Characterizing Sexual Assault among Tribal College/University Students: A Study Assessing Risk & Resiliency Factors to Inform Prevention/Intervention Methods

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Abstract

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Adult sexual assault (ASA) rates among American Indian/Alaska Native (AIAN) individuals reveal an alarming public health disparity. Research demonstrates that experiences of ASA are associated with increased substance use, poorer mental health and increased sexual risk behavior. While mainstream higher education presents an elevated risk for ASA, there has been no research involving Tribal Colleges and Universities (TCUs). TCUs combine personal attention with Indigenous cultural relevance. It is unclear if AIAN students at TCUs experience similar risk, or if their involvement in a personalized community may be a protective buffer. Phase 1 of the current study examines characteristics of ASA at baseline and the relationship between ASA severity and mental health outcomes. Phase 2 examines the rates of ASA at follow-up. Results of the current study suggest that ASA prevalence rates of AIAN students before TCU attendance are similar to the general population and that ASA prevalence rates during TCU attendance are lower than the general college population. However, AIAN students who experience ASA and discrimination are at an increased likelihood for negative mental health outcomes and re-victimization. In conclusion, interventions supporting a positive TCU environment and targeting minority stress may be effective ways to decrease ASA and negative mental health outcomes.

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Study Definitions

Before beginning the dissertation document, we have included pertinent study definitions in this section.

Defining the American Indian/Alaska Native Population

According to the United States' government's Bureau of Indian Affairs (BIA), for federal services an AIAN is legally defined as a person who is an enrolled or registered member of a tribe or whose blood quantum is one-fourth or more, genealogically derived (Bachman et al., 2010; Bureau of Indian Affairs [BIA], 2017). Currently, the U.S. Department of the Interior (DOI) recognizes 567 federal tribes (U.S. Department of the Interior [DOI], 2017). However, each tribe sets their blood quantum level and it can range from one-half to one-sixteenth (DOI, 2017).

Contrary to BIA designation is the self-identification method employed by the U.S. Bureau of the Census, which states that you are an AIAN if you endorse this status on the census form (U.S. Bureau of the Census, 2012). According to the 2010 census, 5.2 million people identified as AIAN (2.9 million identified as AIAN alone and 2.3 identified as AIAN in combination with one or more other races) [U.S. Bureau of the Census, 2012]. Conversely, the BIA's latest Population and Labor Force Report (2005) reported that the total number of enrolled members of the (then) 561 federally recognized tribes was shown to be less than half the Census number, or 1.9 million (BIA, 2017).

The dissertation literature review includes research that employs BIA designation or self-identification. The current dissertation study uses the self-identification method.

Defining Sexual Trauma

The definition of rape typically conforms to federal and state laws that define rape as vaginal, anal, or oral sexual penetration with a body part or object that is obtained by force, threat of force, or lack of consent (Abbey, Zawacki, Buck, Clinton, & McAuslan, 2004; Bureau of Justice, 2012).

The term childhood sexual abuse (CSA) refers to experiences that occurred during childhood (Bernstein & Fink, 1998) and includes any unwanted sexual contact, ranging from touching and kissing to oral, vaginal and anal penetration. However, the age cut-off for CSA in the literature varies, ranging from age 14 (Ullman, Filipas, Townsend, & Starzynski, 2005) to age 18 (Finkelhor, Shattuck, Turner, & Hamby, 2014). Adolescent/ adult sexual assault (ASA) refers to unwanted sexual contact experiences that occurred during adulthood and/or adolescence. Many studies do not differentiate between adolescent and adult sexual assault and as with CSA, the research literature ranges from categorizing ASA or "sexual assault" as experiences occurring from age 14 and older or age 18 and older (Koss et al. 2007). The current paper focuses on AIAN individual's experiences of ASA (often termed "sexual assault" in the literature). As the age criteria differs depending on the measurement employed, the dissertation literature review reports previous literature as ASA or sexual assault if the study identifies itself as such. The current dissertation study assesses participants' experience of ASA using the definition of any unwanted sexual contact from age 14 and older.

Characterizing Sexual Assault among Tribal College/University Students: A Study Assessing Risk & Resiliency Factors to Inform Prevention/Intervention Methods

Introduction

Sexual assault rates among American Indian/Alaska Native (AIAN) individuals reveal an alarming public health disparity. AIAN women have the highest sexual assault rate of any racial/ethnic category of women in the United States, yet they remain the least likely to access or receive services for sexual assault (Bachman, Zaykowski, Lainer, Poteyeva, & Kallmyer, 2010; Hamby, 2008; Juraska, Wood, Giroux, & Wood, 2014). One third of AIAN women report lifetime rape, which is significantly higher than White, African American, or mixed race women (Tjaden & Thoennes, 1998). Few studies examine sexual assault victimization rates for AIAN men, however violent victimization data indicate the rates may be high in comparison to other populations (Tjaden & Thoennes, 1998).

As well as disproportionate sexual assault prevalence rates, when compared to other victims, AIAN victims are more likely to face armed offenders and are more likely to require medical care for injuries sustained (Bachman, Zaykowski, Lainer, Poteyeva, & Kallmyer, 2010). Sexual assault perpetrators against AIAN victims are more likely to be non-Indian (most frequently White or African American) than Indian; and the offender is more likely to be under the influence of drugs or alcohol than those offending against victims of other races (Saylors and Daliparthy, 2006). AIAN victimizations are much less likely to result in an arrest compared to attacks against White or African American victims. Finally, while Indian Health Services (IHS) facilities often do not provide preventive care or specialty services (i.e. rape crisis centers), mainstream services are not culturally adapted (Hamby, 2008; Juraska, Wood, Giroux, & Wood, 2014).

Additional investigation is critically needed to meaningfully address sexual assault disparities in AIAN communities. There are notable limitations in the literature on AIAN experiences of sexual assault. Previous research has utilized secondary data from national surveys with small AIAN samples (U.S. Department of Justice, 2016; Bureau of Justice Statistics, 2012; Centers for Disease Control and Prevention, 2014). Primary data analysis studies have focused on AIAN women in substance abuse treatment (a heightened risk population (Brems & Namyniuk, 2002; Mylant & Mann, 2008; Saylors & Daliparthy, 2006). Also, the operationalization of sexual assault is often not fully clarified and the data are cross-sectional, barring temporal conclusions. Finally, there is very limited data on sexual assault experiences among AIAN men. The literature would greatly benefit from prevalence and characteristic data that utilize a behaviorally specific definition of sexual assault among a robust sample of AIAN men and women with longitudinal components.

Furthermore, data collection must be location- and culture-specific to effectively tailor prevention and intervention services to effective dissemination sites. Although President Obama issued a 2014 memorandum for the creation of a "White House Task Force to Protect Students from Sexual Assault" to address the alarmingly high rate of sexual assault among college students, there is currently no research that examines sexual assault characteristics experienced by AIAN individuals while attending college (Obama, 2014). Without this research, programs and service provision will fail to meet the needs of this culturally diverse population.

The proposed project will advance current knowledge by assessing the characteristics of sexual assault experienced by AIAN Tribal College and University (TCU) students before attending TCU and while attending TCU and will examine whether sexual assault experiences impact alcohol use, mental health and sexual risk outcomes. We will also examine risk and

resiliency factors that may act as moderators between sexual assault severity and outcomes. It is expected that the findings from this project will address significant research gaps in the sexual assault health disparities literature and have important prevention, intervention and public policy implications.

Background

Sexual Assault and Mental Health

Research indicates that sexual assault is associated with numerous deleterious mental health outcomes. PTSD, anxiety, depression, sexual dysfunction and sexual risk behaviors have been shown to be associated with experiences of sexual assault. Research has demonstrated that 31% of female sexual assault victims develop clinical level symptoms of PTSD (Resnick, Kilpatrick, Dansky, Saunders & Best, 1993), and up to 60% of victims develop sub-threshold symptoms (Resnick et al., 1993; Ullman, 2003). Men who are sexually assaulted commonly present a high degree of depression, anxiety and trauma symptoms and tend to withdraw from social settings and social contact (Burnam et al, 1988; Iseley & Gehrenbeck-Shim, 1997; Walker, Archer, & Davies, 2005). Becker, Skinner & Cichon (1986) found that women with sexual assault experiences are more likely than women without these experiences to report sexual arousal and desire problems, anorgasmia, and pain during sex. Female sexual assault victims also report higher sexual risk taking than women without a history of ASA (Testa, Hoffman & Livingston, 2010). Male sexual assault victims are also likely to report sexual anxieties, sexual dysfunction, and possibly impotence, following victimization (Walker et al., 2005). For other men periods of frequent sexual activity, including with a number of different partners, is common following victimization (Walker et al., 2005). Interestingly, although both male and female victims of ASA reported heightened levels of PTSD, depression and alcohol use, studies

have found that at least in the short term, men report higher levels of distress and alcohol consumption than women (Walker et al., 2005; Tewksbury, 2007)

Research involving AIAN communities in particular also indicates associations between sexual assault and depression, anxiety, PTSD, bodily pain, and suicidality (Bohn, 2003; Brems & Namyniuk, 2002; Bryan-Davis, Chung, & Tillman, 2009; Duran, Oetzel, Parker, Malcoe, Lucero, & Jiang, 2009; Dagley et al. 2012; Ehlers, et al., 2013; Gebhardt & Woody, 2012; Harwell, Moore & Spence, 2003; Hodge & Nandy, 2011; Lehavot et al, 2010; Mylant & Mann, 2008; Segal, 2001). Additional studies found associations between sexual assault and high-risk sexual behavior among AIAN individuals (Saylors & Daliparthy, 2006; Simoni, Sehgal & Walters, 2004; Walters, Simoni & Harris, 2000).

College as a Heightened Risk Environment for Sexual Assault and Alcohol Use

Given research linking sexual assault to a multitude of negative mental health outcomes and showing prevalence is disproportionately high in AIAN communities, it is important to evaluate sexual assault prevalence and characteristics in specific at-risk environments that may benefit from targeted dissemination and prevention/intervention efforts. In the U.S., college serves as an important transitional period, with an increased risk of drinking initiation, heavy drinking and sexual experiences. These combined factors result in a high-risk sexual assault environment for college students. Research demonstrates 50-75% of women in college will experience some form of sexual assault, with 15-18% of these assaults involving completed rape (Abbey, Parkhill & Koss, 2005). Likewise, males ages 18-24 who are college students are approximately five times more likely to be the victims of rape or sexual assault than non-students (Rape, Abuse & Incest, National Network [RAINN], 2017). Specifically, research with college student samples suggests that between one in five females and one in eleven males are the

victims of some type of sexual victimization (Tewksbury, 2007). Although men experience sexual assault at a lower rate than women, researchers agree that sexual assault of men has a substantial prevalence rate that is confounded by significant underreporting and lack of research attention. Furthermore, help seeking in male victims is low and those who do seek help are often met with a lack of service availability or stigmatized care (Tewskbury 2007).

