15**	10	3.40	3.66	11	10.45	13.03
Hallucinogen	48	2.10	2.88	27	5.11	8.16	23	2.61	5.53	11	**9.27**	12.96
Heroin	3	2.00	3.46	7	14.29	13.82	0	-	-	5	**16.80**	15.60
Opioid	21	3.14	4.16	15	4.93	10.87	9	3.33	6.56	11	**8.91**	12.76
Other	2	1.00	1.41	5	14.40	14.36	2	7.50	10.61	3	**28.33**	7.23

AFAB = Assigned Female at Birth; AMAB = Assigned Male at Birth; BT = Binary Transgender; NBGQ = Non-Binary/Genderqueer

Table 9. Means and Standard Deviations of all study variables for NBGQ intersectional gender groups

	White NBGQ AFAB			REM NBGQ AFAB			White NBGQ AMAB			REM NBGQ AMAB		
Variable	N	M	SD	N	M	SD	N	M	SD	N	M	SD
Safety	1284	11.83	2.22	879	11.17	2.31	257	**12.89**	2.23	188	11.80	2.63
IPV	1283	5.23	0.72	881	5.25	0.84	256	5.21	0.75	185	**5.31**	0.88
General Abuse	1289	7.42	0.93	887	7.52	1.13	258	7.39	0.82	189	**7.55**	1.12
Bullying	1297	1.14	0.34	900	**1.15**	0.35	260	**1.15**	0.35	193	**1.15**	0.35
Discrimination	1298	1.49	0.50	901	**1.64**	0.48	260	1.46	0.50	193	1.60	0.49
MH care	1304	**1.67**	0.47	903	1.57	0.50	261	1.56	0.50	193	1.46	0.50
NSSI	1300	**1.47**	0.78	900	1.43	0.79	259	1.32	0.75	193	1.21	0.54
Distress	1296	12.70	4.96	895	**13.28**	5.14	260	11.61	5.50	188	12.01	5.78
Flourishing	1295	**39.65**	9.00	897	38.93	9.35	260	38.96	10.09	190	39.62	10.03
Suicidality	1290	8.46	3.76	893	**8.71**	3.87	258	8.11	3.63	191	8.01	3.87
Tobacco	484	6.55	8.22	313	5.81	8.10	120	7.16	8.07	68	**8.32**	9.52
Alcohol	998	6.44	5.87	650	6.40	6.38	198	**7.61**	6.59	127	7.15	6.65
Cannabis	748	6.78	7.35	486	8.09	8.01	164	7.87	8.18	104	**9.87**	8.74
Cocaine	117	1.42	2.93	84	1.80	4.52	33	0.97	1.76	21	**6.19**	10.24
Stimulant	154	2.00	4.55	102	3.11	5.96	37	0.89	1.81	31	**3.65**	7.95
Meth	25	1.04	2.30	18	5.06	11.92	13	1.15	1.95	12	**11.17**	12.33
Inhalant	110	1.23	2.37	66	2.36	5.90	46	1.93	3.51	40	**5.40**	9.55
Sedative	121	3.08	5.42	76	4.45	7.73	28	3.07	6.36	24	**6.96**	9.89
Hallucinogen	284	1.89	2.95	181	3.00	5.44	72	2.07	4.10	51	**3.75**	7.07
Heroin	4	1.50	3.00	9	7.56	12.16	1	0.00	-	9	**18.22**	13.67
Opioid	88	2.66	5.28	59	2.39	5.58	21	2.67	5.88	22	**7.45**	10.85
Other	15	5.20	4.86	13	5.85	7.55	4	1.25	1.50	4	**19.00**	13.93

AFAB = Assigned Female at Birth; AMAB = Assigned Male at Birth; BT = Binary Transgender; NBGQ = Non-Binary/Genderqueer

Table 10. Moderation Analyses with Perceived Safety as Predictor, Gender and Race x Gender as Moderators, and Mental Health Outcome Variables

Effect	*b*	*SE*	*t*	95% CI LL	95% CI UL	R^2 Change	F
Outcome Variable: Psychological Distress							
(Intercept)	14.30*	0.18	77.66	13.93	14.66		
Perceived Safety	-0.49*	0.02	-32.67	-0.52	-0.46		
Gender	1.38*	0.11	12.48	1.16	1.59		
PS x Gender	-0.07*	0.01	-8.21	-0.09	-0.06	.0007	67.43*
(Intercept)	15.35*	0.17	92.30	15.02	15.67		
Perceived Safety	-0.55*	0.01	-42.82	-0.58	-0.53		
Race x Gender	0.13*	0.03	4.38	0.07	0.19		
PS x (Race x Gender)	-0.004	0.002	-1.73	-0.01	-0.001	0.000	2.99
Outcome Variable: 12 mo MH utilization							
(Intercept)	-1.00*	0.08	-13.39	-1.15	-0.86		
Perceived Safety	.006	0.006	1.02	-0.006	0.02		
Gender	0.53*	0.04	11.94	0.44	0.62		
PS x Gender	-0.04*	0.004	-10.13	-0.04	-0.03		
(Intercept)	0.25	0.07	3.83	.12	0.38		
Perceived Safety	-0.06*	0.005	-11.87	-0.07	-0.05		
Race x Gender	-0.10*	0.01	-7.65	-0.12	-0.07		
PS x (Race x Gender)	0.002	0.001	1.48	-0.001	0.003		
Outcome Variable: NSSI							
(Intercept)	1.13*	0.01	77.25	1.11	1.16		
Perceived Safety	-0.01*	0.001	-5.31	-0.01	-0.004		
Gender	0.14*	0.01	16.05	0.12	0.16		
PS x Gender	-0.01*	0.001	-10.77	-0.01	-0.01	0.0012	115.97*
(Intercept)	1.34*	0.01	101.10	1.32	1.37		
Perceived Safety	-0.02*	0.001	-17.42	-0.02	-0.02		
Race x Gender	-0.01	0.01	-2.46	-0.01	-0.001		
PS x (Race x Gender)	0.001	0.001	2.35	0.0001	0.0008	0.0001	5.54
Outcome Variable: Suicidality							
(Intercept)	6.24*	0.10	59.84	6.04	6.45		
Perceived Safety	-0.14*	0.01	-16.86	-0.16	-0.13		
Gender	1.08*	0.06	17.28	0.96	1.20		
PS x Gender	-0.04*	0.01	-7.80	-0.05	-0.03	0.0006	60.79*
(Intercept)	7.48*	0.10	78.45	7.30	7.66		
Perceived Safety	-0.18*	0.01	-23.92	-0.19	-0.16		
Race x Gender	0.01	0.02	0.43	-0.03	0.04		
PS x (Race x Gender)	-0.0003	0.001	-0.25	-0.003	0.002	0.0000	0.06

Outcome Variable: Flourishing							
(Intercept)	36.87*	0.29	125.25	36.29	38.45		
Perceived Safety	0.78*	0.02	32.10	0.73	0.82		
Gender	-1.80*	0.18	-10.22	-2.15	-1.46		
PS x Gender	0.03	0.01	1.78	-0.003	0.05	0.0000	3.18
(Intercept)	37.04*	0.27	138.68	36.52	37.57		
Perceived Safety	0.67*	0.02	31.94	0.62	0.71		
Race x Gender	-0.39*	0.05	-7.93	-0.48	-0.29		
PS x (Race x Gender)	0.01	0.004	3.70	0.01	0.02	0.0001	13.72

*<.001; *n* = 91606

Table 11. Moderation Analyses with Perceived Safety as Predictor, Gender as Moderator, Substance Use Outcome Variables

Effect	*b*	*SE*	*t*	95% CI		R^2 Change	F
				LL	UL		
Outcome Variable: Tobacco Use							
(Intercept)	7.49*	0.49	15.39	6.54	8.45		
Perceived Safety	-0.18*	0.04	-4.49	-0.26	-0.10		
Gender	-0.13	0.28	-0.48	-0.68	0.41		
PS x Gender	0.05	0.02	2.12	0.004	0.09	0.0002	4.48
(Intercept)	8.86*	0.41	21.58	8.05	9.66		
Perceived Safety	-0.20*	0.03	-6.20	-0.26	-0.13		
Race x Gender	-0.46*	0.08	-5.61	-0.62	-0.30		
PS x (Race x Gender)	0.03*	0.01	4.26	0.01	0.04	0.0006	18.13
Outcome Variable: Alcohol Use							
(Intercept)	6.85*	0.24	28.35	6.38	7.33		
Perceived Safety	-0.03	0.02	-1.66	-0.07	0.01		
Gender	-0.15	0.14	-1.03	-0.43	0.14		
PS x Gender	0.02	0.01	1.90	-0.001	0.05	0.0001	3.62
(Intercept)	7.36*	0.21	35.20	6.95	7.77		
Perceived Safety	-0.01	0.02	-0.74	-0.04	0.02		
Race x Gender	-0.15	0.04	-3.82	-0.23	-0.07		
PS x (Race x Gender)	0.001	0.003	0.24	-0.01	0.007	0.0000	0.06
Outcome Variable: Cannabis Use							
(Intercept)	7.63*	0.36	21.13	6.93	8.34		
Perceived Safety	-0.26*	0.03	-8.95	-0.32	-0.21		
Gender	-0.04	0.21	-0.21	-0.45	0.36		
PS x Gender	0.06	0.02	3.82	0.03	0.10	0.0004	14.63
(Intercept)	6.49*	0.32	20.07	5.85	7.12		
Perceived Safety	-0.12*	0.03	-4.75	-0.17	-0.07		
Race x Gender	0.13	0.06	2.05	0.01	0.25		
PS x (Race x Gender)	-0.001	0.01	-0.18	-0.01	0.01	0.0000	.0341
Outcome Variable: Cocaine Use							
(Intercept)	1.89	0.56	3.40	0.80	2.97		
Perceived Safety	-0.01	0.04	-0.21	-0.10	0.08		
Gender	0.93	0.32	2.94	0.31	1.55		
PS x Gender	-0.06	0.03	-2.35	-0.11	-0.01	0.0008	5.54
(Intercept)	2.14*	0.46	4.64	1.23	3.04		
Perceived Safety	-0.04	0.04	-1.17	-0.11	0.03		
Race x Gender	0.22	0.10	2.40	0.04	0.40		
PS x (Race x Gender)	-0.01	0.01	-1.24	-0.02	0.01	0.0002	1.5444
Outcome Variable: Prescription Stimulant Use							
(Intercept)	1.88	0.50	3.75	0.89	2.86		

Perceived Safety	-0.003	0.04	-0.08	-0.08	0.08		
Gender	1.33*	0.28	4.68	0.77	1.89		
PS x Gender	-0.09*	0.02	-4.15	-0.14	-0.05	0.0021	17.201*
(Intercept)	2.44*	0.42	5.84	1.62	3.26		
Perceived Safety	-0.05	0.03	-1.70	-0.12	0.01		
Race x Gender	0.31	0.08	3.68	0.15	0.48		
PS x (Race x Gender)	-0.02	0.01	-2.89	-0.03	-0.01	0.0010	8.35
Outcome Variable: Methamphetamine Use							
(Intercept)	0.76	1.49	0.51	-2.16	3.68		
Perceived Safety	0.09	0.12	0.77	-0.14	0.32		
Gender	3.46*	0.73	4.72	2.02	4.90		
PS x Gender	-0.23	0.06	-4.06	-0.35	-0.12	0.0120	16.4985
(Intercept)	-0.66	1.42	-0.47	-3.44	2.12		
Perceived Safety	0.17	0.11	1.61	-0.04	0.38		
Race x Gender	1.41*	0.25	5.58	0.91	1.90		
PS x (Race x Gender)	-0.09*	0.02	-4.68	-0.13	-0.05	0.0161	21.884*
Outcome Variable: Inhalant Use							
(Intercept)	1.66	0.68	2.46	0.33	2.98		
Perceived Safety	-0.03	0.05	-0.65	-0.14	0.07		
Gender	1.33*	0.32	4.20	0.71	1.96		
PS x Gender	-0.08	0.03	-3.16	-0.13	-0.03	0.0026	10.0099
(Intercept)	0.59	0.62	0.95	-0.63	1.81		
Perceived Safety	0.03	0.05	0.64	-0.06	0.12		
Race x Gender	0.64*	0.11	5.69	0.42	0.86		
PS x (Race x Gender)	-0.04*	0.01	-4.16	-0.05	-0.02	0.0045	17.277*
Outcome Variable: Sedative Use							
(Intercept)	3.90*	0.65	6.03	2.63	5.17		
Perceived Safety	-0.16	0.05	-3.0002	-0.26	-0.05		
Gender	0.93	0.34	2.73	0.26	1.61		
PS x Gender	-0.05	0.03	-1.66	-0.1005	0.01	0.0005	2.7550
(Intercept)	3.07*	0.58	5.32	1.94	4.21		
Perceived Safety	-0.11	0.05	-2.45	-0.20	-0.022		
Race x Gender	0.45	0.112	4.03	0.23	0.67		
PS x (Race x Gender)	-0.02	0.01	-2.33	-0.04	-0.0033	0.0010	5.4353
Outcome Variable: Hallucinogen Use							
(Intercept)	1.81*	0.33	5.43	1.16	2.47		
Perceived Safety	-0.03	0.03	-1.22	-0.09	0.02		
Gender	0.64	0.17	3.71	0.30	0.98		
PS x Gender	-0.03	0.01	-2.27	-0.06	-0.004	.0005	5.1505
(Intercept)	1.55*	0.30	5.10	0.95	2.15		
Perceived Safety	-0.01	0.02	-0.40	-0.05	0.04		