Alcohol is involved in approximately 50% of all sexual assaults (Abbey, Zawacki, Buck, Clinton, & McAuslan, 2001) and in as many as 75% of sexual assaults during college (Reed, Amaro, Matsumoto, & Kaysen, 2009; Ullman, Karabatsos, & Koss, 1999). Additionally, experiencing sexual assault is linked to alcohol use disorders. Research has consistently found that as many as one-third of all sexual assault victims develop problematic alcohol use (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). While problematic alcohol use is detrimental in and of itself, a potential cycle is created when sexual assault leads to increased drinking and increased drinking is a risk factor for subsequent sexual assault (Bryan et al., 2016; Testa et al., 2010). As such, re-victimization rates are high; sexual assault victims are twice as likely to be assaulted compared to non-victims, and post-assault alcohol use is a strong risk factor for re-victimization. When examining college campuses in particular, studies demonstrate that up to 20% of victims will experience re-victimization in one school quarter (Katz et al., 2010; Gidycz et al., 1993, 1995; Gidycz et al., 1993, 1995; Ullman, Karabatsos, & Koss, 1999).

Tribal Colleges and Universities

While it has been demonstrated that mainstream higher education presents an elevated risk for sexual assault in the general population, there has been no research involving AIAN students specifically and no research involving Tribal Colleges and Universities. This is a glaring gap in the research literature. TCUs were created by American Indians and Alaska Natives in

response to the higher education needs of the community and generally serve geographically isolated populations that would not otherwise have access to education beyond the high school level. Presently there are 32 full accredited TCUs in the United States. These TCUs offer 358 total programs including apprenticeships, certificates, and associate, bachelor and master degrees. TCUs serve approximately 30,000 students, 80% of whom are AIAN, at locations across the United States. TCUs are integral to their communities and create environments that foster personalized education with an emphasis on AIAN culture, language and traditions. It is unclear if AIAN students at TCUs experience similar risk factors (e.g. increased drinking, sexual risk behavior and sexual assault), or if their involvement in a personalized educational and cultural community may be a protective buffer against experiencing sexual assault and related risks.

Cultural Risk & Resiliency Factors in AIAN Communities

Research involving campus sexual assault, alcohol use and other mental health outcomes has involved predominantly white population samples. It is necessary to determine what similarities and differences exist for AIAN students. In general, experiences of sexual assault, problematic alcohol use and other mental health disorders have a higher prevalence among AIAN individuals (Bubar, 2009; Bryant-Davis, Chung, & Tillman, 2009). AIAN individuals also report high prevalence of child sexual abuse (unwanted sexual contacting occurring before the age of 14), which is in turn associated with an increased likelihood of experiencing sexual assault (Bohn, 2003). Researchers have consistently associated high degrees of psychological distress in indigenous populations with a history of European colonization and continued exposure to adversity (Dagley 2012; Duran 2006). Likewise, present day experiences of discrimination may

exacerbate the effects of historical trauma and compound them to negatively impact mental health.

While historical trauma, discrimination, alcohol use and mental health disorders are risk factors pre- and post-assault, cultural belonging, ethnic identification and disclosure of sexual assault can be protective buffers. Phinney & Ong (2007) conceptualized ethnic identity (EI) as a multifaceted, dynamic construct that involves exploration and sense of commitment and belonging to one's ethnicity. Individuals self-identify as part of a group, seek information and experiences relevant to their ethnicity, and develop attachment and commitment. EI may be a protective factor by contributing to a secure, achieved identity, as well as increased social identity, social support and psychosocial adjustment. Also, EI may be protective by contributing to increased self-esteem and positive self-attitudes from belonging to meaningful groups. Empirical studies demonstrate associations between EI and increased psychological well-being, decreased drinking and drug use, and decreased sexual risk (Beadnell et al. 2003; Corneille & Belgrave, 2007; Herd & Grube, 1996; Oparanozie, Sales, DiClemente, & Braxton, 2012; Phinney, Cantu, & Kurtz, 1996; Yasui, Dorham, & Dishion, 2004; Zaff , Blount, Philiips, & Cohen, 2002). Additionally, utilizing one's cultural group can include disclosing experiences of sexual assault. Research has demonstrated that disclosing sexual assault in the form of telling and/or discussing the experience to supportive friends, family or health care providers may serve a protective function by lessening trauma symptomatology, increasing perceived control over recovery and increasing efforts to seek support (Staples, Eakins, Neilson, George, Davis, & Norris, 2016; Orchowski, Untied, & Gidycz, 2013; Ullman & Peter-Hagene, 2014).

It is also important to explore how attendance at TCU is linked to AIAN student health. AIAN populations tend to have lower educational achievement than the general population

(Bubar, 2009). Although mainstream students are at risk for increased drinking while attending college, individuals without college degrees are at increased risk for substance use and other mental health disorders. TCUs are at the forefront of cultural and linguistic revitalization. In addition to educational buffering, TCU attendance might also provide protection through cultural affiliation and ethnic identification. Given the dearth of research at TCU campuses, it is necessary to further elucidate the potential risk or protective nature for AIAN students.

Theoretical Rationale

The following theoretical rationales provide quantitative and methodological ways to contextualize the pathways and mechanisms leading to sexual assault and subsequent outcomes in AIAN populations. Additionally, they offer guidelines for ways to equitably and respectfully interact in a research capacity with a population that has experienced extensive historical trauma.

Indigenous Stress and Coping: One theoretical option for clarifying sexual assault risk, resiliency and outcome patterns is Walters and Simoni's (2002) Indigenist stress-coping paradigm. The Indigenist stress-coping paradigm can be used to contextualize the pathways and mechanisms leading to increased risk for sexual assault and subsequent outcomes. The model situates AIAN individuals' health within the larger context of their status as a colonized people. Specifically, it posits that cultural resiliency factors buffer the effect of traumatic stressors (e.g. historical trauma, low SES, sexual assault) on health risk behaviors (e.g. alcohol use, sexual risk) and mental health outcomes (e.g. depression). Cultural resiliency factors include buffers such as ethnic identity, language revitalization and social support.

Disproportionately high rates of sexual assault are an extension of a minority indigenous population existing in a country in which a colonizing, subordinating majority has forcibly enacted institutionalized power and privilege. Life stressors such as colonization history and

sexual assault operate as trauma experiences, which contribute to negative health outcomes such as increased alcohol and drug use, increased HIV/STI risk behaviors and negative mental health (Walters & Simoni, 2002).

The research literature surrounding AIAN sexual assault points to the importance of examining both stress and coping when investigating health outcomes. For AIAN individuals, addressing a legacy of prejudice and violence can be difficult when sexual assault, substance abuse and mental health disorders carry stigma. Addressing this legacy may feel like reinforcement of the stereotypes that have been thrust upon them by their oppressors (Bohn, 2003). However, while assault does not occur in the absence of a responsible perpetrator, resilience or vulnerability for re-victimization may be impacted by the assault survivor's ability to process their traumatic experience and utilize functional coping behaviors.

Dagley et al. (2012) employ the Indigenist stress-coping paradigm (Walters & Simoni, 2002) in their findings that "coming to terms" buffered the negative effects of childhood family of origin adversities (e.g. sexual abuse) on depression and relationship quality in AIAN individuals in committed relationships. Coming to terms is defined as an outcome of a healing process that involves individuals' efforts to interpret, find meaning in, reframe and come to a resolution with difficult past experiences. Likewise, Saylors & Daliparthy (2006) found qualitative support from AIAN women in substance abuse treatment that cultural beliefs and Native traditional practices integrated into treatment served as powerful resiliency factors between sexual assault experiences and subsequent substance use and HIV-risk behavior. In summary, the Indigenist stress-coping paradigm (Walters & Simoni, 2002) provides a framework in the current study for understanding the pathways leading to increased risk for sexual assault and subsequent outcomes.

Cultural Humility & Community Based Participatory Research (CBPR):

While the Indigenist stress-coping paradigm contextualizes pathways between life stressors and adverse health outcomes as being moderated by culture, cultural humility and Community-Based Participatory Research (CBPR) are approaches whereby researchers and clinicians can respectfully cultivate cultural resiliency factors in AIAN communities. Fisher-Borne, Cain & Martin (2015) present cultural humility as an improvement upon cultural competency in that the former takes into account the fluidity of culture and the structural forces that shape individuals' opportunities by challenging individuals and institutions to address inequalities. Specifically, clinicians working with AIAN populations can utilize cultural humility to acknowledge power differentials between provider and client and commit to an ongoing relationship with clients and communities that requires repeated self-reflection and engagement in a lifelong process (Tervalon & Murray-Garcia, 1998).

In research capacities, Community-Based Participatory Research (CBPR) is a methodology approach whereby researchers can work to reduce AIAN health disparities, by recognizing and addressing the mistrust that characterizes community attitudes towards research and public health (Duran, Miller, & Wallerstein, 2008; Wallerstein & Duran, 2010; Wallerstein & Duran, 2006). CBPR equitably involves community members and organizational representatives in all aspects of the research and clinical process in order to share decision-making and ownership. For example, researchers would verify that a topic is relevant and important with community input and then combine knowledge and action in the form of assessment and intervention, with the overall goals of bridging the gap between science and practice, redressing power imbalances, incorporating community culture and reducing health disparities.

Accordingly, the need for collaborative, culturally competent prevention intervention efforts to address AIAN experiences of sexual assault is emphasized in the literature. Bubar (2009) states, "Colonization, political status, and racism dangerously intersect in the system's response to survivors of sexual assault in tribal communities…social workers must give voice to these violations, find meaningful ways to work collaboratively with tribal communities, and engage culturally competent approaches in working with victims of sexual assault." Similarly, Gebhardt & Woody (2012) review the sexual assault policy reforms in the 2010 Tribal Law and Order Act and offer guidance for professional participation that emphasizes tribal sovereignty, indigenous capacity, and cultural competence. Specifically, the writers advise that outside professionals adopt the mindset that implementation resides with AIAN community leaders. Professionals should "accept that they are learners and collaborators in ways that are consistent with Native American values of patience, listening, cooperation, and humility" (Gebhardt & Woody, 2012).