Race x Gender	0.24*	0.06	4.11	0.12	0.35		
PS x (Race x Gender)	-0.01	0.004	-2.66	-0.02	-0.003	0.0007	7.0656
Outcome Variable: Heroin Use							
(Intercept)	-1.93	2.69	-0.72	-7.20	3.35		
Perceived Safety	0.26	0.22	1.17	-0.17	0.68		
Gender	4.87*	1.16	4.19	2.59	7.15		
PS x Gender	-0.26	0.10	-2.63	-0.45	-0.07	0.0113	6.9238
(Intercept)	-3.37	2.59	-1.30	-8.45	1.71		
Perceived Safety	0.40	0.20	2.05	0.02	0.79		
Race x Gender	1.87*	0.43	4.39	1.03	2.71		
PS x (Race x Gender)	-0.11	0.03	-3.24	-0.18	-0.04	0.0178	10.5164
Outcome Variable: Prescription Opioid							
(Intercept)	0.93	0.67	1.40	-0.37	2.24		
Perceived Safety	0.01	0.05	0.13	-0.10	0.11		
Gender	1.95*	0.34	5.77	1.29	2.62		
PS x Gender	-0.12*	0.03	-4.32	-0.17	-0.07	0.0046	18.654*
(Intercept)	1.16	0.58	1.98	0.01	2.30		
Perceived Safety	0.004	0.04	0.09	-0.08	0.09		
Race x Gender	0.62*	0.11	5.59	0.40	0.84		
PS x (Race x Gender)	-0.04*	0.01	-4.55	-0.06	-0.23	0.0052	20.722*
Outcome Variable: Other Substance Use							
(Intercept)	13.98*	3.26	4.28	7.57	20.38		
Perceived Safety	-0.62	0.27	-2.30	-1.14	-0.09		
Gender	-0.47	1.74	-0.27	-3.89	2.95		
PS x Gender	0.08	0.14	0.54	-0.20	0.36	0.0004	0.2908
(Intercept)	8.17	2.87	2.85	2.53	13.80		
Perceived Safety	-0.26	0.22	-1.17	-0.69	0.18		
Race x Gender	0.73	0.51	1.44	-0.27	1.72		
PS x (Race x Gender)	-0.02	0.04	-0.53	-0.10	0.06	0.0004	0.2811

Table 12. Simple regression analyses by gender group with Perceived Safety as predictor

Gender	*B*	*SE*	Beta	*t*
Outcome Variable: Psychological Distress				
Cis AFAB	-0.54*	0.01	-0.23	-82.85
Cis AMAB	-0.53*	0.01	-0.22	-55.55
BT AFAB	-0.66*	0.08	-0.28	-8.42
BT AMAB	-0.53*	0.11	-0.23	-4.93
NBGQ AFAB	-0.58*	0.04	-0.26	-16.03
NBGQ AMAB	-0.52*	0.08	-0.24	-6.78
Outcome Variable: 12 mo MH utilization				
Cis AFAB	-0.002	0.001	-0.009	-2.20
Cis AMAB	-0.003	0.001	-0.02	-4.51
BT AFAB	0.01	0.01	0.03	0.71
BT AMAB	-0.01	0.01	-0.03	-0.69
NBGQ AFAB	0.08	0.003	0.03	1.92
NBGQ AMAB	-0.01	0.01	-0.06	-1.58
Outcome Variable: NSSI				
Cis AFAB	-0.01*	0.001	-0.06	-22.76
Cis AMAB	-0.01*	0.001	-0.07	-15.81
BT AFAB	-0.08*	0.01	-0.22	-6.56
BT AMAB	-0.02	0.01	-0.08	-1.62
NBGQ AFAB	-0.03*	0.01	-0.08	-4.57
NBGQ AMAB	-0.02	0.01	-0.09	-2.34
Outcome Variable: Cocaine Use				
Cis AFAB	-0.18	0.004	-0.13	-48.08
Cis AMAB	-0.13*	0.01	-0.10	-24.50
BT AFAB	-0.37	0.06	-0.23	-6.66
BT AMAB	-0.25	0.08	-0.16	-3.41
NBGQ AFAB	-0.25	0.03	-0.15	-9.23
NBGQ AMAB	-0.19	0.05	-0.13	-3.47
Outcome Variable: Rx Stimulant				
Cis AFAB	-0.12*	0.02	-0.06	-6.26
Cis AMAB	-0.20*	0.03	-0.10	-7.40
BT AFAB	-1.36	0.38	-0.39	-3.60
BT AMAB	-0.32	0.56	-0.09	-0.58
NBGQ AFAB	-0.39*	0.10	-0.20	-4.02
NBGQ AMAB	-0.06	0.27	-0.02	-0.21
Outcome Variable: Rx Opioid Use				
Cis AFAB	-0.12*	0.03	-0.07	-4.68
Cis AMAB	-0.22*	0.04	-0.11	-6.08
BT AFAB	-1.27	0.42	-0.35	-3.04
BT AMAB	-0.08*	0.66	-0.02	-0.12
NBGQ AFAB	-0.48*	0.13	-0.24	-3.69
NBGQ AMAB	-0.49	0.39	-0.14	-1.23

*<.001; AFAB = Assigned Female at Birth; AMAB = Assigned Male at Birth; BT = Binary Transgender; NBGQ = Non-Binary/Genderqueer

Table 13. Simple regression analyses by race x gender group with Perceived Safety as predictor

Gender	*B*	*SE*	Beta	*t*
Outcome Variable: Tobacco Use				
White Cis AFAB	-0.28*	0.03	-0.08	-8.15
White Cis AMAB	-0.15	0.05	-0.04	-3.03
White BT AFAB	-0.63	0.40	-0.16	-1.58
White BT AMAB	-0.02	0.02	-0.10	-1.14
White NBGQ AFAB	-0.12	0.16	-0.03	-0.73
White NBGQ AMAB	-0.47	0.36	-0.12	-1.31
REM Cis AFAB	-0.05	0.04	-0.02	-1.35
REM Cis AMAB	-0.09	0.06	-0.03	-1.58
REM BT AFAB	-0.21	0.13	-0.06	-1.63
REM BT AMAB	-1.87*	0.43	-0.52	-4.31
REM NBGQ AFAB	-0.31	0.28	-0.08	-1.13
REM NBGQ AMAB	-0.73	0.37	-0.19	-1.96
Outcome Variable: Mental Healthcare Utilization				
White Cis AFAB	-0.01*	0.001	-0.03	-6.10
White Cis AMAB	-0.01	0.002	-0.03	-3.03
White BT AFAB	0.01	0.01	0.07	1.08
White BT AMAB	-0.02	0.02	-0.10	-1.14
White NBGQ AFAB	0.004	0.01	0.02	0.61
White NBGQ AMAB	-0.01	0.01	-0.03	-0.45
REM Cis AFAB	-0.002	0.001	-0.01	-1.75
REM Cis AMAB	-0.002	0.001	-0.01	-1.46
REM BT AFAB	-0.04	0.02	-.17	-2.18
REM BT AMAB	-0.01	0.02	-0.05	-0.46
REM NBGQ AFAB	0.00	0.01	-0.002	-0.06
REM NBGQ AMAB	-0.02	0.01	-0.11	-1.56
Outcome Variable: Psychological Distress				
White Cis AFAB	-0.53*	0.01	-0.23	-41.28
White Cis AMAB	-0.53*	0.02	-0.22	-26.08
White BT AFAB	-0.83*	0.14	-0.35	-6.04
White BT AMAB	-0.62	0.21	-0.25	-2.98
White NBGQ AFAB	-0.64*	0.06	-0.29	-10.71
White NBGQ AMAB	-0.51*	0.15	-0.21	-3.38
REM Cis AFAB	-0.52*	0.01	-0.22	-38.09
REM Cis AMAB	-0.50*	0.02	-0.21	-24.45
REM BT AFAB	-0.59	0.19	-0.24	-3.10
REM BT AMAB	-0.53	0.26	-0.22	-2.04
REM NBGQ AFAB	-0.39*	0.07	-0.17	-5.20
REM NBGQ AMAB	-0.75*	0.15	-0.34	-4.94
Outcome Variable: Methamphetamine Use				
White Cis AFAB	0.02	0.08	0.01	0.20
White Cis AMAB	-0.07	0.13	-0.03	-0.56
White BT AFAB	-	-	-	-
White BT AMAB	11.50	1.73	0.98	6.64

White NBGQ AFAB	-0.09	0.22	-0.09	-0.42
White NBGQ AMAB	0.02	0.23	0.03	0.10
REM Cis AFAB	-0.32	0.15	-0.12	-2.18
REM Cis AMAB	-0.55	0.20	-0.19	-2.71
REM BT AFAB	-1.87*	0.43	-0.52	-4.31
REM BT AMAB	-1.49	0.63	-0.41	-2.37
REM NBGQ AFAB	0.13	0.22	0.15	0.61
REM NBGQ AMAB	-0.67	0.86	-0.20	-0.78
Outcome Variable: Inhalant Use				
White Cis AFAB	-0.06	0.03	-0.05	-1.69
White Cis AMAB	-0.16	0.05	-0.10	-3.00
White BT AFAB	0.13	0.24	0.11	0.54
White BT AMAB	-0.45	0.20	-0.53	-2.23
White NBGQ AFAB	0.20	0.10	0.19	1.95
White NBGQ AMAB	0.30	0.24	0.18	1.24
REM Cis AFAB	-0.21	0.08	-0.10	-2.74
REM Cis AMAB	-0.17	0.09	-0.08	-1.89
REM BT AFAB	0.02	0.08	0.02	0.22
REM BT AMAB	-0.38	0.18	-0.20	-2.10
REM NBGQ AFAB	0.27	0.18	0.18	1.52
REM NBGQ AMAB	-1.08	0.58	-0.26	-1.87
Outcome Variable: Rx Opioid Use				
White Cis AFAB	-0.02	0.04	-0.02	-0.62
White Cis AMAB	-0.10	0.05	-0.06	-2.00
White BT AFAB	-0.57	0.39	-0.34	-1.44
White BT AMAB	-0.48	0.91	-0.21	-0.53
White NBGQ AFAB	-0.73	0.26	-0.30	-2.84
White NBGQ AMAB	0.30	0.60	0.12	0.50
REM Cis AFAB	-0.24*	0.07	-0.13	-3.64
REM Cis AMAB	-0.30	0.11	-0.12	-2.66
REM BT AFAB	-0.56	0.18	-0.26	-3.12
REM BT AMAB	-0.39	0.20	-0.20	-1.91
REM NBGQ AFAB	0.28	0.38	0.12	0.75
REM NBGQ AMAB	-0.65	0.65	-0.18	-0.99

*<.001; AFAB = Assigned Female at Birth; AMAB = Assigned Male at Birth; BT = Binary Transgender; NBGQ = Non-Binary/Genderqueer

Table 14. Moderation Analyses with IPV as Predictor, Gender and Race x Gender as Moderators, and Mental Health Outcome Variables

Effect	*b*	*SE*	*t*	95% CI		R^2 Change	F
				LL	UL		
Outcome Variable: Psychological Distress							
(Intercept)	1.98*	0.27	7.32	1.45	2.51		
IPV	1.23*	0.05	23.86	1.13	1.33		
Gender	0.45	0.16	2.89	0.15	0.76		
IPV x Gender	-0.03	0.03	-1.03	-0.09	0.03	0.0000	1.0625
(Intercept)	1.67*	0.24	6.85	1.19	2.15		
IPV	1.26*	0.05	27.14	1.17	1.36		
Race x Gender	0.22*	0.05	4.79	0.13	0.31		
IPV x (Race x Gender)	-0.02	0.01	-2.10	-0.04	-0.001	0.0000	4.4012
Outcome Variable: 12 month MH Utilization							
(Intercept)	-2.34*	0.10	-22.68	-2.54	-2.14		
IPV	0.27*	0.02	13.76	0.23	0.31		
Gender	0.10	0.06	1.70	-0.02	0.22		
IPV x Gender	-0.005	0.01	-0.42	-0.03	0.02		
(Intercept)	-1.90*	0.09	-20.45	-2.08	-1.72		
IPV	0.27*	0.02	14.90	0.23	0.30		
Race x Gender	-0.07	0.02	-3.80	-0.10	-0.03		
IPV x (Race x Gender)	-0.001	0.003	-0.26	-0.01	0.01		
Outcome Variable: NSSI							
(Intercept)	0.71*	0.02	33.97	0.67	0.75		
IPV	0.07*	0.004	16.74	0.06	0.07		
Gender	-0.005	0.01	-0.38	-0.03	0.02		
IPV x Gender	0.01	0.002	3.91	0.005	0.01	0.001	15.31
(Intercept)	0.75*	0.02	39.45	0.71	0.79		
IPV	0.07*	0.004	19.48	0.07	0.08		
Race x Gender	-0.01	0.004	-2.48	-0.02	-0.002		
IPV x (Race x Gender)	0.002	0.001	2.75	0.001	0.003	0.006	7.58
Outcome Variable: Suicidality							
(Intercept)	0.47	0.15	3.12	0.17	0.76		
IPV	0.78*	0.03	27.42	0.72	0.83		
Gender	0.76*	0.09	8.73	0.59	0.93		
IPV x Gender	-0.04	0.02	-2.58	-0.07	-0.01	0.0001	6.6390
(Intercept)	1.23*	0.14	9.01	0.96	1.50		
IPV	0.76*	0.03	29.37	0.71	0.82		
Race x Gender	0.08	0.03	3.13	0.03	0.13		
IPV x (Race x Gender)	-0.01	0.01	-2.47	-0.02	-0.003	0.0001	6.0809
Outcome Variable: Flourishing							

(Intercept)	53.08*	0.43	123.45	52.24	53.92		
IPV	-1.33*	0.08	-16.28	-1.49	-1.17		
Gender	-1.71*	0.25	-6.83	-2.20	-1.22		
IPV x Gender	0.09	0.05	1.97	0.001	0.19	0.00	3.89
(Intercept)	52.73*	0.39	135.61	51.97	53.50		
IPV	-1.38*	0.07	-18.59	-1.52	-1.23		
Race x Gender	-0.50*	0.07	-6.74	-0.64	-0.35		
IPV x (Race x Gender)	0.04	0.01	3.17	0.02	0.07	0.0001	10.0505

*<.001; *n* = 91606

Table 15. Moderation Analyses with Interpersonal Violence as Predictor, Gender as Moderator, Substance Use Outcome Variables

Effect	*b*	*SE*	*t*	95% CI LL	95% CI UL	R^2 Change	F
Outcome Variable: Tobacco Use							
(Intercept)	-1.48	0.58	-2.57	-2.61	-0.35		
IPV	1.28*	0.11	12.03	1.07	1.49		
Gender	-0.28	0.32	-0.89	-0.91	0.34		
IPV x Gender	0.13	0.06	2.28	0.02	0.25	0.0002	5.1824
(Intercept)	-1.70	0.51	-3.34	-2.69	-0.70		
IPV	1.52*	0.09	15.98	1.33	1.71		
Race x Gender	-0.02	0.10	-0.20	-0.22	0.18		
IPV x (Race x Gender)	-0.02	0.02	-0.93	-0.06	0.02	0.00	0.8715
Outcome Variable: Alcohol Use							
(Intercept)	1.62*	0.32	5.04	0.99	2.25		
IPV	0.92*	0.06	15.23	0.80	1.04		
Gender	-0.42	0.19	-2.27	-0.79	-0.06		
IPV x Gender	0.11	0.04	3.02	0.04	0.18	0.0001	9.0924
(Intercept)	2.40*	0.28	8.47	1.85	2.96		
IPV	0.92*	0.05	17.00	0.81	1.02		
Race x Gender	-0.32*	0.06	-5.72	-0.43	-0.21		
IPV x (Race x Gender)	0.03	0.01	3.24	0.01	0.06	0.0002	10.4678
Outcome Variable: Cannabis Use							
(Intercept)	-1.14	0.46	-2.50	-2.04	-0.25		
IPV	1.06*	0.086	12.33	0.89	1.23		
Gender	0.23	0.26	0.92	-0.27	0.74		
IPV x Gender	0.09	0.05	1.83	-0.01	0.18	0.0001	3.3442
(Intercept)	0.23	0.42	.558	-0.59	1.05		
IPV	0.89*	0.08	11.38	0.74	1.05		
Race x Gender	-0.21	0.08	-2.57	-0.37	-0.05		
IPV x (Race x Gender)	0.06*	0.02	4.11	0.03	0.09	0.0004	16.8964*
Outcome Variable: Cocaine Use							
(Intercept)	-0.50	0.56	-0.88	-1.62	0.61		
IPV	0.42*	0.10	4.10	0.22	0.63		
Gender	-1.56*	0.31	-5.08	-2.16	-0.96		
IPV x Gender	0.32*	0.06	5.77	0.21	0.43	0.0045	33.29*
(Intercept)	-0.81	0.51	-1.59	-1.81	0.19		
IPV	0.45*	0.09	4.80	0.27	0.63		
Race x Gender	-0.41*	0.10	-4.22	-0.59	-0.22		
IPV x (Race x Gender)	0.09*	0.02	5.37	0.06	0.13	0.0040	28.84*
Outcome Variable: Prescription Stimulant Use							

(Intercept)	-0.57	0.53	-1.08	-1.60	0.46		
IPV	0.45*	0.10	4.68	0.26	0.63		
Gender	-1.53*	0.28	-5.43	-2.08	-0.98		
IPV x Gender	0.30*	0.05	5.96	0.20	0.40	0.0042	35.553*
(Intercept)	-0.07	0.47	-0.15	-0.99	0.85		
IPV	0.34	0.09	3.89	0.17	0.51		
Race x Gender	-0.61*	0.09	-6.76	-0.79	-0.43		
IPV x (Race x Gender)	0.13*	0.02	7.62	0.09	0.16	0.0069	58.015*
Outcome Variable: Methamphetamine Use							
(Intercept)	-1.15	1.27	-0.91	-3.64	1.33		
IPV	0.60	0.22	2.77	0.18	1.03		
Gender	-2.95*	0.60	-4.89	-4.12	-1.76		
IPV x Gender	0.56*	0.10	5.69	0.37	0.76	0.0205	32.43*
(Intercept)	0.43	1.26	0.34	-2.05	2.90		
IPV	0.23	0.23	1.01	-0.21	0.67		
Race x Gender	-1.15*	0.21	-5.45	-1.56	-0.74		
IPV x (Race x Gender)	0.24*	0.04	6.62	0.17	0.31	0.0282	43.809*
Outcome Variable: Inhalant Use							
(Intercept)	-1.43	0.66	-2.18	-2.71	-0.14		
IPV	0.49*	0.12	4.16	0.26	0.72		
Gender	-1.65*	0.30	-5.50	-2.24	-1.06		
IPV x Gender	0.36*	0.05	6.67	0.25	0.46	0.0107	44.551*
(Intercept)	1.11	0.62	1.80	-0.11	2.33		
IPV	-0.02	0.11	-0.20	-0.25	0.20		
Race x Gender	-1.05*	0.11	-9.59	-1.26	-0.84		
IPV x (Race x Gender)	0.22*	0.02	11.36	0.19	0.26	0.0306	129.05*
Outcome Variable: Sedative Use							
(Intercept)	-0.87	0.69	-1.26	-2.22	0.48		
IPV	0.52*	0.12	4.20	0.28	0.77		
Gender	-1.00	0.36	-2.79	-1.69	-0.30		
IPV x Gender	0.24	0.06	3.74	0.11	0.36	0.0025	14.0197
(Intercept)	-0.30	0.64	-0.46	-1.55	0.96		
IPV	0.36	0.12	3.11	0.13	0.59		
Race x Gender	-0.39	0.12	-3.34	-0.63	-0.16		
IPV x (Race x Gender)	0.11*	0.02	5.06	0.07	0.15	0.0046	25.574*
Outcome Variable: Hallucinogen Use							
(Intercept)	-0.78	0.36	-2.13	-1.49	-0.06		
IPV	0.41*	0.07	6.12	0.28	0.54		
Gender	-0.86*	0.18	-4.81	-1.21	-0.51		
IPV x Gender	0.20*	0.03	6.25	0.14	0.27	0.034	39.016*

(Intercept)	-0.01	0.35	-0.02	-0.70	0.68		
IPV	0.27*	0.07	4.11	0.14	0.40		
Race x Gender	-0.43*	0.07	-6.61	-0.56	-0.30		
IPV x (Race x Gender)	0.10*	0.01	8.0002	0.07	0.12	0.057	64.003*
Outcome Variable: Heroin Use							
(Intercept)	1.81	2.20	0.82	-2.50	6.12		
IPV	-0.01	0.35	-0.04	-0.71	0.68		
Gender	-4.38	1.11	-3.94	-6.57	-2.20		
IPV x Gender	0.99*	0.17	5.80	0.65	1.32	0.0467	33.648*
(Intercept)	4.60	2.80	2.20	0.50	8.69		
IPV	-0.44	0.36	-1.23	-1.16	0.27		
Race x Gender	-1.77*	0.36	-4.89	-2.48	-1.06		
IPV x (Race x Gender)	0.37*	0.06	6.34	0.26	0.49	0.0594	40.216*
Outcome Variable: Prescription Opioid							
(Intercept)	-0.57	0.66	-0.86	-1.87	0.73		
IPV	0.29	0.12	2.44	0.06	0.52		
Gender	-2.16*	0.33	-6.49	-2.81	-1.50		
IPV x Gender	0.47*	0.06	8.10	0.36	0.59	0.0149	65.536*
(Intercept)	1.16	0.60	1.93	-0.02	2.33		
IPV	0.01	0.11	0.14	-0.20	0.23		
Race x Gender	-1.10*	0.11	-9.69	-1.32	-0.87		
IPV x (Race x Gender)	0.22*	0.02	10.88	0.18	0.26	0.0274	118.38*
Outcome Variable: Other Substance Use							
(Intercept)	4.55	2.98	1.53	-1.30	10.40		
IPV	0.36	0.52	0.70	-0.66	1.38		
Gender	-3.60	1.46	-2.47	-6.46	-0.74		
IPV x Gender	0.71	0.2	2.80	0.21	1.20	0.0108	7.8486
(Intercept)	8.15	3.17	2.57	1.92	14.37		
IPV	-0.60	0.57	-1.05	-1.73	0.53		
Race x Gender	-1.35	0.50	-2.71	-2.33	-0.37		
IPV x (Race x Gender)	0.32	0.09	3.71	0.15	0.50	0.0189	13.765

Table 16. Simple regression analyses by gender group with Interpersonal Violence as predictor

Gender	*B*	*SE*	Beta	*t*
Outcome Variable: Cocaine Use				
Cis AFAB	0.81*	0.05	0.18	16.08
Cis AMAB	1.27*	0.08	0.21	15.25
BT AFAB	4.30*	0.78	0.61	5.50
BT AMAB	2.74	0.86	0.45	3.18
NBGQ AFAB	0.43	0.21	0.11	2.00
NBGQ AMAB	2.90*	0.62	0.44	4.65
Outcome Variable: Rx Stimulant Use				
Cis AFAB	0.73*	0.04	0.16	16.45
Cis AMAB	1.03*	.07	0.19	14.96
BT AFAB	2.60*	0.61	0.44	4.25
BT AMAB	4.35*	0.76	0.67	5.74
NBGQ AFAB	0.45	0.25	0.09	1.82
NBGQ AMAB	2.58*	0.48	0.46	5.36
Outcome Variable: Methamphetamine Use				
Cis AFAB	1.00*	0.13	0.21	7.95
Cis AMAB	2.53*	0.17	0.45	15.26
BT AFAB	7.22*	1.35	0.80	5.33
BT AMAB	3.33	1.29	0.50	2.58
NBGQ AFAB	3.08*	0.65	0.54	4.74
NBGQ AMAB	2.57	0.89	0.45	2.90
Outcome Variable: Inhalant Use				
Cis AFAB	0.74*	0.06	0.20	11.84
Cis AMAB	1.65*	0.09	0.32	18.22
BT AFAB	3.35*	0.68	0.53	4.93
BT AMAB	4.70*	0.73	0.70	6.44
NBGQ AFAB	0.81*	0.22	0.22	3.67
NBGQ AMAB	3.05*	0.55	0.45	5.51
Outcome Variable: Hallucinogen Use				
Cis AFAB	0.68*	0.04	0.18	19.39
Cis AMAB	1.14*	0.06	0.22	20.02
BT AFAB	2.36*	0.45	0.43	5.30
BT AMAB	3.45*	0.66	0.53	5.25
NBGQ AFAB	0.64*	0.17	0.14	3.84
NBGQ AMAB	1.88*	0.38	0.34	4.95
Outcome Variable: Heroin Use				
Cis AFAB	0.96	0.20	0.20	4.80
Cis AMAB	3.12*	0.41	0.45	7.54
BT AFAB	6.64*	1.20	0.84	5.53
BT AMAB	0.65	3.20	0.07	0.20
NBGQ AFAB	4.31*	0.81	0.76	5.30
NBGQ AMAB	2.01	1.86	0.28	1.08
Outcome Variable: Rx Opioid Use				

Cis AFAB	0.65*	0.06	0.17	11.50
Cis AMAB	1.47*	0.09	0.29	16.80
BT AFAB	3.21*	0.73	0.46	4.37
BT AMAB	2.56	0.90	0.43	2.86
NBGQ AFAB	0.91	0.32	0.18	2.81
NBGQ AMAB	3.32*	0.74	0.47	4.51

Table 17. Simple regression analyses by race x gender group with Interpersonal Violence as predictor

Gender	*B*	*SE*	Beta	*t*
Outcome Variable: Cannabis Use				
White Cis AFAB	1.00*	0.07	0.12	14.44
White Cis AMAB	1.07*	0.15	0.09	7.29
White BT AFAB	0.57	0.85	0.05	0.67
White BT AMAB	6.06*	1.19	0.56	5.11
White NBGQ AFAB	0.65	0.31	0.08	2.10
White NBGQ AMAB	2.04	0.91	0.18	2.24
REM Cis AFAB	1.27*	0.09	0.14	14.30
REM Cis AMAB	1.55*	0.17	0.14	8.96
REM BT AFAB	0.74	0.25	0.08	2.91
REM BT AMAB	1.74	0.38	0.17	4.58
REM NBGQ AFAB	2.09*	0.70	0.18	3.01
REM NBGQ AMAB	1.13	0.78	0.12	1.45
Outcome Variable: Cocaine Use				
White Cis AFAB	0.53*	0.08	0.12	6.38
White Cis AMAB	0.93*	0.14	0.17	6.64
White BT AFAB	0.11	0.44	0.06	0.24
White BT AMAB	4.26	0.92	0.87	4.61
White NBGQ AFAB	0.16	0.39	0.04	0.43
White NBGQ AMAB	0.16	0.35	0.08	0.47
REM Cis AFAB	0.83*	0.11	0.19	7.67
REM Cis AMAB	1.22*	0.21	0.19	5.75
REM BT AFAB	0.25*	0.28	0.07	0.87
REM BT AMAB	6.12*	1.12	0.84	1.44
REM NBGQ AFAB	-0.16	0.66	-0.03	-0.24
REM NBGQ AMAB	3.07	1.14	0.44	2.70
Outcome Variable: Rx Stimulant Use				
White Cis AFAB	0.50*	0.08	0.11	6.36
White Cis AMAB	0.74*	0.13	0.13	5.57
White BT AFAB	0.02	0.54	0.01	0.04
White BT AMAB	1.38	0.96	0.45	1.43
White NBGQ AFAB	0.28	0.45	0.05	0.62
White NBGQ AMAB	-0.25	0.36	-0.11	-0.68
REM Cis AFAB	0.91*	0.11	0.19	8.28
REM Cis AMAB	1.45*	0.18	0.26	7.96
REM BT AFAB	0.04	0.31	0.01	0.12
REM BT AMAB	0.82	0.40	0.16	2.05
REM NBGQ AFAB	-0.49	0.70	-0.09	-0.70
REM NBGQ AMAB	2.94	0.76	0.53	3.88
Outcome Variable: Methamphetamine Use				
White Cis AFAB	0.27	0.16	0.08	1.65
White Cis AMAB	1.69*	0.28	0.34	5.95
White BT AFAB	-	-	-	-
White BT AMAB	4.77	2.22	0.84	2.15