TCUs are uniquely poised as significant and highly regarded social institutions in tribal communities, but many have not yet had adequate opportunities or fully developed the capacity to participate actively in research. The current study utilized multiple cultural humility and CBPR approaches including needs assessment focus groups; utilization of a tribal community advisory board; TCU advocates and survey experts from the UW to provide feedback on TCU community-tailored survey questions; development of a data sharing and ownership agreement with review from the TCUs; and institutional review board (IRB) approval from the University of Washington and individual tribal IRBs.

Summary and Current Study

Disproportionately high rates of victimization, substance use and mental health disorders in AIAN individuals indicate historical trauma and continued marginalization by non-Indian institutions. Additionally, **r**esearch demonstrates that experiences of assault are associated with increased drinking and drug use, poorer mental health and increased sexual risk behavior, all of which are risk factors for re-victimization. The research literature has gaps in its examination of AIAN experiences of sexual assault. In particular, there are currently no research studies examining sexual assault among AIAN students at TCUs.

The current study seeks to address disparities by characterizing AIAN individuals' lifetime experience of sexual assault. We utilize behaviorally specific indicators of sexual assault characteristics and severity, and assess experiences that occurred before attending TCU and experiences that occurred during TCU. The study includes male and female participants as well as longitudinal follow-up data to investigate re-victimization and allow for more informative analyses about temporal effects. Finally, we will examine risk and resiliency factors and work collaboratively with TCU campuses to leverage the cultural and educational strength of the AIAN TCU community.

Project Aims and Hypotheses

Phase 1

Aim 1: Describe the characteristics of adult sexual assault experience before TCU and while attending TCU.

Hypothesis 1: Investigation of ASA experiences before TCU will demonstrate high prevalence rates and high severity characteristics for AIAN male and female TCU students in comparison to the general U.S. population.

Aim 2: Test the proposed structural equation models (included below) which examines the relationship between sexual assault severity (independent variable) and alcohol use, depression and sexual risk behavior (dependent variables), using background factors as controls/covariates (e.g. child sexual abuse).

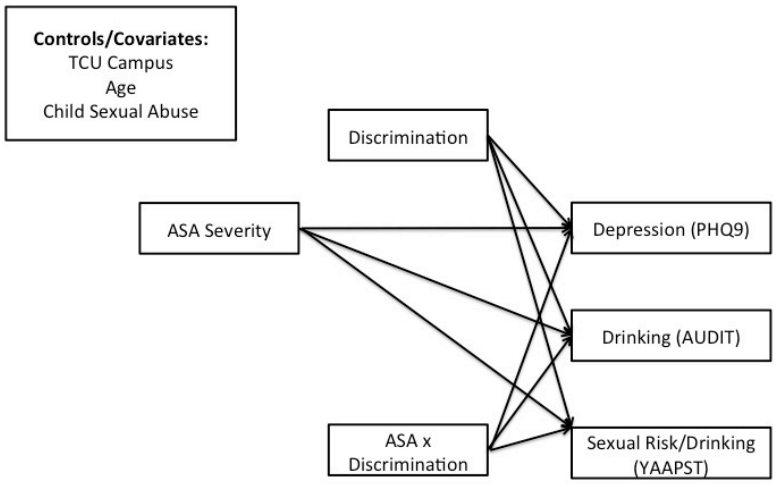
Hypothesis 2: Participants with ASA experiences will have greater alcohol use, depression and sexual risk behavior than participants with no ASA experiences.

Aim 3: Investigate risk and protective factors that may moderate the relationship between sexual assault and alcohol use, depression and sexual risk behavior (e.g. ethnic identity and discrimination).

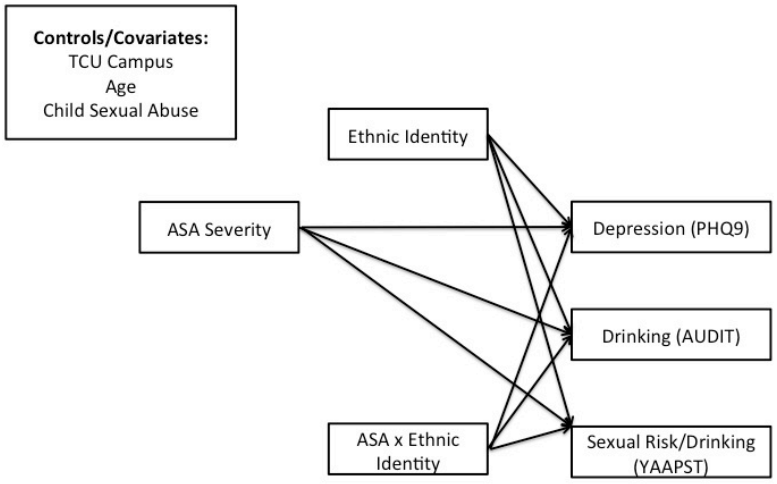
Hypothesis 3: For participants with ASA experiences, higher endorsement of ethnic identity will be linked with decreased negative mental health outcomes.

Hypothesis 4: For participants with ASA experiences, higher endorsement of discrimination will be linked with increased negative mental health outcomes.

Model1



Model 2



Phase 2

Aim 4: Using follow-up participant data, describe the rates of sexual assault victimization and re-victimization experiences while attending TCU.

Hypothesis 5: Participants with ASA experiences before or during TCU attendance will be more likely than participants with no ASA history to have an ASA experience during follow-up.

Aim 5: Using a correlational framework, conduct an exploratory examination of baseline victimization and re-victimization rates as well as related variables such as drinking, depression, sexual risk and TCU retention.

Hypothesis 6: No experience of ASA will be associated with less drinking, depression and sexual risk and higher TCU retention, while having an ASA experience will be associated with higher drinking, depression and sexual risk and lower TCU retention.

Method

Overview

The current study utilizes previously collected data from TCUs across the United States as part of the Tribal College and Universities Behavioral Wellness Project (TCU BeWell). TCU

BeWell was a combined epidemiology survey and brief alcohol intervention implemented at seven TCUs. The study sought to 1) collect baseline information (e.g. ASA experiences, alcohol consumption, ethnic identity); 2) randomize at risk participants into control group or one-time alcohol intervention and 3) collect 3, 6 and 12 month follow-up survey data on control group and intervention group participants. The current study utilizes survey data from participants at baseline (Phase 1) and survey data from participants at follow-up (Phase 2). Before data were released for analysis, we obtained approval from the TCU BeWell principal investigator (Dr. Bonnie Duran), from each tribal institutional review board, and from the American Indian Higher Education Consortium. We were able to obtain IRB approval and use data from 5 of the 7 TCU sites in the parent grant. The two TCUs not currently approved are due to a pending data sharing agreement between the parent study and the TCU and due to one TCU still processing our request. The following sections will detail participants, procedures and measures for Phase 1 and Phase 2 of the study.

Participants

Participants included male and female tribal college students from five TCUs. One of five the included TCUs has 3 separate campus locations. The TCUs are geographically dispersed and cover the Northwest, Southwest, Midwest and Great Plains regions of the United States. All students from each of the TCUs were invited to participate. To be eligible for participation, participants had to have access to an email account and access to the Internet to participate (although paper surveys were provided upon request or as a final recruitment strategy) and had to be 18 or older, enrolled full- or part-time in the TCU during the semester of the survey data collection, fluent in English, and consent to participate. There were no exclusion criteria for the survey other than failing to meet inclusion criteria. For the current study (Phase 1 and Phase 2)

only participants who identified as AIAN or AIAN multiracial were used for analysis. Participants in Phase 1 included respondents at baseline (N = 1443). Participants in Phase 2 included respondents from baseline who were screened to participate in a longitudinal alcohol prevention study, and who completed baseline, 3-month, 6-month and 12-month follow-up. Two hundred and ninety AIAN participants were invited to the follow-up, however our analysis includes the 172 participants who completed surveys at all four time points (59.3% retention across the year).

Procedures

Adhering to IRB and Family Educational Rights and Privacy Act (FERPA) guidelines, TCUs provided lists of student names who agreed to release their contact information to the University of Washington team from registrars' records for both Winter and Fall 2015 terms from the five TCUs included in the current study. All invited participants received an initial letter and email inviting their participation, in addition to a unique Personal Identification Number (PIN) to enable them to login to the research team's secure server to complete a confidential online survey. All participants completed informed consent online prior to being routed to the survey. Non-responders received a series of reminder contacts designed to increase recruitment. All participants who completed the survey were given a $40 incentive upon completion. Recruitment took place in the following four stages: 1) TCU President's announcement and campus posters notifying students about the study; 2) mailed and electronic invitations and reminders; 3) in-person survey events; and 4) additional follow-up reminders. Online surveys were hosted on a secure server supporting 256-bit encryption, and DatStat Illume was used as the data management system. Mailed paper surveys were offered during survey reminder phone calls and during in-person recruitment events to participants who reported internet or computers

access as a barrier to participation. Prior research has demonstrated comparable responses to confidential paper and online measures by student populations, including similar measures to those utilized in the current study.

Measures

Demographics included age, birth sex, sexual orientation, race, socioeconomic status, and relationship status.

Child Sexual Abuse (CSA) was measured by an item from the Childhood Trauma Questionnaire (CTQ) [Bernstein, D. P., Fink, L., Handelsman, L., & Foote, J., 1995; Bernstein et al., 2003; α = .92 - .95]. Participants rated how much the statement "When I was growing up someone tried to touch me in a sexual way or tried to make me touch them" was true from from 0 (*never true*) to 4 (*always true*). Participants who endorsed anything greater than 0 were then asked if the event happened before age 14. Participants were then coded into 0 (*no CSA experience before 14*) and 1 (*yes CSA experience before 14*).

Adult Sexual Assault (ASA) was assessed with a measure designed specifically for the current study, which was based off of the Traumatic Life Events Questionnaire (Kubany, E. S., Leisen, M., Kaplan, A. S., Watson, S. B., Haynes, S. N., Owens, J. A., & Burns, K., 2000). The study-specific measure asked participants about ASA experiences that occurred at age 14 or older in behaviorally specific terms. Severity, frequency, perpetrator relationship and demographics, drug and alcohol consumption, and disclosure of ASA experiences before and after TCU attendance were assessed. Current study analyses either employed a dichotomous yes/no for ASA experience or an ASA severity score. The ASA severity score was created as a sum of the following four yes/no questions, "did anyone touch sexual parts of your body or make you touch sexual parts of their body against your will or without your consent"; if yes, "did you

experience intense fear or helplessness"; "was there threat or force used" and "were you seriously injured" (α = .65).