White NBGQ AFAB	-0.39	0.77	-0.11	-0.51
White NBGQ AMAB	-0.27	0.42	-0.19	-0.65
REM Cis AFAB	1.14*	0.28	0.22	4.02
REM Cis AMAB	2.39*	0.33	0.45	7.23
REM BT AFAB	0.06	0.54	0.02	0.11
REM BT AMAB	3.34	1.02	0.55	3.26
REM NBGQ AFAB	-0.35	0.43	-0.20	-0.82
REM NBGQ AMAB	2.47	1.46	0.41	1.69
Outcome Variable: Inhalant Use				
White Cis AFAB	0.33*	0.08	0.12	4.22
White Cis AMAB	0.80*	0.15	0.17	5.36
White BT AFAB	-0.133	0.33	-0.08	-0.40
White BT AMAB	1.09	0.55	0.48	1.99
White NBGQ AFAB	-0.03	0.27	-0.01	-0.12
White NBGQ AMAB	-0.32	0.37	-0.13	-0.86
REM Cis AFAB	0.90*	0.16	0.20	5.79
REM Cis AMAB	2.05*	0.21	0.36	9.68
REM BT AFAB	0.15*	0.20	0.06	0.76
REM BT AMAB	1.42	0.43	0.31	3.29
REM NBGQ AFAB	-0.35	0.32	-0.13	-1.08
REM NBGQ AMAB	4.80	0.97	0.59	4.94
Outcome Variable: Sedative Use				
White Cis AFAB	0.48*	0.10	0.11	5.10
White Cis AMAB	0.89*	0.15	0.18	6.04
White BT AFAB	-.28	0.64	0.08	0.44
White BT AMAB	-0.15	1.36	-0.04	-0.11
White NBGQ AFAB	0.18	0.57	0.03	0.32
White NBGQ AMAB	-0.85	1.28	-0.13	0.51
REM Cis AFAB	0.64*	0.16	0.11	3.95
REM Cis AMAB	1.66*	0.22	0.28	7.50
REM BT AFAB	0.44	0.36	0.08	1.23
REM BT AMAB	1.34	0.54	0.22	2.47
REM NBGQ AFAB	-0.89	0.99	-0.13	-0.90
REM NBGQ AMAB	2.76	1.34	0.37	2.06
Outcome Variable: Hallucinogen Use				
White Cis AFAB	0.37*	0.06	0.11	6.72
White Cis AMAB	0.70*	0.09	0.15	7.53
White BT AFAB	-0.22	0.36	-0.09	-0.61
White BT AMAB	3.24	0.92	0.63	3.54
White NBGQ AFAB	0.44	0.17	0.15	2.52
White NBGQ AMAB	0.79	0.68	0.14	1.18
REM Cis AFAB	0.70*	0.08	0.17	8.74
REM Cis AMAB	1.10*	0.13	0.22	8.24
REM BT AFAB	0.31	0.19	0.08	1.62
REM BT AMAB	1.03*	0.30	0.21	3.41
REM NBGQ AFAB	0.32	0.46	0.06	0.69

REM NBGQ AMAB	2.22	0.68	0.39	3.25
Outcome Variable: Heroin Use				
White Cis AFAB	-0.19	0.15	-0.09	-1.23
White Cis AMAB	2.36*	0.64	0.30	3.68
White BT AFAB	3.00	1.73	0.87	1.73
White BT AMAB	-	-	-	-
White NBGQ AFAB	-	-	-	-
White NBGQ AMAB	-	-	-	-
REM Cis AFAB	0.91	0.46	0.18	1.98
REM Cis AMAB	3.29*	0.68	0.48	4.83
REM BT AFAB	-0.01	0.93	-0.01	-0.02
REM BT AMAB	5.00	1.06	0.83	4.74
REM NBGQ AFAB	5.39	1.21	0.88	4.44
REM NBGQ AMAB	1.04	2.19	0.16	0.47
Outcome Variable: Rx Opioid Use				
White Cis AFAB	0.24	0.08	0.08	3.08
White Cis AMAB	0.85*	0.16	0.17	5.53
White BT AFAB	-0.51	0.61	-0.19	-0.84
White BT AMAB	4.24	1.50	0.73	2.83
White NBGQ AFAB	0.25	0.68	0.04	0.37
White NBGQ AMAB	-0.58	1.07	-0.12	-0.54
REM Cis AFAB	1.08*	0.15	0.24	7.24
REM Cis AMAB	2.02*	0.25	0.35	8.13
REM BT AFAB	0.03*	0.43	0.01	0.06
REM BT AMAB	2.04*	0.48	0.41	4.22
REM NBGQ AFAB	2.27*	0.56	0.47	4.04
REM NBGQ AMAB	4.57	1.14	0.59	4.02

Table 18. Moderation Analyses with General Abuse as Predictor, Gender and Race x Gender as Moderators, and Mental Health Outcome Variables

Effect	*b*	*SE*	*t*	95% CI		R^2 Change	F
				LL	UL		
Outcome Variable: Psychological Distress							
(Intercept)	-1.01*	0.22	-4.49	-1.45	-0.57		
General Abuse	1.24*	0.03	40.84	1.18	1.30		
Gender	-0.04	0.13	-0.33	-0.30	0.21		
GA x Gender	0.03	0.02	1.83	-0.002	0.07	0.00	3.36
(Intercept)	-1.71*	0.20	-8.67	-2.09	-1.32		
General Abuse	1.31*	0.03	48.65	1.26	1.37		
Race x Gender	0.13	0.04	3.46	0.06	0.21		
GA x (Race x Gender)	-0.002	0.01	-0.42	-0.01	0.01	0.00	0.18
Outcome Variable: 12 mo MH utilization							
(Intercept)	-2.95*	0.09	-32.73	-3.13	-2.78		
General Abuse	0.28*	0.01	23.10	0.26	0.30		
Gender	-0.05	0.05	-0.90	-0.15	0.06		
GA x Gender	0.01	0.01	1.31	-0.01	0.02		
(Intercept)	-2.68*	0.08	-34.20	-2.84	-2.53		
General Abuse	0.28*	0.01	26.54	0.26	0.31		
Race x Gender	-0.08*	0.02	-5.48	-0.11	-0.05		
GA x (Race x Gender)	0.02	0.002	1.07	-0.002	0.01		
Outcome Variable: NSSI							
(Intercept)	0.51*	0.02	28.24	0.47	0.54		
General Abuse	0.08*	0.002	31.97	0.07	0.08		
Gender	-0.05*	0.01	-4.73	-0.07	-0.03		
GA x Gender	0.01*	0.001	8.17	0.01	0.01	0.0003	66.75*
(Intercept)	0.50*	0.02	31.46	0.47	0.53		
General Abuse	0.09*	0.002	39.42	0.08	0.09		
Race x Gender	-0.02*	0.003	-5.53	-0.02	-0.01		
GA x (Race x Gender)	0.03*	0.0004	5.85	0.002	0.003	0.0002	34.19*
Outcome Variable: Suicidality							
(Intercept)	-1.40*	0.18	-7.90	-1.74	-1.05		
General Abuse	0.82*	0.02	34.18	0.78	0.87		
Gender	0.40*	0.10	4.09	0.21	0.59		
GA x Gender	0.01	0.01	0.13	-0.01	0.04	0.00	1.1927
(Intercept)	-0.82*	0.17	-4.87	-1.14	-0.49		
General Abuse	0.83*	0.02	36.18	0.79	0.88		
Race x Gender	-0.04	0.03	-1.30	-0.10	0.02		
GA x (Race x Gender)	0.01	0.004	1.89	-0.0003	0.02	0.00	3.5479

			Outcome Variable: Flourishing				
(Intercept)	55.28*	0.51	108.08	54.28	56.29		
General Abuse	-1.27*	0.07	-18.24	-1.41	-1.13		
Gender	-1.05	0.28	-3.72	-1.61	-0.50		
GA x Gender	-0.02	0.04	-0.44	-0.09	0.06	0.0000	0.1960
(Intercept)	54.70*	0.48	113.95	53.76	55.64		
General Abuse	-1.26*	0.07	-19.16	-1.39	-1.13		
Race x Gender	-0.12	0.09	-1.34	-0.30	0.06		
GA x (Race x Gender)	-0.02	0.01	-1.62	-0.04	0.004	0.00	2.6347

*<.001; *n* = 91606

Table 19. Moderation Analyses with General Abuse as Predictor, Gender as Moderator, Substance Use Outcome Variables

Effect	*b*	*SE*	*t*	95% CI		R^2 Change	F
				LL	UL		
			Outcome Variable: Tobacco Use				
(Intercept)	-4.31*	0.67	-6.39	-5.63	-3.00		
General Abuse	1.32*	0.09	14.75	1.15	1.50		
Gender	-0.29	0.36	-0.82	-0.10	0.41		
GA x Gender	0.09	0.05	1.81	-0.01	0.18	0.0001	3.2928
(Intercept)	-4.48*	0.61	-7.34	-5.68	-3.29		
General Abuse	1.47*	0.08	17.87	1.31	1.64		
Race x Gender	-0.09	0.12	-0.71	-0.32	0.15		
GA x (Race x Gender)	-0.004	0.02	-0.27	-0.04	0.03	0.00	0.0705
			Outcome Variable: Alcohol Use				
(Intercept)	-0.67	0.38	-1.75	-1.41	0.08		
General Abuse	0.99*	0.05	19.10	0.89	1.09		
Gender	-0.19	0.21	-0.89	-0.60	0.23		
GA x Gender	0.04	0.03	1.30	-0.02	0.09	0.00	1.6877
(Intercept)	0.39	0.35	1.12	-0.30	1.08		
General Abuse	0.94*	0.05	19.53	0.84	1.03		
Race x Gender	-0.33*	0.07	-4.80	-0.46	-0.19		
GA x (Race x Gender)	0.03	0.01	2.72	0.01	0.04	0.0001	7.3904
			Outcome Variable: Cannabis Use				
(Intercept)	-4.17*	0.54	-7.73	-5.23	-3.11		
General Abuse	1.19*	0.07	16.35	1.04	1.33		
Gender	0.39	0.29	1.37	-0.17	0.96		
GA x Gender	0.03	0.04	0.86	-0.04	0.11	0.00	0.7467
(Intercept)	-2.10*	0.50	-4.18	-3.09	-1.12		
General Abuse	0.97*	0.07	14.17	0.83	1.10		
Race x Gender	-0.40*	0.10	-4.08	-0.59	-0.21		

GA x (Race x Gender)	0.07*	0.01	5.32	0.04	0.10	0.0007	28.29*
Outcome Variable: Cocaine Use							
(Intercept)	-1.35	0.64	-2.10	-2.61	-0.09		
General Abuse	0.44*	0.08	5.21	0.27	0.60		
Gender	-2.48*	0.34	-7.22	-3.15	-1.81		
GA x Gender	0.34*	0.04	7.70	0.25	0.43	0.0078	59.21*
(Intercept)	-2.65*	0.58	-4.58	-3.79	-1.52		
General Abuse	0.57*	0.08	7.45	0.42	0.73		
Race x Gender	-0.52*	0.11	-4.77	-0.74	-0.31		
GA x (Race x Gender)	0.08*	0.01	5.74	0.05	0.11	0.0044	32.94*
Outcome Variable: Prescription Stimulant Use							
(Intercept)	-1.61	0.60	-2.67	-2.79	-0.43		
General Abuse	0.48*	0.08	6.10	0.33	0.63		
Gender	-2.05*	0.31	-6.55	-2.66	-1.43		
GA x Gender	0.28*	0.04	6.85	0.20	0.35	0.0055	46.97*
(Intercept)	-1.86	0.56	-3.35	-2.95	-0.77		
General Abuse	0.49*	0.07	6.58	0.34	0.63		
Race x Gender	-0.60*	0.10	-5.76	-0.81	-0.40		
GA x (Race x Gender)	0.09*	0.01	6.39	0.06	0.12	0.0048	40.822*
Outcome Variable: Methamphetamine Use							
(Intercept)	-0.67	1.27	-0.52	-3.15	1.83		
General Abuse	0.38	0.16	2.40	0.07	0.69		
Gender	-4.47*	0.63	-7.12	-5.70	-3.24		
GA x Gender	0.60*	0.08	7.91	0.45	0.75	0.0369	62.56*
(Intercept)	1.13	1.27	0.89	-1.36	3.62		
General Abuse	0.09	0.16	0.54	-0.23	0.41		
Race x Gender	-1.68*	0.21	-7.91	-2.10	-1.26		
GA x (Race x Gender)	0.24*	0.03	8.94	0.19	0.29	0.0481	80.004*
Outcome Variable: Inhalant Use							
(Intercept)	-2.54	0.71	-3.60	-3.93	-1.16		
General Abuse	0.52*	0.09	5.67	0.34	0.70		
Gender	-2.16*	0.32	-6.71	-2.79	-1.53		
GA x Gender	0.31*	0.04	7.65	0.23	0.39	0.0135	58.455*
(Intercept)	-0.24	0.68	-0.35	-1.57	1.10		
General Abuse	0.17	0.09	1.90	0.01	0.35		
Race x Gender	-1.17*	0.12	-9.91	-1.40	-0.94		
GA x (Race x Gender)	0.17*	0.02	11.40	0.14	0.20	0.0299	130.01*
Outcome Variable: Sedative Use							
(Intercept)	-0.90	0.78	-1.15	-2.43	0.64		
General Abuse	0.40	0.10	3.96	0.20	0.60		

Gender	-2.44*	0.41	-5.98	-3.24	-1.64		
GA x Gender	0.35*	0.05	6.73	0.25	0.45	0.0078	45.26*
(Intercept)	-1.01	0.75	-1.34	-2.49	0.46		
General Abuse	0.36	0.10	3.64	0.17	0.56		
Race x Gender	-0.73*	0.14	-5.35	-1.003	-0.47		
GA x (Race x Gender)	0.12*	0.02	6.74	0.09	0.16	0.0079	45.40*
Outcome Variable: Hallucinogen Use							
(Intercept)	-3.00*	0.41	-7.28	-3.81	-2.20		
General Abuse	0.61*	0.05	11.16	0.50	0.71		
Gender	-0.72	0.20	-3.62	-1.12	-0.33		
GA x Gender	0.12*	0.03	4.64	0.07	0.17	0.0018	21.52*
(Intercept)	-1.55	0.40	-3.87	-2.34	-0.76		
General Abuse	0.41*	0.05	7.54	0.30	0.51		
Race x Gender	-0.55*	0.07	-7.45	-0.69	-0.40		
GA x (Race x Gender)	0.08*	0.01	8.60	0.07	0.10	0.0064	73.92*
Outcome Variable: Heroin Use							
(Intercept)	5.22	2.15	2.43	1.01	9.44		
General Abuse	-0.39	0.25	-1.57	-0.87	0.10		
Gender	-7.73*	1.14	-6.79	-9.97	-5.49		
GA x Gender	1.09*	0.13	8.61	0.84	1.34	0.0935	74.17*
(Intercept)	5.06	2.09	2.42	0.95	9.17		
General Abuse	-0.36	0.26	-1.39	-0.87	0.15		
Race x Gender	-2.24*	0.37	-6.09	-2.96	-1.52		
GA x (Race x Gender)	0.32*	0.04	7.41	0.23	0.40	0.0769	54.85*
Outcome Variable: Prescription Opioid							
(Intercept)	-1.33	0.72	-1.85	-2.74	0.08		
General Abuse	0.34	0.09	3.68	0.16	0.52		
Gender	-3.28*	0.36	-9.09	-3.99	-2.58		
GA x Gender	0.47*	0.05	10.38	0.38	0.56	0.0233	107.75*
(Intercept)	1.27	0.67	0.87	-0.04	2.58		
General Abuse	0.003	0.04	2.12	-0.17	0.18		
Race x Gender	-1.70*	0.09	-13.85	-1.94	-1.46		
GA x (Race x Gender)	0.24*	0.01	14.87	0.21	0.27	0.0479	221.24*
Outcome Variable: Other Substance Use							
(Intercept)	4.93	2.91	1.70	-0.78	10.63		
General Abuse	0.26	0.36	0.74	-0.44	0.97		
Gender	-4.84	1.47	-3.29	-7.73	-1.96		
GA x Gender	0.62	0.18	3.50	0.27	0.97	0.0166	12.27
(Intercept)	5.74	3.27	1.76	-0.67	12.15		
General Abuse	-0.09	0.42	-0.21	-0.92	0.74		
Race x Gender	-1.22	0.51	-2.41	-2.21	-0.23		

GA x (Race x Gender)	0.21	0.06	3.25	0.08	0.33	0.0145	10.57

Table 20. Simple regression analyses by gender group with Other Abuse as predictor

Gender	*B*	*SE*	Beta	*t*
Outcome Variable: NSSI				
Cis AFAB	0.10*	0.002	0.17	60.07
Cis AMAB	0.06*	0.002	0.12	28.94
BT AFAB	0.23*	0.03	0.28	8.22
BT AMAB	0.18*	0.03	0.27	5.83
NBGQ AFAB	0.11*	0.01	0.14	8.24
NBGQ AMAB	0.17*	0.02	0.26	7.32
Outcome Variable: Cocaine Use				
Cis AFAB	0.82*	0.04	0.22	19.75
Cis AMAB	1.36*	0.07	0.28	20.23
BT AFAB	3.70*	0.53	0.70	7.02
BT AMAB	1.52	0.69	0.33	2.19
NBGQ AFAB	0.61*	0.15	0.22	3.96
NBGQ AMAB	2.93*	0.42	0.60	7.05
Outcome Variable: Rx Stimulant Use				
Cis AFAB	0.73*	0.04	0.18	19.13
Cis AMAB	1.24*	0.06	0.27	21.50
BT AFAB	2.84*	0.45	0.58	6.26
BT AMAB	2.69*	0.65	0.56	4.15
NBGQ AFAB	0.80*	0.17	0.22	4.58
NBGQ AMAB	2.43*	0.35	0.55	6.94
Outcome Variable: Methamphetamine Use				
Cis AFAB	1.03*	0.09	0.30	11.31
Cis AMAB	2.16*	0.13	0.50	17.30
BT AFAB	5.28*	0.90	0.82	5.88
BT AMAB	1.88	1.09	0.36	1.73
NBGQ AFAB	2.38*	0.52	0.51	4.55
NBGQ AMAB	3.11*	0.54	0.71	5.75
Outcome Variable: Inhalant Use				
Cis AFAB	0.86*	0.05	0.29	17.56
Cis AMAB	1.51*	0.07	0.36	21.14
BT AFAB	3.19*	0.50	0.63	6.33
BT AMAB	3.10*	0.67	0.58	4.62
NBGQ AFAB	0.84*	0.15	0.31	5.50
NBGQ AMAB	2.72*	0.36	0.56	7.52
Outcome Variable: Sedative Use				
Cis AFAB	0.82*	0.05	0.19	16.08
Cis AMAB	1.08*	0.07	0.23	14.60
BT AFAB	3.69*	0.46	0.66	8.12
BT AMAB	1.58	0.58	0.40	2.74

NBGQ AFAB	1.06*	0.23	0.24	4.61
NBGQ AMAB	2.44*	0.59	0.42	4.12
Outcome Variable: Hallucinogen Use				
Cis AFAB	0.71*	0.03	0.22	24.50
Cis AMAB	1.28*	0.05	0.30	27.31
BT AFAB	2.19*	0.33	0.52	6.72
BT AMAB	2.53*	0.62	0.45	4.07
NBGQ AFAB	0.68*	0.13	0.19	5.24
NBGQ AMAB	1.52*	0.13	0.19	5.24
Outcome Variable: Heroin Use				
Cis AFAB	0.99*	0.14	0.30	7.19
Cis AMAB	2.43*	0.22	0.49	11.21
BT AFAB	4.92*	0.95	0.82	5.17
BT AMAB	0.74	2.22	0.11	0.33
NBGQ AFAB	3.58*	0.58	0.80	6.15
NBGQ AMAB	3.07	1.17	0.58	2.63
Outcome Variable: Rx Opioid Use				
Cis AFAB	0.76*	0.05	0.24	16.38
Cis AMAB	1.54*	0.07	0.36	21.57
BT AFAB	3.48*	0.52	0.62	6.66
BT AMAB	1.96	0.80	0.39	2.46
NBGQ AFAB	1.11*	0.23	0.30	4.94
NBGQ AMAB	3.64*	0.75	0.60	4.87

Table 21. Simple regression analyses by gender group with Other Abuse as predictor

Gender	*B*	*SE*	Beta	*t*
Outcome Variable: NSSI				
White Cis AFAB	0.10*	0.003	0.17	29.97
White Cis AMAB	0.05*	0.004	0.10	11.61
White BT AFAB	0.20	0.07	0.18	2.92
White BT AMAB	0.09	0.07	0.11	1.22
White NBGQ AFAB	0.10*	0.02	0.12	4.39
White NBGQ AMAB	0.07	0.06	0.08	1.29
REM Cis AFAB	0.09*	0.003	0.16	26.88
REM Cis AMAB	0.07*	0.01	0.12	13.74
REM BT AFAB	0.11*	0.02	0.13	6.24
REM BT AMAB	0.12*	0.02	0.15	5.52
REM NBGQ AFAB	0.11*	0.04	0.14	2.90
REM NBGQ AMAB	0.23*	0.03	0.46	8.72
Outcome Variable: Cannabis Use				
White Cis AFAB	0.98*	0.06	0.13	16.08
White Cis AMAB	1.44*	0.13	0.14	11.53
White BT AFAB	1.53	0.74	0.16	2.07
White BT AMAB	-0.32	1.19	-0.04	-0.27
White NBGQ AFAB	0.95*	0.26	0.14	3.72
White NBGQ AMAB	0.47	0.76	0.05	0.61
REM Cis AFAB	1.40*	0.08	0.17	17.84
REM Cis AMAB	1.61*	0.16	0.15	10.18
REM BT AFAB	0.91*	0.21	0.12	4.34
REM BT AMAB	1.49	0.26	0.21	5.72
REM NBGQ AFAB	0.24*	0.58	0.02	0.40
REM NBGQ AMAB	1.66	0.60	0.23	2.77
Outcome Variable: Cocaine Use				
White Cis AFAB	0.64*	0.07	0.18	9.38
White Cis AMAB	1.17*	0.11	0.26	10.55
White BT AFAB	-0.14	0.40	-0.01	-0.34
White BT AMAB	-1.50	3.72	-0.15	-0.40
White NBGQ AFAB	0.62	0.24	0.23	2.56
White NBGQ AMAB	-0.01	0.29	-0.01	-0.04
REM Cis AFAB	0.74*	0.09	0.20	8.08
REM Cis AMAB	1.31*	0.18	0.24	7.19
REM BT AFAB	0.46	0.18	0.19	2.55
REM BT AMAB	0.72	0.26	0.24	2.75
REM NBGQ AFAB	-0.40	0.53	-0.10	-0.76
REM NBGQ AMAB	3.65*	0.59	0.76	6.20
Outcome Variable: Rx Stimulant Use				
White Cis AFAB	0.58*	0.07	0.15	8.47
White Cis AMAB	0.98*	0.11	0.21	8.76
White BT AFAB	-0.12	0.57	-0.05	-0.21
White BT AMAB	-0.24	1.07	-0.08	-0.22

White NBGQ AFAB	0.86	0.29	0.24	2.98
White NBGQ AMAB	-0.11	0.29	-0.06	-0.38
REM Cis AFAB	0.75*	0.09	0.18	8.11
REM Cis AMAB	1.27*	0.16	0.27	8.16
REM BT AFAB	0.52	0.22	0.15	2.40
REM BT AMAB	1.08	0.29	0.29	3.77
REM NBGQ AFAB	0.11	0.51	0.03	0.22
REM NBGQ AMAB	2.94*	0.47	0.71	6.23
Outcome Variable: Methamphetamine Use				
White Cis AFAB	0.20	0.13	0.08	1.59
White Cis AMAB	1.52*	0.21	0.40	7.26
White BT AFAB	-	-	-	-
White BT AMAB	-7.67	15.72	-0.33	-0.49
White NBGQ AFAB	1.30	0.59	0.42	2.19
White NBGQ AMAB	-0.42	0.39	-0.31	-1.08
REM Cis AFAB	1.21*	0.19	0.33	6.36
REM Cis AMAB	2.01*	0.24	0.50	8.24
REM BT AFAB	0.80	0.34	0.41	2.32
REM BT AMAB	2.50	0.88	0.47	2.84
REM NBGQ AFAB	-0.48	0.40	-0.29	-1.21
REM NBGQ AMAB	3.43*	0.89	0.73	3.87
Outcome Variable: Inhalant Use				
White Cis AFAB	0.39*	0.06	0.18	6.11
White Cis AMAB	0.96*	0.11	0.26	8.40
White BT AFAB	-0.18	0.28	-0.12	-0.63
White BT AMAB	0.48	0.61	0.21	0.79
White NBGQ AFAB	0.58	0.18	0.29	3.16
White NBGQ AMAB	-0.20	0.47	-0.07	-0.43
REM Cis AFAB	0.98*	0.12	0.29	8.23
REM Cis AMAB	1.53*	0.17	0.35	9.12
REM BT AFAB	0.40	0.14	0.22	2.90
REM BT AMAB	1.22	0.30	0.37	4.05
REM NBGQ AFAB	-0.02	0.30	-0.01	-0.06
REM NBGQ AMAB	4.54*	0.52	0.79	8.72
Outcome Variable: Sedative Use				
White Cis AFAB	0.59*	0.08	0.16	7.27
White Cis AMAB	0.82*	0.13	0.20	6.49
White BT AFAB	0.35	0.58	0.11	0.61
White BT AMAB	0.82	1.30	0.22	0.63
White NBGQ AFAB	0.79	0.38	0.19	2.08
White NBGQ AMAB	-0.72	1.03	-0.14	-0.70
REM Cis AFAB	0.73*	0.13	0.16	5.75
REM Cis AMAB	1.23*	0.19	0.15	6.55
REM BT AFAB	0.51	0.25	0.14	2.03
REM BT AMAB	1.92	0.44	0.37	4.36
REM NBGQ AFAB	-0.17	0.75	-0.03	-0.23