Hazardous and Harmful Alcohol Use was measured by the Alcohol Use Disorders Identification Test (AUDIT), a 10-item screening tool developed by the World Health Organization (WHO) to assess alcohol consumption, drinking behaviors, and alcohol-related problems. Responses are scored according to their frequency over the past year with scores ranging from 0 to 40.

Alcohol-related Sexual Risk was assessed with the sex-related items in the Young Adult Alcohol Problems Screening Test (YAAPST; Read, Kahler, Strong, & Colder, 2006). The current study uses a sum score of the following items: "has drinking gotten you into sexual situations you later regretted?; because you had been drinking, have you neglected to use birth control or neglected to protect yourself from STDs?; because you had been drinking, have you had sex when you didn't really want to?; because you had been drinking, have you had sex with someone you wouldn't ordinarily have sex with?" (α =.84-.92).

Depressive symptoms were assessed with the Patient Health Questionnaire (PHQ; α = .88), a brief, validated measure of depression severity. The PHQ is a 9-item questionnaire designed to evaluate the presence of depressive symptoms within the past two weeks, including the presence of depressed mood and decreased interest in pleasurable activities.

Ethnic Identity was measured with the Multigroup Ethnic Identity Measure (MEIM-R; α = .90). The MEIM is used as an overall measure of the strength of an individual's exploration and commitment to their EI. The measure consists of six items such as "I have a strong sense of belonging to my own ethnic group" with ratings on 5-point scales from 1 = *Strongly Disagree*; to 5 = *Strongly Agree*.

Discrimination experiences were examined with the Everyday Discrimination Scale (EDS; α = .88). The EDS (Williams, D. R., Yu, Y., Jackson, J. S., & Anderson, N. B., 1997) measures experiences of perceived discrimination that are daily or chronic. Items included in the EDS are daily experiences with unfair treatment such as being treated with less respect, being treated with less courtesy, being called names and being harassed. The measure consists of nine items, for a summary score of 0 to 45, with higher scores indicating higher experiences of discrimination.

Data Analyses

Data cleaning: All data were downloaded from DatStat Illume and provided as a de-identified data set for analyses. Data were imported into SPSS, cleaned, scored, and screened for normality.

Phase 1. *Descriptive data analyses****:*** To address Aim 1, descriptive characteristics were examined separately for male and female participants and included a) prevalence rates b) assault severity, including injury, degree of perpetrator force, and rape completion; c) alcohol involvement during an assault, including drinking by the participant and/or the perpetrator; d) post-assault disclosure. Frequency percentages were calculated to examine the distribution of demographic factors and ASA factors. Measures of central tendency and variation were reported for study variables included in the structural equation modeling analysis (Aims 2-3).

Structural Equation Modeling: To address Aims 2-3 four SEM were conducted using Mplus software (Muthen & Muthen, 1998-2012) to test moderation variable 1 (discrimination) and moderation variable 2 (ethnic identity) in female participants and then in male participants. Bivariate correlations were computed between potential controls/covariates and proposed study variables. We utilized standard regression with 2,000 bootstrapping to account for non-

normality. We used fit indices to conclude acceptable model fit (non-significant χ^2 statistic, RMSEA < .06, SRMR < .08, TLI > .95, CFI > .95). Significant interactions were plotted and graphed to interpret results.

Phase 2. *Descriptive data analyses**:*** To address Aim 4, frequency rates were examined for ASA at baseline and follow-up. The Aim 4 sample included participants who responded at baseline and all other study time points (3-month, 6-month and 12-month follow-up). Due to low sample sizes, male and female participant data were combined.

Exploratory correlational analysis & logistic regressions: To address Aim 5 we conducted an exploratory correlational analysis of baseline victimization, victimization at 3-month follow-up and related variables including drinking, depression and sexual risk. Additionally, we performed a logistic regression to examine if ASA before TCU predicted ASA during TCU (baseline – 12 month follow-up). We also performed a logistic regression to determine if ASA during TCU at baseline predicted ASA at follow-up (3 – 12 month time period). Finally, we performed separate logistic regressions to see if any ASA at baseline, ASA during TCU at baseline and ASA at follow-up predicted analogous time point TCU attendance/retention.

Results

Phase 1

Participant Demographics. A total of 1443 participants were included in the baseline analyses (956 women, 487 men). Table 1.1 presents demographic characteristics of the sample. The average age of the sample was 28.07 (9.99). All participants identified as American Indian/Alaska Native (AIAN) only or AIAN multiracial.

Adult Sexual Assault Descriptives. Tables 1.2 and 1.4 report the frequencies of

experiencing ASA before TCU and ASA during TCU for women and men respectively. For female participants, 73.1% had not experienced ASA before TCU while 24.8% had experienced an attempted or completed ASA before TCU. For female participants, 94.2% had not experienced ASA during TCU at baseline while 3.9% had experienced an attempted or completed ASA during TCU at baseline. For male participants, 90.1% had not experienced ASA before TCU while 8.3% had experienced an attempted or completed ASA before TCU. Finally, for male participants, 97.1% had not experienced ASA during TCU at baseline while 1.0% had experienced an attempted or completed ASA during TCU at baseline. The results do not support Hypothesis 1. While a 24.8% prevalence for AIAN women and an 8.3% prevalence for AIAN men is noteworthy and necessary to address through additional prevention/intervention strategies, it is not higher than the general population's experience of ASA. Lower lifetime prevalence estimates of adult sexual assault for women are around 22% and high prevalence rates are around 75% (Abbey et al., 2005; Elliott, Mok, & Briere, 2004). For men, the research indicates that about 1.7% report lifetime rape, while 24% endorse some other form of sexual assault (CDC, 2014). Additionally, 3.9% and 1.0% female and male prevalence rates of victimization during TCU attendance is lower than victimization rates for students in mainstream colleges (Abbey, Parkhill & Koss, 2005; RAINN, 2017; Tewksbury, 2007).

Adult Sexual Assault Characteristics. . For participants who reported an ASA, Tables 1.3 and 1.5 examine the characteristics of ASA before TCU and ASA during TCU for women and men respectively. Sample sizes of ASA characteristics during TCU were too small for meaningful statistical comparison with ASA characteristics before TCU, however, important information is still revealed when examining trends in percentages of characteristic endorsement. Approximately 63% of female victims endorsed completed rape (oral, anal, vaginal penetration)

at both time points, while 40% of male victims during TCU and 63% of male victims before TCU endorsed completed rape. Before TCU attendance approximately 15% of male victims and 11% of female victims reported a serious injury resulting from their ASA experience. During TCU attendance both male and female victims report that the most common perpetrator was a friend or acquaintance, while family members are the most commonly reported perpetrators before TCU attendance. Additionally, endorsement of alcohol and drug consumption by the victim and by the perpetrator directly before the event increases from before TCU ASA to during TCU ASA for both male and female respondents.

SEM Analyses. As the data were collected from TCUs across the United States, dummy code variables for TCU campus were created in SPSS and entered in the Mplus model to account for variance across TCU campuses. In addition to TCU, we also used experience of child sexual abuse (CSA) as a covariate based on prior research findings that CSA is strongly associated with risk outcomes. Finally, we did a preliminary correlational analysis of demographic variables and finalized model variables to determine if any demographics should be added as covariates. Age was significantly associated with outcome variables and was added as a covariate. Bivariate correlations, means and standard deviations for SEM variables are presented in Tables 1.6 and 1.8. The tested models (Models 1 & 2) are shown in Figure 1.1. After first running a model with all SEM variables, covariates were trimmed if they were non-significant and then interactions were trimmed if they were non-significant. The final models (Models 1 & 2) with standardized coefficients for significant paths are shown in Figures 1.2 (female participants and 1.3 (male participants).

In examining Model 1 for female participants (Figure 1.2, n = 956), the final moderation model fit statistics indicated good model fit ($\chi^2(3) = 7.34$, p = .39, RMSEA = .007, CFI = .99,

TLI = .99, SRMR = .01). Hypotheses 2 and 4 were partially supported through the following main effects. For female participants, higher ASA severity scores were significantly associated with higher PHQ9 scores (depression) and higher YAAPST scores (alcohol-related sexual risk). Additionally, higher endorsement of discrimination was associated with higher PHQ9 scores and higher AUDIT scores (hazardous and harmful alcohol use). There were no significant interactions of ASA and discrimination on the outcome variables.

In examining Model 2 for female participants (Figure 1.2, n = 956), the final moderation model fit statistics indicated good model fit ($\chi^2(3) = 6.43$, p = .38, RMSEA = .01, CFI = .99, TLI = .99, SRMR = .01). As with Model 1, Hypothesis 2 was partially supported through the following main effects. For female participants, higher ASA severity scores were significantly associated with higher PHQ9 scores and higher YAAPST scores. There were no significant main effects of ethnic identity on any outcome, nor were there any significant interactions of ASA and ethnic identity on the outcome variables.

For male participants, Model 1 (Figure 1.3, n = 487) fit statistics indicated good model fit ($\chi^2(3) = 9.16$, p = .52, RMSEA = .00, CFI = .99, TLI = .99, SRMR = .01). Hypothesis 2 was partially supported through the following main effects. For male participants, higher ASA severity scores were significantly associated with higher PHQ9 scores. Likewise, Hypothesis 4 was partially supported in that higher endorsement of discrimination was associated with higher PHQ9 scores and higher YAAPST scores. Additionally, as shown by the Model 1 graph (Figure 1.4), there was a significant interaction of ASA by discrimination on AUDIT scores. As predicted, for men with high ASA severity, higher experiences of discrimination were associated with higher hazardous and harmful alcohol use.

Finally, Model 2 (Figure 1.3, n = 487) fit statistics indicated good model fit ($\chi^2(3) = 6.73$, p = .82, RMSEA = .00, CFI = .99, TLI = .99, SRMR = .01). Hypothesis 2 was partially supported through the following main effects. For male participants, higher ASA severity scores were significantly associated with higher AUDIT and YAAPST scores. Finally, as shown by the Model 2 graph (Figure 1.4), there was a significant interaction of ASA by ethnic identity on PHQ9 scores. Contrary to Hypothesis 3, for men with high ASA severity, higher endorsement of ethnic identity was associated with higher PHQ9 scores.