REM NBGQ AMAB	4.01*	0.77	0.70	5.22
Outcome Variable: Hallucinogen Use				
White Cis AFAB	0.50*	0.05	0.18	11.15
White Cis AMAB	0.87*	0..08	0.22	11.38
White BT AFAB	0.31	0.33	0.14	0.95
White BT AMAB	0.74	1.46	0.11	0.51
White NBGQ AFAB	0.29	0.14	0.12	2.10
White NBGQ AMAB	-0.50	0.48	-0.12	-1.04
REM Cis AFAB	0.78*	0.07	0.23	11.71
REM Cis AMAB	1.20*	0.11	0.27	10.56
REM BT AFAB	0.24	0.15	0.08	1.59
REM BT AMAB	1.18	0.23	0.30	5.16
REM NBGQ AFAB	1.23*	0.28	0.32	-1.15
REM NBGQ AMAB	2.66*	0.47	0.59	5.71
Outcome Variable: Heroin Use				
White Cis AFAB	-0.01	0.12	-0.01	-0.09
White Cis AMAB	2.10*	0.46	0.37	4.61
White BT AFAB	3.00	5.20	0.50	0.58
White BT AMAB	-	-	-	-
White NBGQ AFAB	-1.64	1.89	-0.52	-0.87
White NBGQ AMAB	-	-	-	-
REM Cis AFAB	0.88	0.31	0.26	2.87
REM Cis AMAB	2.25*	0.51	0.45	4.42
REM BT AFAB	-0.12	0.55	-0.08	-0.22
REM BT AMAB	4.63	0.53	0.93	8.76
REM NBGQ AFAB	-	-	-	-
REM NBGQ AMAB	3.38	1.30	0.66	2.61
Outcome Variable: Rx Opioid Use				
White Cis AFAB	0.32*	0.07	0.13	4.86
White Cis AMAB	0.71*	0.13	0.17	5.50
White BT AFAB	-0.28	0.57	-0.11	-0.49
White BT AMAB	-3.47	3.15	-0.39	-1.10
White NBGQ AFAB	1.30	0.38	0.34	3.40
White NBGQ AMAB	-0.95	0.94	-0.23	-1.02
REM Cis AFAB	1.12*	0.11	0.33	9.92
REM Cis AMAB	2.17*	0.19	0.47	11.74
REM BT AFAB	0.76	0.29	0.21	2.63
REM BT AMAB	1.70	0.37	0.44	4.61
REM NBGQ AFAB	2.02*	0.46	0.50	4.34
REM NBGQ AMAB	4.93*	0.55	0.85	8.98

Table 22. Moderation Analyses with Bullying as Predictor, Gender and Race x Gender as Moderators, and Mental Health Outcome Variables

Effect	*b*	*SE*	*t*	95% CI		R^2 Change	F
				LL	UL		
Outcome Variable: Psychological Distress							
(Intercept)	4.84*	0.10	48.85	4.65	5.04		
Bully	2.96*	0.09	33.82	2.79	3.13		
Gender	-0.21*	0.06	-3.54	-0.32	-0.09		
Bully x Gender	0.37*	0.05	7.40	0.27	0.47	0.0003	54.75*
(Intercept)	4.35*	0.09	50.94	4.19	4.52		
Perceived Safety	3.25*	0.08	41.82	3.09	3.40		
Race x Gender	0.04	0.02	2.33	0.01	0.07		
PS x (Race x Gender)	0.07	0.02	4.56	0.04	0.10	0.0001	20.78*
Outcome Variable: 12 mo MH utilization							
(Intercept)	-1.53*	0.04	-39.28	-1.61	-1.46		
Bully	0.58*	0.03	17.25	0.52	0.65		
Gender	-0.12*	0.02	-5.24	-0.17	-0.08		
Bully x Gender	0.13	0.02	6.54	0.09	0.17		
(Intercept)	-1.34*	0.03	-40.44	-1.40	-1.27		
Perceived Safety	0.67*	0.03	22.63	0.61	0.73		
Race x Gender	-0.10*	0.01	-14.52	-0.11	-0.8		
PS x (Race x Gender)	0.03	0.01	4.43	0.01	0.04		
Outcome Variable: NSSI							
(Intercept)	0.95*	0.01	119.74	0.93	0.97		
Bully	0.11*	0.01	15.87	0.10	0.12		
Gender	-0.01	0.005	-2.65	-0.02	-0.003		
Bully x Gender	0.04	0.004	10.99	0.04	0.05	0.0006	120.67
(Intercept)	0.95*	0.01	137.56	0.93	0.96		
Perceived Safety	0.16*	0.01	25.38	0.15	0.17		
Race x Gender	-0.005	0.001	-3.63	-0.01	-0.002		
PS x (Race x Gender)	0.01*	0.001	4.22	0.003	0.008	0.0001	17.78*
Outcome Variable: Suicidality							
(Intercept)	2.81*	0.06	50.79	2.71	2.92		
Bully	1.60*	0.05	32.78	1.51	1.70		
Gender	0.25*	0.03	7.65	0.19	0.31		
Bully x Gender	0.21	0.03	7.37	0.15	0.26	0.0003	54.35*
(Intercept)	3.27*	0.05	67.85	3.17	3.36		
Perceived Safety	1.74*	0.04	39.81	1.66	1.83		
Race x Gender	-0.04	0.01	-3.74	-0.05	-0.02		
PS x (Race x Gender)	0.05	0.01	5.70	0.03	0.07	0.0002	32.44*
Outcome Variable: Flourishing							

(Intercept)	50.24*	0.16	318.45	49.93	50.55		
Bully	-3.02*	0.14	-21.69	-3.29	-2.75		
Gender	-0.95*	0.09	-10.24	-1.13	-0.77		
Bully x Gender	-0.24	0.08	-2.95	-0.39	-0.08	0.0000	8.68
(Intercept)	49.78*	0.14	365.29	49.51	50.04		
Perceived Safety	-3.27*	0.12	-26.39	-3.51	-3.02		
Race x Gender	-0.20*	0.03	-7.25	-0.25	-0.14		
PS x (Race x Gender)	-0.04	0.02	-1.74	-0.09	0.01	0.0000	3.04

*<.001; *n* = 91606

Table 23. Moderation Analyses with Bullying as Predictor, Gender as Moderator, Substance Use Outcome Variables

Effect	*b*	*SE*	*t*	95% CI LL	95% CI UL	R^2 Change	F
Outcome Variable: Tobacco Use							
(Intercept)	3.43*	0.24	14.07	2.95	3.90		
Bully	1.95*	0.21	9.33	1.54	2.36		
Gender	0.51	0.14	3.73	0.24	0.79		
Bully x Gender	-0.001	0.12	-0.01	-0.23	0.22	0.0000	0.0001
(Intercept)	4.80*	0.20	23.72	4.40	5.20		
Bully	1.73*	0.18	9.55	1.38	2.09		
Race x Gender	-0.18*	0.04	-4.33	-0.27	-0.10		
Bully x (Race x Gender)	0.07	0.04	1.79	-0.01	0.14	0.0001	3.20
Outcome Variable: Alcohol Use							
(Intercept)	4.93*	0.13	38.77	4.68	5.18		
Bully	1.56*	0.11	13.94	1.34	1.78		
Gender	0.14	0.07	1.89	-0.01	0.29		
Bully x Gender	0.01	0.06	0.20	-0.11	0.14	0.0000	0.04
(Intercept)	5.83*	0.11	54.51	5.62	6.04		
Bully	1.37*	0.10	14.07	1.18	1.56		
Race x Gender	-0.19*	0.02	-8.76	-0.24	-0.15		
Bully x (Race x Gender)	0.06	0.02	3.17	0.02	0.10	0.0001	10.05
Outcome Variable: Cannabis Use							
(Intercept)	2.56*	0.19	13.71	2.19	2.92		
Bully	1.77*	0.16	10.89	1.45	2.09		
Gender	0.57*	0.11	5.39	0.36	0.77		
Bully x Gender	0.09	0.09	0.96	-0.09	0.26	0.0000	0.92
(Intercept)	3.51*	0.16	21.64	3.19	3.82		
Bully	1.35*	0.15	9.24	1.06	1.63		
Race x Gender	-0.04	0.03	-1.08	-0.10	0.03		
Bully x (Race x Gender)	0.15	0.03	4.92	0.09	0.21	0.0003	24.17
Outcome Variable: Cocaine Use							
(Intercept)	1.18*	0.28	4.17	0.63	1.74		
Bully	0.87	0.24	3.63	0.40	1.33		
Gender	-0.24	0.16	-1.55	-0.55	0.06		
Bully x Gender	0.34	0.13	2.69	0.09	0.59	0.0005	7.23
(Intercept)	1.04*	0.24	4.39	0.58	1.50		
Bully	0.69	0.21	3.28	0.28	1.10		
Race x Gender	-0.04	0.05	-0.75	-0.13	0.06		
Bully x (Race x Gender)	0.17	0.04	4.03	0.09	0.25	0.0012	16.21
Outcome Variable: Prescription Stimulant Use							
(Intercept)	1.06*	0.24	4.46	0.59	1.53		

Bully	1.00*	0.20	5.00	0.61	1.39		
Gender	-0.39	0.13	-2.95	-0.65	-0.13		
Bully x Gender	0.39	0.11	3.62	0.18	0.60	0.0007	13.13
(Intercept)	1.42*	0.20	7.16	1.03	1.81		
Bully	0.48	0.18	2.75	0.14	0.82		
Race x Gender	-0.24*	0.04	-5.78	-0.32	-0.16		
Bully x (Race x Gender)	0.29*	0.04	7.92	0.22	0.36	0.0036	62.70*
Outcome Variable: Methamphetamine Use							
(Intercept)	-0.66	0.81	-0.82	-2.26	0.93		
Bully	2.58	0.65	3.96	1.30	3.85		
Gender	-0.45	0.42	-1.08	-1.26	0.37		
Bully x Gender	0.83	0.32	2.62	0.21	1.45	0.0027	6.87
(Intercept)	2.02	0.75	2.68	0.54	3.49		
Bully	-0.24	0.64	-0.37	-1.50	1.03		
Race x Gender	-0.64*	0.14	-4.71	-0.90	-0.38		
Bully x (Race x Gender)	0.83*	0.11	7.56	0.62	1.05	0.0222	57.10*
Outcome Variable: Inhalant Use							
(Intercept)	-1.01	0.34	-2.93	-1.69	-0.34		
Bully	2.27*	0.29	7.89	1.71	2.84		
Gender	0.09	0.16	0.59	-0.22	0.40		
Bully x Gender	0.14	0.13	1.13	-0.10	0.39	0.0002	1.28
(Intercept)	1.13	0.31	3.66	0.52	1.73		
Bully	-0.01	0.27	-0.03	-0.54	0.52		
Race x Gender	-0.34*	0.06	-6.71	-0.50	-0.28		
Bully x (Race x Gender)	0.53*	0.05	10.87	0.44	0.63	0.0160	118.26*
Outcome Variable: Sedative Use							
(Intercept)	1.02	0.32	3.23	0.40	1.64		
Bully	1.28*	0.26	4.93	0.77	1.78		
Gender	-0.18	0.17	-1.09	-0.51	0.15		
Bully x Gender	0.28	0.13	2.13	0.02	0.54	0.0004	4.55
(Intercept)	1.29*	0.28	4.69	0.75	1.83		
Bully	0.66	0.24	2.78	0.19	1.12		
Race x Gender	-0.12	0.06	-2.22	-0.23	-0.01		
Bully x (Race x Gender)	0.26*	0.05	5.52	0.17	0.36	0.0027	30.52
Outcome Variable: Hallucinogen Use							
(Intercept)	0.48	0.18	2.60	0.12	0.84		
Bully	1.04*	0.16	6.67	0.74	1.35		
Gender	-0.01	0.09	-0.09	-0.19	0.17		
Bully x Gender	0.21	2.87	2.87	0.07	0.36	0.0004	8.21
(Intercept)	1.30*	0.16	7.90	0.98	1.62		
Bully	0.26	0.15	1.76	-0.03	0.55		

Race x Gender	-0.20*	0.03	-6.09	-0.26	-0.14		
Bully x (Race x Gender)	0.28*	0.03	9.70	0.22	0.34	0.0046	94.09*
Outcome Variable: Heroin Use							
(Intercept)	0.49	1.82	0.27	-3.09	4.06		
Bully	0.84	1.38	0.61	-1.87	3.56		
Gender	-0.84	0.91	-0.92	-2.62	0.95		
Bully x Gender	1.98	0.64	3.10	0.73	3.23	0.02	9.62
(Intercept)	4.24	1.67	2.55	0.97	7.52		
Bully	-1.93	1.40	-1.38	-4.68	0.82		
Race x Gender	-0.94	0.29	-3.24	-1.52	-0.37		
Bully x (Race x Gender)	1.17*	0.23	5.17	0.72	1.61	0.04	26.73*
Outcome Variable: Prescription Opioid							
(Intercept)	-0.25	0.33	1.94	-0.01	1.27		
Bully	0.64	0.27	2.39	0.12	1.17		
Gender	-0.60	0.17	-3.54	-0.94	-0.27		
Bully x Gender	0.81	0.14	5.95	0.54	1.07	0.0042	35.45
(Intercept)	1.54*	0.28	5.53	0.99	2.08		
Bully	-0.15	0.24	-0.61	-0.62	0.33		
Race x Gender	-0.46*	0.06	-8.17	-0.57	-0.35		
Bully x (Race x Gender)	0.52*	0.05	10.93	0.43	0.61	0.0143	119.55*
Outcome Variable: Other Substance Use							
(Intercept)	3.57	1.41	2.54	0.82	6.33		
Bully	3.14	1.10	2.86	0.98	5.29		
Gender	-0.25	0.71	-0.36	0.72	1.13		
Bully x Gender	0.14	0.52	0.27	0.79	1.16	0.0001	0.07
(Intercept)	4.06	1.25	3.24	1.60	6.51		
Bully	1.27	1.05	1.21	-0.80	3.34		
Race x Gender	-0.08	0.23	-0.37	-0.53	0.36		
Bully x (Race x Gender)	0.37	0.18	2.02	0.01	0.73	0.0028	4.08

Table 24. Simple regression analyses by gender group with Bullying as predictor

Gender	*B*	*SE*	Beta	*t*
Outcome Variable: Psychological Distress				
Cis AFAB	3.15*	0.06	0.15	55.61
Cis AMAB	3.96*	0.09	0.17	42.59
BT AFAB	2.09*	0.54	0.13	3.89
BT AMAB	1.84	0.77	0.11	2.38
NBGQ AFAB	2.42*	0.24	0.16	9.94
NBGQ AMAB	2.20*	0.55	0.14	4.02

Table 25. Simple regression analyses by race x gender group with Bullying as predictor

Gender	*B*	*SE*	Beta	*t*
Outcome Variable: Suicidality				
White Cis AFAB	1.76*	0.04	0.16	42.63
White Cis AMAB	1.88*	0.05	0.16	37.33
White BT AFAB	1.86*	0.07	0.14	25.92
White BT AMAB	1.78*	0.07	0.15	24.10
White NBGQ AFAB	1.81*	0.46	0.17	3.94
White NBGQ AMAB	2.21	0.67	0.19	3.28
REM Cis AFAB	2.76*	0.70	0.23	3.96
REM Cis AMAB	1.79	0.82	0.17	2.18
REM BT AFAB	1.66*	0.23	0.16	7.33
REM BT AMAB	1.73*	0.30	0.16	5.84
REM NBGQ AFAB	1.98*	0.46	0.20	4.28
REM NBGQ AMAB	2.87*	0.61	0.27	4.70
Outcome Variable: Rx Stimulant Use				
White Cis AFAB	0.63*	0.16	0.05	4.05
White Cis AMAB	1.74*	0.25	0.12	6.95
White BT AFAB	1.53*	0.25	0.09	6.04
White BT AMAB	4.02*	0.44	0.21	9.16
White NBGQ AFAB	5.73	2.23	0.35	2.57
White NBGQ AMAB	11.36	4.12	0.46	2.76
REM Cis AFAB	1.90	1.28	0.30	1.49
REM Cis AMAB	11.01	5.46	0.44	2.02
REM BT AFAB	0.48	0.70	0.04	0.68
REM BT AMAB	0.30	1.14	0.02	0.26
REM NBGQ AFAB	1.84	1.09	0.21	1.69
REM NBGQ AMAB	0.73	2.87	0.04	0.25
Outcome Variable: Methamphetamine Use				
White Cis AFAB	0.53	0.50	0.04	1.07
White Cis AMAB	4.50*	0.77	0.25	5.83
White BT AFAB	2.01	0.66	0.13	3.07
White BT AMAB	7.83*	1.17	0.34	6.70
White NBGQ AFAB	11.00	9.20	0.47	1.20
White NBGQ AMAB	5.93	9.04	0.21	0.66
REM Cis AFAB	1.00	10.20	0.04	0.10
REM Cis AMAB	10.46	6.78	0.39	1.54
REM BT AFAB	-1.04	1.60	-0.12	-0.65
REM BT AMAB	7.63	4.79	0.29	1.60
REM NBGQ AFAB	0.33	1.07	0.08	0.31
REM NBGQ AMAB	0.70	6.11	0.03	0.11
Outcome Variable: Inhalant Use				
White Cis AFAB	0.47	0.19	0.05	2.51
White Cis AMAB	3.46*	0.43	0.23	8.10
White BT AFAB	1.66*	0.27	0.14	6.19
White BT AMAB	5.23*	0.57	0.27	9.12

White NBGQ AFAB	3.15	1.95	0.25	1.61
White NBGQ AMAB	16.13	6.95	0.49	2.32
REM Cis AFAB	-0.09	1.40	-0.01	-0.06
REM Cis AMAB	0.94	7.85	0.03	0.12
REM BT AFAB	-0.33	0.47	-0.05	-0.70
REM BT AMAB	3.10	1.16	0.25	2.68
REM NBGQ AFAB	-1.37	0.85	-0.19	-1.61
REM NBGQ AMAB	5.71	3.10	0.26	1.84
Outcome Variable: Sedative Use				
White Cis AFAB	0.75*	0.20	0.06	3.69
White Cis AMAB	1.82*	0.37	0.10	4.98
White BT AFAB	1.93*	0.31	0.13	6.16
White BT AMAB	3.43*	0.50	0.19	6.80
White NBGQ AFAB	2.87	2.17	0.17	1.32
White NBGQ AMAB	14.65	4.54	0.53	3.22
REM Cis AFAB	-0.77	1.94	-0.09	-0.40
REM Cis AMAB	6.32	5.02	0.29	1.26
REM BT AFAB	1.05	0.80	0.09	1.31
REM BT AMAB	2.74	1.61	0.15	1.71
REM NBGQ AFAB	-1.68	1.68	-0.15	-1.00
REM NBGQ AMAB	-1.71	4.57	-0.07	-0.37
Outcome Variable: Hallucinogen Use				
White Cis AFAB	0.59*	0.12	0.06	4.75
White Cis AMAB	1.61*	0.20	0.13	7.99
White BT AFAB	1.10*	0.20	0.08	5.59
White BT AMAB	3.21*	0.35	0.18	9.11
White NBGQ AFAB	2.64	1.31	0.22	2.02
White NBGQ AMAB	9.45	2.92	0.43	3.24
REM Cis AFAB	2.47	2.11	0.17	1.17
REM Cis AMAB	10.39	4.91	0.38	2.11
REM BT AFAB	0.55	0.45	0.06	1.23
REM BT AMAB	2.21	0.80	0.17	2.75
REM NBGQ AFAB	-0.38	0.92	-0.04	-0.41
REM NBGQ AMAB	4.58	2.22	0.25	2.06
Outcome Variable: Heroin Use				
White Cis AFAB	-0.95	0.91	-0.06	-1.04
White Cis AMAB	2.37	1.45	0.12	1.63
White BT AFAB	3.35	1.46	0.15	2.30
White BT AMAB	15.17*	1.85	0.55	8.20
White NBGQ AFAB	30.60	3.60	0.97	8.50
White NBGQ AMAB	3.33	12.49	0.12	0.27
REM Cis AFAB	-	-	-	-
REM Cis AMAB	-4.40	9.47	-0.16	0.66
REM BT AFAB	-2.50	2.66	-0.34	-0.94
REM BT AMAB	13.00	5.94	0.53	2.19
REM NBGQ AFAB	-	-	-	-

REM NBGQ AMAB	-4.30	7.97m	-0.18	-0.54
Outcome Variable: Rx Opioid Use				
White Cis AFAB	0.39	0.19	0.04	2.00
White Cis AMAB	1.66*	0.35	0.12	4.71
White BT AFAB	0.99*	0.29	0.08	3.47
White BT AMAB	6.75*	0.59	0.35	11.44
White NBGQ AFAB	2.13	2.16	0.15	0.99
White NBGQ AMAB	6.91	5.13	0.26	1.35
REM Cis AFAB	4.29	2.94	0.34	1.46
REM Cis AMAB	5.19	5.95	0.20	0.87
REM BT AFAB	2.59	1.03	0.20	2.51
REM BT AMAB	3.30	1.42	0.24	2.32
REM NBGQ AFAB	0.50	1.90	0.04	0.26
REM NBGQ AMAB	3.25	4.24	0.14	0.77

Table 26. Moderation Analyses with Discrimination as Predictor, Gender and Race x Gender as Moderators, and Mental Health Outcome Variables

Effect	*b*	*SE*	*t*	95% CI LL	95% CI UL	R^2 Change	F
Outcome Variable: Psychological Distress							
(Intercept)	5.99	0.08	76.87	5.84	6.14		
Discrim	1.87	0.06	33.73	1.76	1.98		
Gender	-0.70	0.05	-14.61	-0.79	-0.61		
PS x Gender	0.59	0.03	18.32	0.53	0.65	0.002	335.50
(Intercept)	5.04*	0.07	74.77	4.90	5.17		
Discrim	2.63*	0.06	44.94	2.42	2.64		
Race x Gender	0.01*	0.01	0.66	-0.02	0.03		
Discrim x (Race x Gender)	0.03*	0.01	3.23	0.01	0.05	0.0001	10.45*
Outcome Variable: 12 mo MH utilization							
(Intercept)	-1.02*	0.03	-30.19	-1.09	-0.96		
Discrim	0.21*	0.02	9.00	0.16	0.25		
Gender	-0.50*	0.02	-23.17	-0.54	-0.46		
PS x Gender	0.34*	0.01	24.82	0.31	0.37		
(Intercept)	-1.40*	0.03	-52.35	-1.46	-1.35		
Discrim	0.72*	0.02	32.69	0.67	0.76		
Race x Gender	-0.13*	0.01	-23.93	-0.14	-0.12		
Discrim x (Race x Gender)	0.03*	0.004	6.92	0.02	0.04		
Outcome Variable: NSSI							
(Intercept)	1.05*	0.01	167.30	1.04	1.06		
Discrim	0.03*	0.005	5.62	0.02	0.03		
Gender	-0.04*	0.004	-9.57	-0.04	-0.03		
PS x Gender	0.05*	0.003	19.50	0.05	0.06	0.0020	380.38*
(Intercept)	0.97*	0.01	178.02	0.96	0.98		
Discrim	0.13*	0.005	28.13	0.12	0.14		
Race x Gender	0.003	0.001	3.20	0.001	0.01		
Discrim x (Race x Gender)	-0.004	0.001	-5.52	-0.01	-0.003	0.0002	30.46
Outcome Variable: Suicidality							
(Intercept)	3.34*	0.04	76.73	3.25	3.42		
Discrim	1.09*	0.03	35.12	1.03	1.15		
Gender	0.02	0.03	0.56	-0.04	0.07		
PS x Gender	0.30*	0.02	16.65	0.26	0.33	0.0014	277.06*
(Intercept)	3.34*	0.04	88.21	3.26	3.41		
Discrim	1.62*	0.03	51.17	1.56	1.68		
Race x Gender	-0.02	0.01	-3.36	-0.04	-0.01		
Discrim x (Race x Gender)	0.0002	0.01	0.04	-0.01	0.01	0.0000	0.0014
Outcome Variable: Flourishing							

(Intercept)	49.99*	0.13	400.01	49.74	50.23		
Discrim	-2.51*	0.09	-28.26	-2.69	-2.34		
Gender	-1.24*	0.087	-16.14	-1.39	-1.09		
PS x Gender	0.07	0.05	1.36	-0.03	0.17	0.0000	1.85
(Intercept)	49.06*	0.11	453.62	48.84	49.27		
Discrim	-2.49*	0.09	-27.61	-2.67	-2.32		
Race x Gender	-0.24*	0.02	-11.72	-0.27	-0.20		
Discrim x (Race x Gender)	0.04	0.02	2.71	0.01	0.07	0.0000	7.32

*<.001; *n* = 91606

Table 27. Moderation Analyses with Discrimination as Predictor, Gender as Moderator, Substance Use Outcome Variables

Effect	*b*	*SE*	*t*	95% CI LL	UL	R^2 Change	F
Outcome Variable: Tobacco Use							
(Intercept)	4.63*	0.21	22.06	4.22	5.04		
Discrim	0.70*	0.14	4.83	0.42	0.98		
Gender	0.77*	0.13	6.10	0.52	1.02		
PS x Gender	-0.18	0.08	-2.18	-0.34	-0.02	0.0001	4.74
(Intercept)	5.71*	0.17	34.85	5.39	6.03		
Discrim	0.84*	0.13	6.31	0.58	1.10		
Race x Gender	-0.08	0.03	-2.53	-0.15	-0.02		
Discrim x (Race x Gender)	-0.04	0.02	-1.46	-0.09	0.01	0.0000	2.13
Outcome Variable: Alcohol Use							
(Intercept)	5.56*	0.10	54.57	5.36	5.76		
Discrim	0.86*	0.07	12.02	0.72	1.00		
Gender	0.20	0.06	3.08	0.07	0.32		
PS x Gender	-0.04	0.04	-1.04	-0.13	0.04	0.0000	1.09
(Intercept)	6.08*	0.08	72.56	5.92	6.24		
Discrim	1.09*	0.07	15.67	0.95	1.22		
Race x Gender	-0.15*	0.02	-9.37	-0.19	-0.12		
Discrim x (Race x Gender)	-0.003	0.01	-0.21	-0.03	0.02	0.0000	0.04
Outcome Variable: Cannabis Use							
(Intercept)	2.52*	0.15	16.37	2.22	2.83		
Discrim	1.57*	0.11	14.76	1.36	1.78		
Gender	0.85*	0.09	9.15	0.67	1.04		
PS x Gender	-0.16	0.06	-2.68	-0.28	-0.04	0.0001	7.19
(Intercept)	3.56*	0.13	27.96	3.31	3.81		
Discrim	1.24*	0.10	12.03	1.04	1.44		
Race x Gender	0.07	0.03	2.63	0.02	0.12		
Discrim x (Race x Gender)	0.01	0.02	0.59	-0.03	0.05	0.0000	0.35
Outcome Variable: Cocaine Use							
(Intercept)	1.98*	0.26	7.73	1.47	2.48		
Discrim	0.15	0.17	0.86	-0.19	0.49		
Gender	-0.11	0.15	-0.76	-0.41	0.18		
PS x Gender	0.18	0.10	1.86	-0.01	0.37	0.0003	3.46
(Intercept)	1.26*	0.19	6.58	0.89	1.64		
Discrim	0.42	0.15	2.83	0.13	0.72		
Race x Gender	0.21*	0.04	5.20	0.13	0.29		
Discrim x (Race x Gender)	-0.05	0.03	-1.60	-0.10	0.01	0.0002	2.56
Outcome Variable: Prescription Stimulant Use							
(Intercept)	1.82*	0.22	8.39	1.39	2.24		