Phase 2

Participant Demographics. A total of 172 participants were included in Phase 2, consisting of participants who were included in the longitudinal study and provided data at 3-, 6-, and 12-month follow-up. These participants are included in calculation of victimization rates post-baseline. Table 1.1 presents demographic characteristics of the Phase 2 longitudinal sample. The average age of the sample was 28.27 (9.13). All participants identified as American Indian/Alaska Native (AIAN) only or AIAN multiracial.

Adult Sexual Assault Descriptives. Based on baseline, 3-month, 6-month and 12- month follow-up, participants were categorized into those who had 1) never experienced ASA [68.02%]; 2) ASA before TCU only [13.95%]; 3) ASA before and during TCU – lifetime re-victimization [5.23%]; 4) ASA during TCU only at one-time point [5.81%]; and 5) ASA during TCU at more than one-time point - TCU re-victimization [2.91%]. TCU re-victimization rate are lower in comparison to the general population's re-victimization rates at college (2.91% for the 12-month follow-up vs. 20% for one school quarter (Katz et al., 2010; Gidycz et al., 1993, 1995; Gidycz et al., 1993, 1995; Ullman, Karabatsos, & Koss, 1999).

Exploratory Correlational Analysis & Logistic Regression. Table 2.3 examines associations between baseline and 3-month ASA and related health outcomes. In partial support of Hypothesis 6, Table 2.3 reveals significant positive correlations between ASA at 3 month follow-up and higher AUDIT, PHQ9 and YAAPST scores at that time point. The logistic regressions involving prior ASA predicting re-victimization and ASA predicting TCU attendance/retention were not significant.

Discussion

The goal of the current study was to examine TCU students' experience of ASA before and during college, test an SEM model utilizing the Indigenist stress-coping paradigm and explore follow-up data assessing subsequent victimization experiences.

Hypothesis Testing & Implications

Hypothesis 1 posited that ASA experiences before TCU would demonstrate 1) high prevalence rates and 2) high severity characteristics for AIAN male and female TCU students in comparison to the general U.S. population. Contrary to part 1 of Hypothesis 1, AIAN male and female TCU students had similar ASA prevalence rates before attending college as the general U.S. population. That female TCU students' reported 24.8% ASA prevalence before college attendance is surprising given previous research that report ASA prevalence rates from 39 to 85% for AIAN women (Bohn, 2003; Brems & Namyniuk, 2002; Lehavot, Walters, & Simoni, 2010; Mylant & Mann, 2008; Saylors & Daliparthy, 2006; Simoni, Sehgal, & Walters, 2004). There have been no previous studies that have looked at AIAN male ASA experiences (unwanted sexual contact after the age of 14) in isolation. Prior research has examined child sexual abuse, has combined child abuse and adult assault time points, has combined male and

female data or has assessed rape only. The current study data on AIAN male TCU students' experience of ASA is an important addition to the literature.

In examining why we found the opposite of what was expected in regards to before TCU prevalence rates (part 1 of Hypothesis 1), it is informative to note that previous research has focused on at-risk samples (e.g. women in substance abuse treatment or pre-maternal residential homes). AIAN populations are at risk for lower educational achievement than the general population (Bubar, 2009). Individuals without college degrees or with lower educational attainment are at increased risk for substance use, lifetime experiences of sexual assault and other negative health outcomes. TCUs were created to serve geographically isolated populations that would not otherwise have proximal access to education beyond the high school level. As such, perhaps AIAN TCU students who have successfully entered higher education, have experienced less trauma or adversity than those in their community who are not attending TCU, nor on the path to do so.

Although TCU students did not have higher prevalence rates of ASA before college than the general population, we did find partial support of Hypothesis 1 (part 2). That is, of the ASA that TCU students did experience before college, some characteristics reveal heightened severity in comparison to the general population. Five percent of male TCU participants reported completed rape in comparison to 1.7% of men in the general population (CDC, 2014). With regard to disclosure of sexual assault, approximately half of male and female victims in the current study disclosed their ASA experience and of those who disclosed, 24-50% said it was not helpful. In the general population, research indicates that 66-92% of ASA victims tell someone about their experience (Ahrens et al., 2007). Disclosure rates appear to be lower for AIAN TCU students, which are consistent with previous findings that AIAN victims report

relational complexities with disclosing in small tribal communities if the perpetrator is AIAN, and expectations that they will be disbelieved if the perpetrator is white (Hamby, 2008; Deer, Flies-Away, Garrow, Naswood, & Payne, 2004). Moving forward, it will be beneficial to further examine and find ways to address barriers to disclosure and unhelpful responses to disclosure in AIAN communities. This could be initiated through discussion with TCU students, administration and counselors during dissemination about these barriers and what would constitute a helpful response for victims.

While Hypothesis 1 predicted increased ASA prevalence rates for TCU students before college attendance, we did not have a priori hypotheses regarding prevalence of ASA during TCU attendance in comparison to students at mainstream colleges and universities. Results of the current study suggest prevalence rates of AIAN students at TCU are lower than those reported in the general college population. This pattern is consistent with the TCU mission to provide their students with a personalized, supportive educational and cultural community. Informal qualitative responses from participants across multiple TCUs campuses support the view of TCU as a protective factor for students. Responses included statements like, "The TCU is safest place on the reservation" and "I feel safer here [at TCU], than at my apartment complex". As previously stated, many TCUs are located in geographically isolated locations or on reservation land. A lack of law enforcement presence coupled with jurisdictional complexities on reservation land results in increased crime, delayed police response and difficulties with prosecution (Bachman et al., 2010; Juraska et al., 2014). Thus, TCU students who are spending large quantities of time on campus may be at less risk than AIAN peers in the larger community. Finally, unlike many mainstream colleges, TCUs (1) have less dorm-style or on-campus housing, (2) do not have a Greek system of fraternities and sororities, and generally have lower average

rates of alcohol use. These factors have been shown to be associated with college ASA and thus could also elucidate why TCU students report relatively lower rates of ASA while attending college than students at mainstream colleges and universities.

Hypothesis 2 stated that participants with ASA experiences would have greater alcohol use, depression and sexual risk behavior than participants with no ASA experiences. Hypothesis 2 was supported through testing four SEM, which utilized the Indigenist stress-coping paradigm (Walters & Simoni, 2002). ASA severity predicted depression and alcohol involved sexual risk in female participants; and ASA severity predicted depression, alcohol consumption and alcohol involved sexual risk in male participants. In examining these results through the Indigenist stress-coping lens, stressors (e.g. sexual assault) operate as a trauma experience, which contribute to negative health outcomes. These results provide important and informative prevention/intervention points for TCU staff/administration (e.g. counselors, teachers). If a student disclosing to a TCU staff member that they have experienced a sexual assault, TCU staff should also inquire about how the student is doing in other health domains such as feelings of depression and problematic drinking.

Hypotheses 3 and 4 posited that for participants with higher ASA experiences, higher endorsement of ethnic identity would be linked with decreased negative mental health outcomes while higher endorsement of discrimination would be linked with increased negative mental health outcomes. In our SEM analyses we found support for Hypothesis 4: main effects of discrimination on depression and alcohol consumption for women and moderation effects of ASA and discrimination on alcohol consumption for men; all in the direction predicted. Contrary to Hypothesis 3, for men with high ASA severity, higher endorsement of ethnic identity was associated with higher depression. In utilizing the Indigenist stress-coping paradigm (Walters &

Simoni, 2002), it is necessary to interpret our results by situating AIAN health within the large context of their status as a colonized people that have experienced multiple generations of oppression and discrimination. Providing a supportive space for TCU students to talk about their experiences of discrimination could be a helpful intervention point for reducing its impact on health outcomes. While our findings regarding ethnic identity were contrary to prediction, this may be explained by male TCU students interpreting their ethnic identity as that of a marginalized group. Likewise, they may be more attuned to experiencing discrimination as a function of their ethnic identity and that in turn leads to increased feelings of depression. Additionally, male TCU students may be more prone than female TCU students to attend to negative ethnic identity implications due to mainstream gender norms which posit that men "should be" dominant individuals who do not experience ASA. While both white women and women of color often experience some degree marginalization, power imbalance and fear of experiencing ASA based on their gender status, marginalization tied to ethnic identity may elicit higher discrepant feelings for male TCU students in the context of a larger patriarchal system. While it is critical that TCUs and majority institutions address the impact of discrimination in a meaningful way, it is also equally significant that resiliency factors are highlighted and cultivated. While we did not find a significant resiliency factor in our SEM analyses, the overall picture of ASA rates for TCU students before and during attendance demonstrates that there is great resiliency in the community.

Phase 2 follow-up data was used to test Hypotheses 5 and 6, which posited that participants with ASA experiences will be more likely than participants with no ASA history to have an ASA during follow-up and no experience of ASA will be associated with less drinking, depression and sexual risk and higher TCU retention, while having an ASA experience will be

associated with higher drinking, depression and sexual risk and lower TCU retention. We did not find support for Hypothesis 5, although this may be due to low participant numbers in Phase 2. Hypothesis 6 was partially supported in that there were significant positive correlations between ASA at 3-month follow-up and higher AUDIT, PHQ9 and YAAPST scores at that time point and adds to the evidence that ASA is a trauma with widespread, long-lasting results.

Limitations

This study is limited to self report from AIAN college students at TCUs across the United States of America who were interested in participating. As such, the study population may have different characteristics than AIAN students attending mainstream colleges or AIAN students who were not willing to volunteer. Additionally, while the wide scope of geographic area covered in the current study allows for breadth and generalization to AIAN TCU students across the country, we used TCU campus as a covariate in the main model analyses and as such, location-specific information (e.g. tribal or campus specific information) is not examined.

The Phase 1 SEM analyses are cross-sectional in nature, so we cannot infer causality about how experiences of ASA impact alcohol use, mental health and sexual risk behavior. Additionally, for assessment of ASA during TCU, we were unable to ask whether the assault occurred on or off campus. Phase 2 provides an exploratory examination of longitudinal data, however small sample sizes prevented sophisticated statistical analysis. Our longitudinal sample includes participants who screened positive for at-risk drinking. Likewise, half of these participants received a brief alcohol intervention, which included a component on drinking and sexual assault. The parent project did not release the intervention categorization variable to us so it was not considered in statistical analysis. However, this limitation made it so that our

exploratory analyses were more conservative in nature given that the intervention was designed to reduce risk.