Discrim	0.31	0.15	2.13	0.03	0.60		
Gender	-0.29	0.13	-2.29	-0.55	-0.04		
PS x Gender	0.23	0.08	2.85	0.07	0.39	0.0005	8.12
(Intercept)	1.62*	0.16	9.82	1.30	1.94		
Discrim	0.30	0.13	2.28	0.04	0.55		
Race x Gender	-0.02	0.04	-0.67	-0.09	0.05		
Discrim x (Race x Gender)	0.06	0.03	2.58	0.02	0.11	0.0004	6.65
Outcome Variable: Methamphetamine Use							
(Intercept)	0.56	0.82	0.69	-1.04	2.17		
Discrim	1.23	0.55	2.26	0.16	2.30		
Gender	0.62	0.46	1.36	-0.27	1.52		
PS x Gender	-0.02	0.28	-0.06	-0.57	0.54	0.0000	0.004
(Intercept)	1.38	0.66	2.10	0.09	2.67		
Discrim	0.23	0.49	0.48	-0.73	1.19		
Race x Gender	0.16	0.13	1.26	-0.09	0.42		
Discrim x (Race x Gender)	0.15	0.09	1.66	-0.03	0.32	0.0011	2.75
Outcome Variable: Inhalant Use							
(Intercept)	0.55	0.33	1.68	-0.09	1.18		
Discrim	0.71	0.21	3.31	0.29	1.13		
Gender	0.28	0.17	1.63	-0.06	0.61		
PS x Gender	-0.002	0.10	-0.02	-0.20	0.20	0.0000	0.0004
(Intercept)	1.01	0.26	3.95	0.51	1.51		
Discrim	0.07	0.19	0.35	-0.31	0.44		
Race x Gender	0.10	0.05	1.84	-0.01	0.20		
Discrim x (Race x Gender)	0.09	0.04	2.46	0.02	0.16	0.0009	6.04
Outcome Variable: Sedative Use							
(Intercept)	1.23*	0.30	4.08	0.64	1.82		
Discrim	0.97*	0.20	4.86	0.58	1.36		
Gender	0.03	0.17	0.16	-0.32	0.37		
PS x Gender	0.06	0.11	0.58	-0.15	0.28	0.0000	0.34
(Intercept)	1.23*	0.24	5.24	0.77	1.69		
Discrim	0.67	0.18	3.76	0.32	1.02		
Race x Gender	0.07	0.05	1.48	-0.02	0.17		
Discrim x (Race x Gender)	0.06	0.03	1.67	-0.01	0.13	0.0003	2.79
Outcome Variable: Hallucinogen Use							
(Intercept)	0.92*	0.16	5.66	0.60	1.24		
Discrim	0.53*	0.11	4.92	0.32	0.75		
Gender	0.23	0.09	2.57	0.06	0.41		
PS x Gender	0.002	0.06	0.04	-0.11	0.11	0.0000	0.0014
(Intercept)	1.26*	0.13	9.70	1.00	1.51		
Discrim	0.28	0.10	2.75	0.08	0.47		

Race x Gender	0.05	0.03	1.78	-0.01	0.10		
Discrim x (Race x Gender)	0.04	0.02	1.97	0.0002	0.07	0.0002	3.88
Outcome Variable: Heroin Use							
(Intercept)	3.13	1.61	1.94	-0.03	6.29		
Discrim	-0.72	1.08	-0.67	-2.84	1.40		
Gender	-0.22	0.88	-0.25	-1.95	1.50		
PS x Gender	1.38	0.55	2.51	0.30	2.46	0.0058	6.30
(Intercept)	3.34	1.23	2.59	0.81	5.87		
Discrim	-0.80	0.97	-0.83	-2.70	1.10		
Race x Gender	0.02	0.25	0.09	-0.47	0.52		
Discrim x (Race x Gender)	0.45	0.17	2.60	0.11	0.80	0.0063	6.76
Outcome Variable: Prescription Opioid							
(Intercept)	0.97	0.31	3.11	0.36	1.58		
Discrim	0.33	1.62	1.62	-0.07	0.74		
Gender	-0.13	-0.75	-0.75	-0.48	0.21		
PS x Gender	0.31	2.80	2.80	0.09	0.52	0.0010	7.86
(Intercept)	1.00*	0.24	4.23	0.54	1.46		
Discrim	0.31	0.18	1.71	-0.04	0.66		
Race x Gender	-0.02	0.05	-0.48	-0.12	0.07		
Discrim x (Race x Gender)	0.11*	0.04	3.00	0.04	0.17	0.0011	18.92*
Outcome Variable: Other Substance Use							
(Intercept)	6.244*	1.44	4.33	3.41	9.08		
Discrim	0.66	0.93	0.71	-1.16	2.48		
Gender	-0.22	0.80	-0.28	-1.79	1.35		
PS x Gender	0.13	0.48	0.26	-0.82	1.07	0.0000	0.07
(Intercept)	6.53*	1.11	5.91	4.36	8.70		
Discrim	-0.84	0.82	-1.03	-2.44	0.76		
Race x Gender	-0.02	0.21	-0.09	-0.44	0.40		
Discrim x (Race x Gender)	0.28	0.15	1.92	-0.01	0.57	0.0026	3.68

Table 28. Simple regression analyses by gender group with Discrimination as predictor

Gender	*B*	*SE*	Beta	*t*
Outcome Variable: Past 12-month MH Care Utilization				
Cis AFAB	0.13*	0.003	0.11	40.11
Cis AMAB	0.12*	0.004	0.11	26.85
BT AFAB	0.20*	0.03	0.20	5.94
BT AMAB	0.27*	0.05	0.27	5.86
NBGQ AFAB	0.12*	0.02	0.12	7.40
NBGQ AMAB	0.12*	0.04	0.12	3.32
Outcome Variable: NSSI				
Cis AFAB	0.08*	0.003	0.08	28.40
Cis AMAB	0.06*	0.004	0.07	16.11
BT AFAB	0.24*	0.06	0.14	4.13
BT AMAB	0.10	0.07	0.07	1.56
NBGQ AFAB	0.12*	0.03	0.07	4.39
NBGQ AMAB	0.19*	0.05	0.14	3.89
Outcome Variable: Suicidality				
Cis AFAB	1.41*	0.02	0.20	71.50
Cis AMAB	1.33*	0.03	0.17	41.93
BT AFAB	2.17*	0.27	0.27	8.09
BT AMAB	2.00*	0.36	0.25	5.52
NBGQ AFAB	1.16*	0.13	0.15	9.17
NBGQ AMAB	1.14*	0.27	0.15	4.26

Table 29. Simple regression analyses by gender group with Discrimination as predictor

Outcome Variable: Psychological Distress				
White Cis AFAB	2.34*	0.08	0.16	28.70
White Cis AMAB	2.67*	0.14	0.16	19.37
White BT AFAB	1.89	0.68	0.17	2.78
White BT AMAB	2.20	0.93	0.20	2.38
White NBGQ AFAB	0.90	0.28	0.09	3.27
White NBGQ AMAB	0.19	0.06	0.19	3.07
REM Cis AFAB	2.28*	0.07	0.19	33.56
REM Cis AMAB	2.58*	0.11	0.20	23.05
REM BT AFAB	0.33*	0.10	0.35	3.43
REM BT AMAB	1.74	1.38	0.14	1.26
REM NBGQ AFAB	1.53*	0.36	0.14	4.31
REM NBGQ AMAB				
Outcome Variable: Mental Healthcare Utilization				
White Cis AFAB	0.17*	0.01	0.12	22.24
White Cis AMAB	0.14*	0.01	0.10	12.03
White BT AFAB	0.11	0.06	0.11	1.89
White BT AMAB	0.17	0.08	0.17	1.96
White NBGQ AFAB	0.08	0.03	0.09	3.20
White NBGQ AMAB	0.19	0.06	0.19	3.07
REM Cis AFAB	0.14*	0.01	0.14	24.85
REM Cis AMAB	0.13*	0.01	0.14	16.17
REM BT AFAB	0.13*	0.01	0.14	16.17
REM BT AMAB	0.33*	0.10	0.35	3.43
REM NBGQ AFAB	0.96	1.59	0.08	0.61
REM NBGQ AMAB	0.06	0.07	0.05	0.75
Outcome Variable: Rx Opioid Use				
White Cis AFAB	0.21	0.18	0.03	1.17
White Cis AMAB	0.75	0.29	0.08	2.64
White BT AFAB	2.81	2.09	0.30	1.35
White BT AMAB	3.00	4.56	0.24	0.66
White NBGQ AFAB	1.12	1.15	0.10	0.97
White NBGQ AMAB	3.95	2.47	0.34	1.60
REM Cis AFAB	1.44	2.65	0.14	0.55
REM Cis AMAB	1.99*	0.54	0.17	3.70
REM BT AFAB	0.80	0.85	0.08	0.94
REM BT AMAB	0.72	1.29	0.06	0.56
REM NBGQ AFAB	3.44	1.67	0.32	2.07
REM NBGQ AMAB	-1.47	4.04	-0.07	-0.36

Appendix A

The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST; WHO ASSIST Working Group, 2002)

1. In your life, which of the following substances have you ever used?
   For prescription medications, please report nonmedical use only. "Nonmedical use" means taking prescription drugs just for the feeling or experience they cause or taking them more often or at higher doses than prescribed.
   - Tobacco or nicotine delivery products (cigarettes, e- cigarettes, Juul or other vape products, water pipe or hookah, chewing tobacco, cigars, etc.) (N3Q22A1)
   - Alcoholic beverages (beer, wine, liquor, etc.) (N3Q22A2)
   - Cannabis (marijuana, weed, hash, edibles, vaped cannabis, etc.) *[Please report nonmedical use only.]* (N3Q22A3)
   - Cocaine (coke, crack, etc.) (N3Q22A4)
   - Prescription stimulants (Ritalin, Concerta, Dexedrine, Adderall, diet pills, etc.) *[Please report nonmedical use only.]* (N3Q22A5)
   - Methamphetamine (speed, crystal meth, ice, etc.) (N3Q22A6)
   - Inhalants (poppers, nitrous, glue, gas, paint thinner, etc.) (N3Q22A7)
   - Sedatives or Sleeping Pills (Valium, Ativan, Xanax, Klonopin, Librium, Rohypnol, GHB, etc.) *[Please report nonmedical use only.]* (N3Q22A8)
   - Hallucinogens (Ecstasy, MDMA, Molly, LSD, acid, mushrooms, PCP, Special K, etc.) (N3Q22A9)
2. *In the past 3 months how often have you used the substances you mentioned?*
   (Responses = ‘never’, ‘once or twice’, ‘monthly’, ‘weekly’, ‘daily/almost daily’)
3. *During the past 3 months how often have you had a strong desire or urge to use (drug)?*
   (Responses = ‘never’, ‘once or twice’, ‘monthly’, ‘weekly’, ‘daily/almost daily’)
4. *During the past 3 months how often has your use of (drug) led to health, social, legal or financial problems?*
   (Responses = ‘never’, ‘once or twice’, ‘monthly’, ‘weekly’, ‘daily/almost daily’)
5. *During the past 3 months how often have you failed to do what was normally expected of you because of your use of (drug)?*
   (Responses = ‘never’, ‘once or twice’, ‘monthly’, ‘weekly’, ‘daily/almost daily’)
6. *Has a friend or relative or anyone else ever expressed concern about your use of (drug)?*
   (Responses = ‘no, never’, ‘yes, in the past 3 months’, ‘yes, but not in the past 3 months’)
7. *Have you ever tried to cut down or stop using (drug) but failed?*
   (Responses = ‘no, never’, ‘yes, in the past 3 months’, ‘yes, but not in the past 3 months’)

Appendix B

The Flourishing Scale (Diener et al., 2010)

1	2	3	4	5	6	7
Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree

Below are 8 statements with which you may agree or disagree. Using the scale below, indicate your agreement with each item by indicating that response for each statement.

1. I lead a purposeful and meaningful life.
2. My social relationships are supportive and rewarding.
3. I am engaged and interested in my daily activities.
4. I actively contribute to the happiness and well- being of others.
5. I am competent and capable in the activities that are important to me.
6. I am a good person and live a good life.
7. I am optimistic about my future.
8. People respect me.

Appendix C

The Suicide Behaviors Questionnaire – Revised (SBQ-R; Osman et al., 2001)

1. Have you ever thought about or attempted to kill yourself? (check only one)
    a. Never
    b. It was just a brief passing thought
    c. I have had a plan at least once to kill myself but did not try to do it
    d. I have had a plan at least once to kill myself and really wanted to die
    e. I have attempted to kill myself, but did not want to die
    f. I have attempted to kill myself and really hoped to die
2. How often have you thought about killing yourself in the past year? (check one)
    a. Never
    b. Rarely (1 time)
    c. Sometimes (2 times)
    d. Often (3-4 times)
    e. Very often (5 or more times)
3. Have you ever told someone that you were going to commit suicide or that you might do it? (check only one)
    a. No
    b. Yes, at one time, but did not really want to die
    c. Yes, at one time, and really wanted to die
    d. Yes, more than once, but did not want to do it
    e. Yes, more than once, and really wanted to do it.
4. How likely is it that you will attempt suicide someday?
    a. Never
    b. No chance at all
    c. Rather unlikely
    d. Unlikely
    e. Likely
    f. Rather Likely
    g. Very Likely

Appendix D

Self-Administered Kessler Psychological Distress Scale (K6; Kessler et al., 2002)

1	2	3	4
None of the time	Rarely	Some of the time	All of the time

The following questions ask about how you have been feeling during the past 30 days. For each question, please circle the number that best describes how often you had these feelings.

During the past 30 days how often did you feel…

a. Nervous?

b. Hopeless?

c. Restless or fidgety?

d. So depressed that nothing could cheer you up?

e. That everything was an effort?

g. Worthless?

2. The last six questions are about feelings that may have occurred during the past 30 days. Taking them altogether, did these feelings occur more often in the past 30 days than is usual for you, about the same as usual, or less often than usual?
3. During the past 30 days how many out of the 30 days were you totally unable to work or carry out your normal activities because of these feelings?
4. Not counting the days you reported above, how many days in the past 30 days were you only able to do half or less of what you would have normally been able to do because of these feelings?
5. During the past 30 days how many times did you see a doctor or health professional about these feelings?
6. During the past 30 days how often have physical health problems been the primary cause of these feelings?