Future Directions

The current study was a vital first step in quantifying and qualifying ASA for TCU/AIAN students. Our results indicate areas of resilience (e.g. the TCU institution) and areas of risk that point to systematic oppression (e.g. discrimination and mixed disclosure results).

Based on the study's CBPR principals, we are eager to begin dissemination work with our TCU partners. Next steps include, 1) distribute study findings to TCU staff and ask for their feedback about the results; 2) collaborate with TCU staff on presenting study findings to students; and 3) work with TCU staff, students and community members to translate study findings into prevention/intervention policies.

Future directions for subsequent research include examination of additional risk and resiliency moderation factors, larger sample sizes for statistically viable longitudinal data, qualitative data collective and analysis, and partnering with mainstream colleges for a non-TCU comparison group of AIAN students.

Although there is an increased spotlight on sexual assault and college sexual assault with events such as the "Me Too" movement, the criminal case of Brock Turner and Rolling Stone magazine's "A Rape on Campus" article, minority communities are often left unaddressed and unchanged. It is vital that research focuses on populations with health disparities, acknowledges the institutionalized disadvantages present and fosters the strengths of the community.

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Summary of Tables and Figures

Table 1.1. Phase 1 Demographic Characteristics

	N = 1443
Age	28.07 (9.99)
Birth Sex	
Male	33.7%
Female	66.3%
Sexual Orientation	
Straight	89.7%
Gay/Lesbian	3.0%
Two-Spirit	.8%
Bisexual	3.7%
Other	0.5%
Prefer not to answer	2.1%
Race	
AIAN only	84.7%
AIAN Multiracial	15.3%
Where did you grow up mostly?	
On a reservation	79.0%
In an urban area	10.5%
In a rural, but non-res area	7.7%
In a suburban area	2.9%
Are you currently attending TCU?	
Yes	90.5%
No	8.9%
Where are you living this semester?	
Residence halls/dorm rooms	15.0%
On-campus family housing	10.7%
Off-campus housing	63.6%

Other type of housing	10.6%
Highest Educational Degree	
High school diploma	58.5%
GED	11.1%
Vocational degree	3.8%
Associate's degree	21.0%
Bachelor's degree	3.4%
Graduate or Professional	0.8%
None of the above	0.5%
Individual annual income	
Less than $2,000	39.9%
$2,001-$5,000	15.4%
$5,001-$10,000	13.7%
$10,001-$15,000	9.6%
$15,001-$25,000	9.3%
$25,001-$50,000	7.8%
$50,001-$75,000	1.6%
$75,001-$100,000	.2%
Relationship Status	
Single	57.3%
Living as married/serious relationship	21.1%
Married	15.0%
Divorced/Separated	4.9%
Combination of statuses	1.1%

Table 1.2 Phase 1 Adult Sexual Assault (ASA) Descriptives

Female Participants (n = 956)	*n*	%
Adult Sexual Assault before TCU		
Never	699	73.1
Attempted ASA	20	2.1
Once	89	9.3
Twice	41	4.3
3 times	22	2.3
4 times	13	1.4
5 times	4	0.4
More than 5 times	48	5.0
Missing	20	2.1
Adult Sexual Assault during TCU		
Never	901	94.2
Attempted ASA	6	.6
Once	19	2.0
Twice	6	.6
3 times	2	.2
4 times	1	.1
5 times	1	.1
More than 5 times	3	.3
Missing	17	1.8

Table 1.3 Phase 1 ASA Characteristics (Female Victims)

	ASA Before TCU (n = 237)	ASA During TCU (n = 38)
	n (%)	n (%)
Experience intense fear or helplessness?		
No	25 (10.5%)	7 (18.4%)
Yes	211 (89.0%)	31 (81.6%)
Was there threat or force used?		
No	96 (40.5%)	20 (52.6%)
Yes	138 (58.2)	17 (44.7%)
Oral, anal or vaginal penetration?		
No	83 (35.0%)	14 (36.8%)
Yes	152 (64.1%)	24 (63.2%)
Were you seriously injured?		
No	206 (86.9%)	35 (92.1%)
Yes	25 (10.5%)	3 (7.9%)
Were you drinking alcohol or consuming drugs?		
No	176 (74.3%)	22 (57.9%)
Yes	61 (25.7%)	16 (42.1%)
Was the other person drinking alcohol or consuming drugs?		
No	119 (50.2%)	14 (36.8%)
Yes	114 (48.1%)	23 (60.5%)
This person was		
Male	224 (94.5%)	37 (97.4%)
Female	11 (4.6%)	1 (2.6%)
This person was a		
Stranger	23 (9.7%)	5 (13.2%)
Friend/Acquaintance	80 (33.8%)	23 (60.5%)
Parent	17 (7.2%)	-
Sibling	10 (4.2%)	-
Other family member	78 (32.9%)	1 (2.6%)
Authority official	4 (1.7%)	-
Intimate partner	21 (8.9%)	8 (21.1%)
Did you tell anyone about this event?		
No	112 (44.4%)	16 (50.0%)

Yes	125 (50.0%)	19 (42.1%)
You indicated you told someone. Was it helpful? (Reported as adjusted/valid % for those responded “yes” to telling someone)	[n = 125]	[n = 19]
No	41 (32.8%)	7 (36.8%)
Yes	84 (67.2%)	12 (63.2%)

Table 1.4 Phase 1 ASA Descriptives

Male Participants (n = 487)	*n*	%
Adult Sexual Assault before TCU		
Never	439	90.1
Attempted ASA	4	.8
Once	21	4.3
Twice	7	1.4
3 times	4	.8
4 times	1	.2
5 times	1	.4
More than 5 times	2	.4
Missing	8	1.6
Adult Sexual Assault during TCU		
Never	473	97.1
Attempted ASA	-	-
Once	3	.6
Twice	2	.4
3 times	-	-
4 times	-	-
5 times	-	-
More than 5 times	-	-
Missing	9	1.8

Table 1.5 Phase 1 ASA Characteristics (Male Victims)

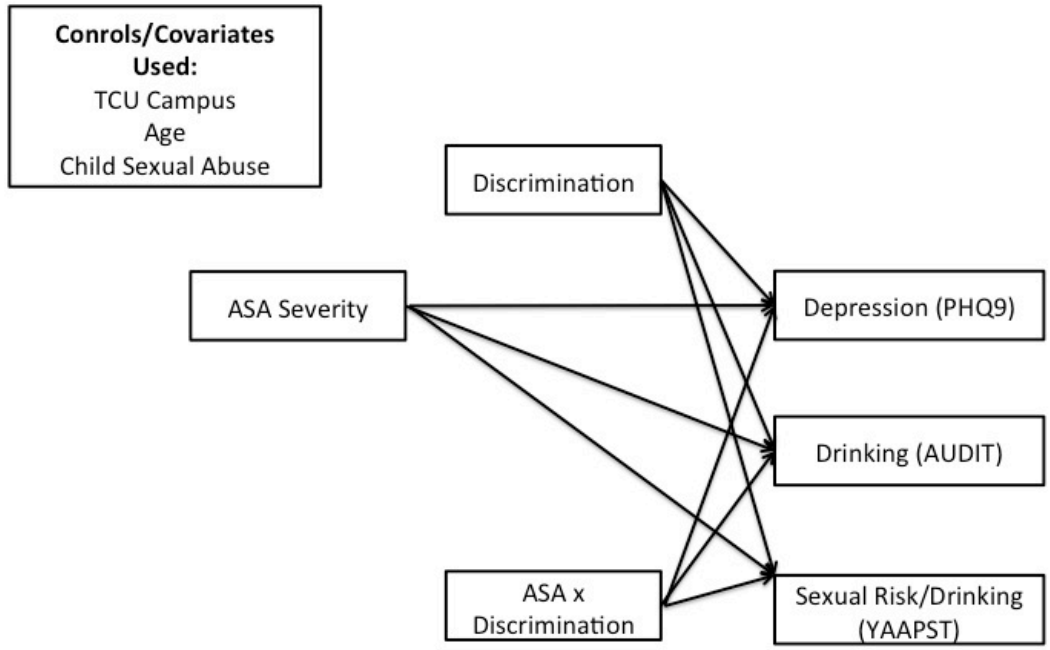
	ASA Before TCU (n = 40)	ASA During TCU (n = 5)
	n (%)	n (%)
Experience intense fear or helplessness?		
No	18 (45.0%)	3 (60.0%)
Yes	22 (55.0%)	2 (40.0%)
Was there threat or force used?		
No	23 (57.5%)	4 (80.0%)
Yes	17 (42.5%)	1 (20.0%)
Oral, anal or vaginal penetration?		
No	14 (35.0%)	3 (60.0%)
Yes	25 (62.5%)	2 (40.0%)
Were you seriously injured?		
No	33 (82.5%)	5 (100.0%)
Yes	6 (15.0%)	0 (0%)
Were you drinking alcohol or consuming drugs?		
No	32 (80.0%)	2 (40.0%)
Yes	8 (20.0%)	3 (60.0%)
Was the other person drinking alcohol or consuming drugs?		
No	25 (62.5%)	0 (0%)
Yes	15 (37.5%)	5 (100.0%)
This person was		
Male	33 (82.5%)	2 (40.0%)
Female	7 (17.5%)	3 (60.0%)
This person was a		
Stranger	4 (10.0%)	1 (20.0%)
Friend/Acquaintance	14 (35.0%)	4 (80.0%)
Parent	-	-
Sibling	1 (2.5%)	-
Other family member	17 (42.5%)	-
Authority official	1 (2.5%)	-
Intimate partner	2 (5.0%)	-
Did you tell anyone about this event?		
No	19 (47.5%)	3 (60.0%)

Yes	21 (53.5%)	2 (40.0%)
You indicated you told someone. Was it helpful? Reported as adjusted/valid % for those responded "yes" to telling someone)	[n = 21]	[n = 2]
No	5 (23.8%)	1 (50.0%)
Yes	16 (76.2%)	1 (50.0%)

Figure 1.1 Phase 1 Tested SEM models

To be run for male and female participants separately for a total of 4 models

Model 1



Model 2

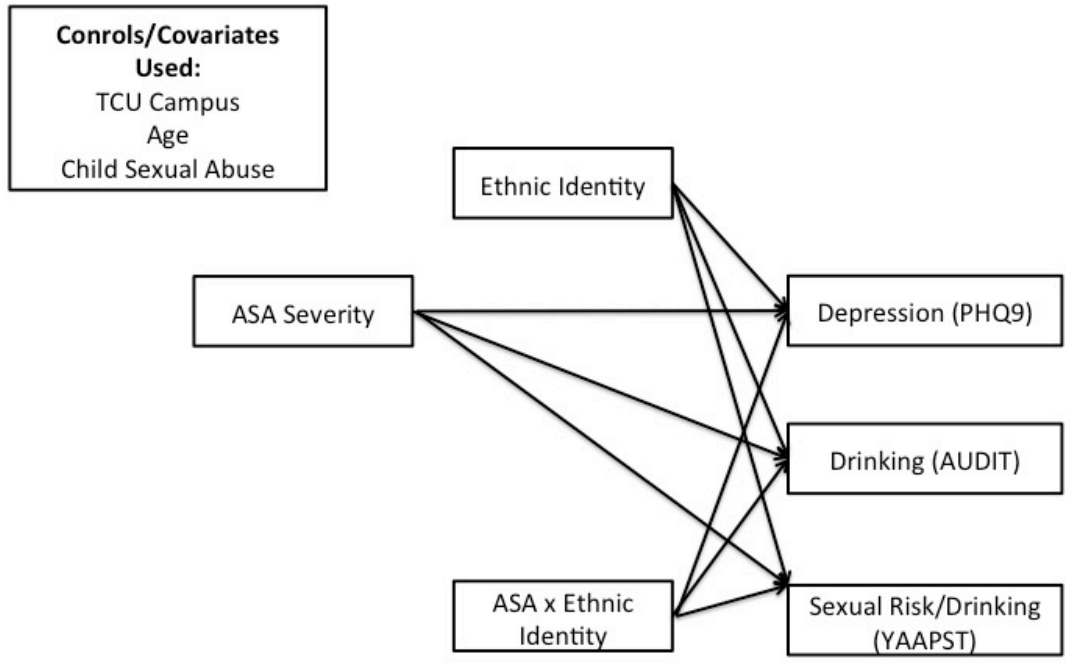


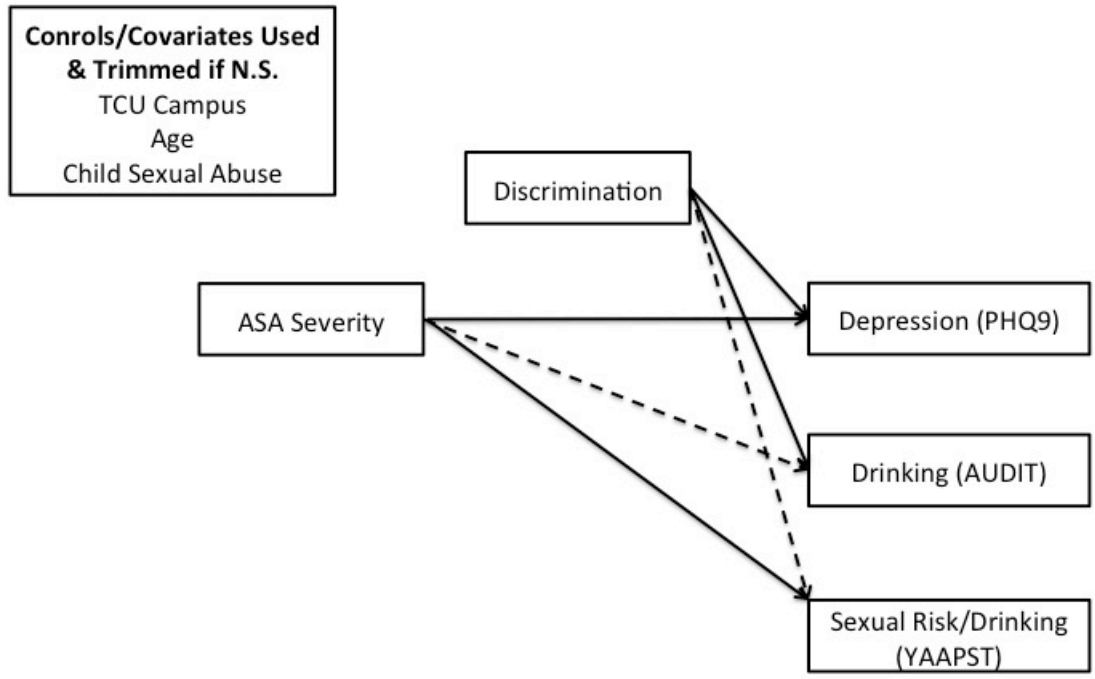
Table 1.6. Phase 1 Bivariate Correlations Among Study Variables (female participants, n = 956)

Variable	1.	2.	3.	4.	5.	6.
1. ASA Severity (ASA)	—	—	—	—	—	—
2. Ethnic Identity (EI)	.05	—	—	—	—	—
3. Experience of Discrimination (EDS)	.23**	.06	—	—	—	—
4. Drinking (AUDIT)	.11**	-.08	.13**	—	—	—
5. Depression (PHQ9)	.26**	.02	.43**	.23**	—	—
6. Sexual Risk & Drinking (YAAPST)	.16**	-.05	.16**	.50**	.19**	—
M	.94	22.28	10.19	4.01	4.85	.51
SD	1.73	6.20	9.73	5.23	5.90	1.95

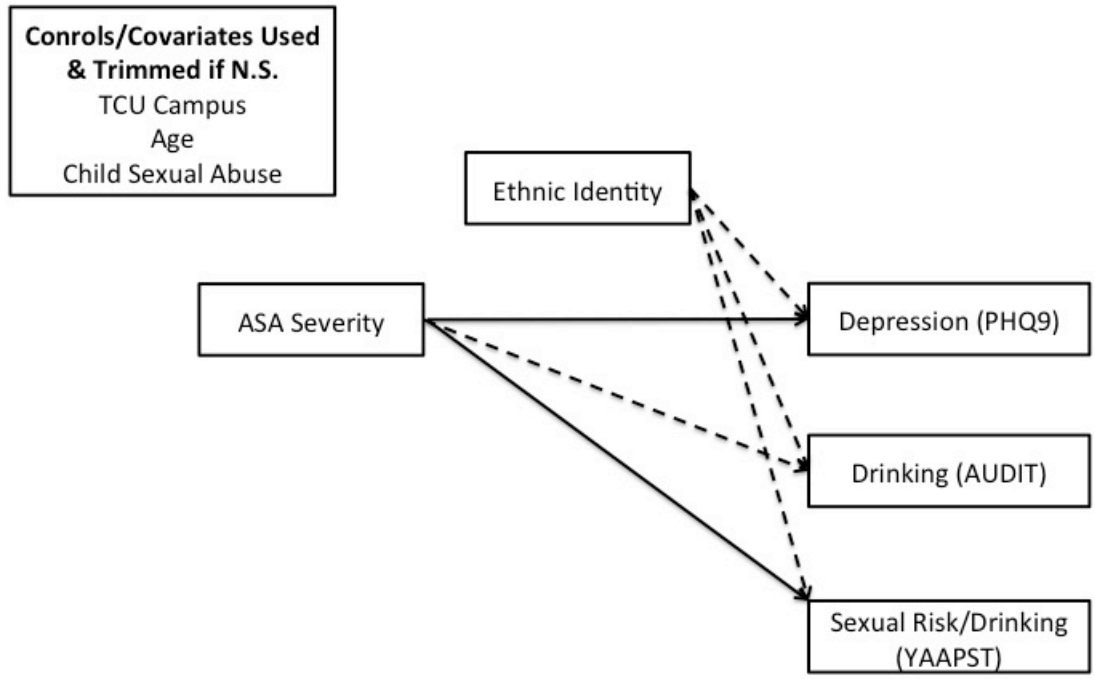
Note. *$p < .05$. **$p < .01$. ***$p < .001$.

Figure 1.2. Final SEM moderation models (female participants only)

Model 1



Model 2



**Interaction variables (ASA x discrimination in Model 1 & ASA x ethnic identity in Model 2 were trimmed for the final analyses after they were N.S. on all outcomes)

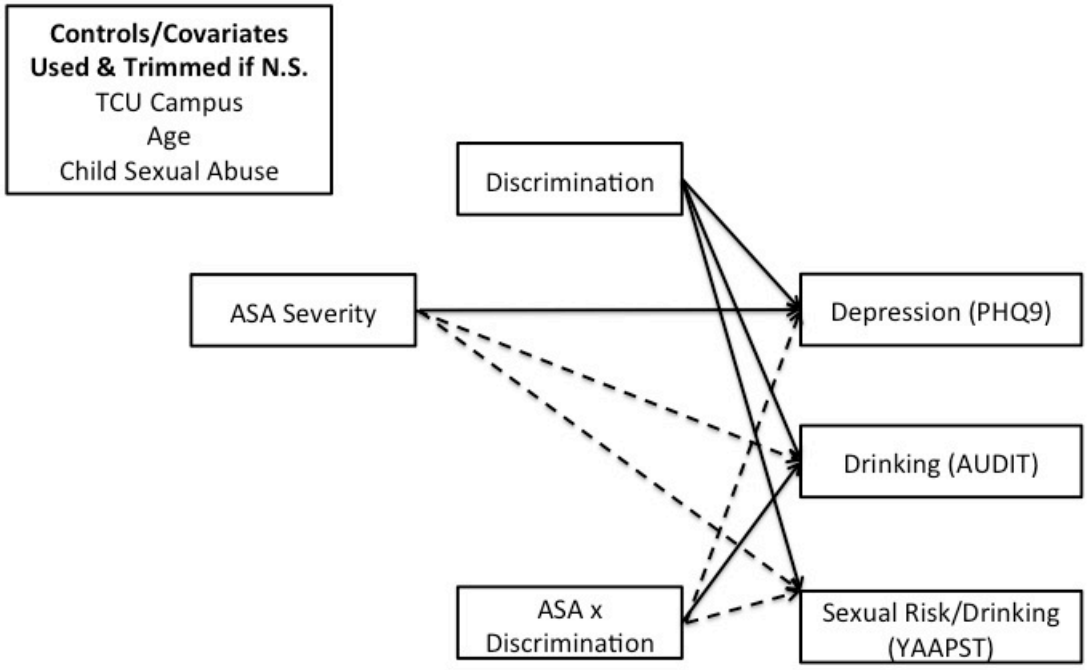
Table 1.7. Phase 1 Bivariate Correlations Among Study Variables (male participants, n = 487)

Variable	1.	2.	3.	4.	5.	6.
1. ASA Severity (ASA)	—	—	—	—	—	—
2. Ethnic Identity (EI)	.07	—	—	—	—	—
3. Experience of Discrimination (EDS)	.18**	-.02	—	—	—	—
4. Drinking (AUDIT)	.17**	.05	.17**	—	—	—
5. Depression (PHQ9)	.25**	.02	.39**	.25**	—	—
6. Sexual Risk & Drinking (YAAPST)	.18**	.01	.19**	.50**	.18**	—
M	.34	22.10	12.95	5.94	3.96	.75
SD	1.31	6.55	11.80	6.81	5.47	2.18

Note. *$p < .05$. **$p < .01$. ***$p < .001$.

Figure 1.3. Final SEM moderation models (male participants only)

Model 1



Model 2

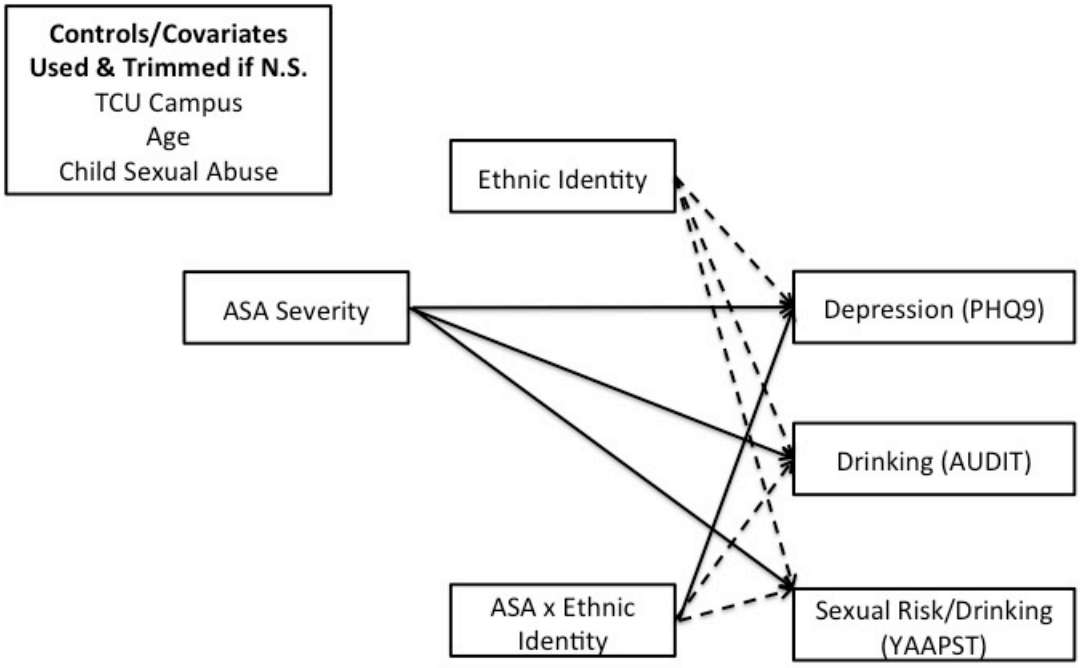
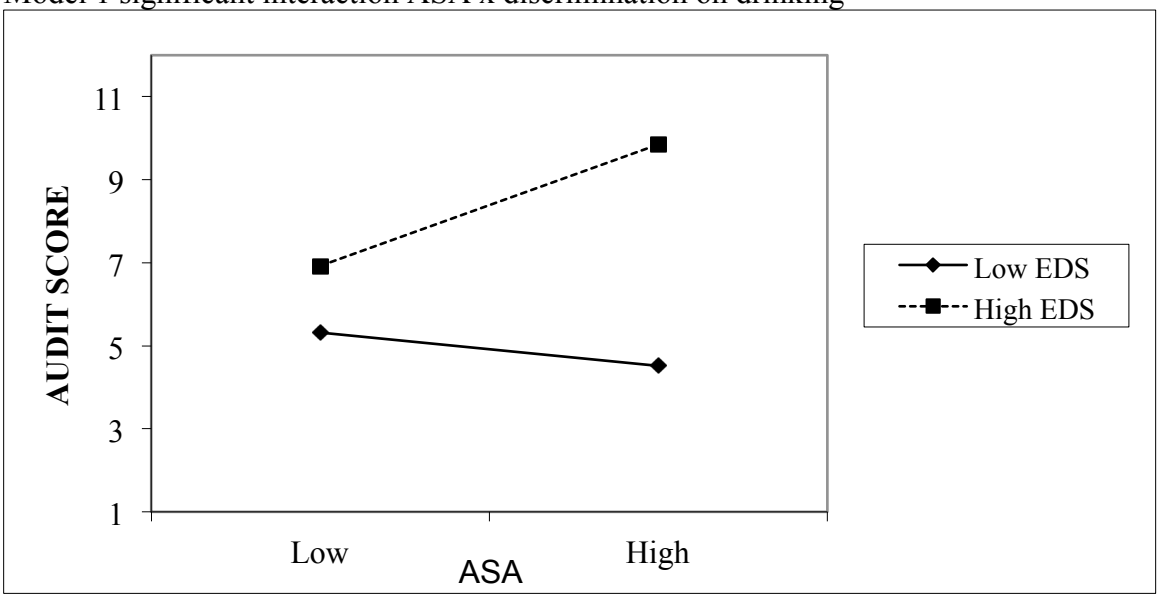


Figure 1.4. Graphs of significant interactions (male participants only)

Model 1 significant interaction ASA x discrimination on drinking



Model 2 significant interaction ASA x ethnic identity on depression

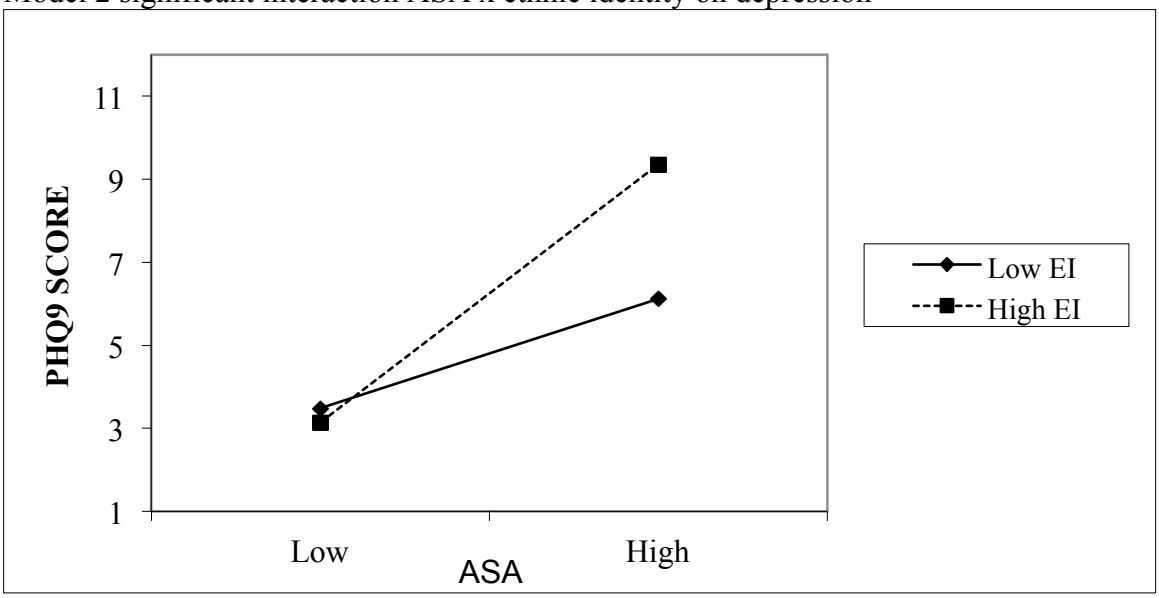


Table 2.1. Phase 2 Demographic Characteristics

	N = 172
Age	28.07 (9.99)
Birth Sex	
Male	33.1%
Female	66.9%
Sexual Orientation	
Straight	86.6%
Gay/Lesbian	7.0%
Two-Spirit	.6%
Bisexual	2.3%
Other	1.2%
Prefer not to answer	2.3%
Race	
AIAN only	88.5%
AIAN Multiracial	21.5%
Where did you grow up mostly?	
On a reservation	73.3%
In an urban area	9.3%
In a rural, but non-res area	12.2%
In a suburban area	5.2%
Are you currently attending TCU?	
Yes	84.9%
No	14.5%
Where are you living this semester?	
Residence halls/dorm rooms	9.9%
On-campus family housing	12.2%
Off-campus housing	71.5%

Other type of housing	6.4%
Highest Educational Degree	
High school diploma	52.3%
GED	11.0%
Vocational degree	4.7%
Associate's degree	27.9%
Bachelor's degree	4.1%
Individual annual income	
Less than $2,000	31.4%
$2,001-$5,000	20.9%
$5,001-$10,000	17.4%
$10,001-$15,000	9.3%
$15,001-$25,000	9.9%
$25,001-$50,000	8.1%
$50,001-$75,000	2.3%
Relationship Status	
Single	58.7%
Living as married/serious relationship	25.0%
Married	9.3%
Divorced/Separated	4.9%
Combination of statuses	2.4%

Table 2.2. Phase 2 ASA descriptives

	Male & Female Participants (n = 172)
	n (%)
No ASA	117 (68.02%)
ASA before TCU only	24 (13.95%)
ASA before TCU & during TCU (lifetime re-victimization)	9 (5.23%)
ASA during TCU (only 1 time-point of ASA)	10 (5.81%)
ASA during TCU (>1 time-point, TCU re-victimization)	5 (2.91%)
Missing	7 (4.07%)

* Of the participants who experienced ASA at any time point (n = 51), 19.6% were male and 80.4% were female

Table 2.3 Phase 2 Bivariate Correlations (exploratory follow-up analyses)

Study Time Point	Study Variable	ASA Baseline	ASA 3 mo
Baseline			
	AUDIT	.14	
	PHQ9	.20**	
	YAAPST	.19*	
3 month			
	AUDIT	.11	.32**
	PHQ9	.21**	.29**
	YAAPST	.13	.57**