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Associations of Discrimination With Drinking Behavior in Multiracial College Students: Protective Role of Racial Socialization

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Abstract

Despite the rapid growth of the Multiracial population in the United States, less is known about correlates of their health behaviors. Nascent findings demonstrate elevated rates of drinking behavior among Multiracial college students compared to their monoracial counterparts. Theoretical models posit that racial socialization by primary caregivers may change the magnitude of the relationship of discrimination with drinking behavior among Multiracial individuals. The role of racial socialization, however, has not been tested specifically among Multiracial college students. In this cross-sectional survey study, 193 undergraduate students (M_{age} = 20 years [*SD* = 1.33]; 30% male; 33% Greek affiliated) reporting lifetime alcohol use completed an online questionnaire on drinking behaviors, experiences of racial socialization, and experiences of general as well as Multiracial discrimination. Results from path models indicated that the relationship between general or multiracial discrimination with drinking behaviors was not weaker among those reporting higher levels of racial socialization. The current finding adds to the limited and underrepresented alcohol use literature of Multiracial college students by demonstrating that primary caregiver racial socialization may not be protective against discrimination experiences and drinking behavior among Multiracial college students. The implications of these findings may be used to inform further research, clinical programming, as well as policy development.

Keywords: Multiracial, biracial, alcohol, socialization, discrimination, college

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by

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Table of Contents

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A Multiracial (also referred to as biracial or mixed racial) person is defined as a person who belongs to two more distinct racial and/or ethnic groups. Racial groups include, American Indian or Alaska Native (i.e., a person having origins in any of the original peoples of North and South America [including Central America], and who maintains tribal affiliation or community attachment), Asian (i.e., a person having origins in any of the original peoples of the Far East, Southeast Asian, or the Indian subcontinent [e.g., Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, Vietnam]), Black or African American (i.e., a person having origins in any of the Black racial groups of Africa), Native Hawaiian or Other Pacific Islander (i.e., a person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands), and White (i.e., a person having origins in any of the original peoples of Europe, the Middle East, or North Africa). The ethnic group includes, Hispanic or Latino (i.e., a person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture; Office of Management and Budget, 1997; U.S. Bureau of the Census, 2020).

The Multiracial population is one of the fastest growing populations in the United States (Saulny, 2011) and is projected to increase from 8 million to 26 million by 2060 (Colby & Ortman, 2015). Disproportionate to such exponential growth, however, there is a paucity of research on health behaviors among Multiracial individuals. Limited findings suggest that Multiracial college students endorse elevated rates of drinking behaviors (i.e., drinking frequency, drinking quantity, binge drinking) compared to monoracial college students (National Survey of Drug Use and Health [NSDUH], 2021). Drinking behavior is proximally associated with academic difficulties in college, peer and familial discord, criminal activity, driving while

intoxicated, and risky sexual behavior (Hingson et al., 2009) and more distally associated with lower likelihood of employment in adulthood, lower quality of physical and mental health in adulthood, and alcohol use disorder (Haber et al., 2016; Sloan et al., 2011). Despite the far-reaching consequences of drinking behavior in general, research is lacking in salient risk and protective factors associated with drinking behavior among a potentially at-risk and understudied population of Multiracial college students.

Theoretical Model of Multiracial Youth Risk Behavior: The Roles of Discrimination and Racial Socialization

In understanding Multiracial individuals' development, Csizmadia (2011) posits an integrative model, guided by the Phenomenological Variant of Ecological Systems Theory (Spencer, 2007). Csizmadia proposes that among Multiracial individuals, racial identification is associated with psychosocial adjustment indirectly through perceptions of social acceptance and rejection. These processes contribute to Multiracial individual's developmental vulnerability (i.e., balance of risk and protection). Ecological assets, such as racial socialization (Neblett et al., 2010) can attenuate developmental vulnerability. Specifically, to enhance Multiracial individuals' positive development, racial socialization may change how Multiracial individuals cognitively process social interactions, which in turn can increase their resilience to stressors such as racial discrimination and limit engagement in coping-motivated drinking behavior (Csizmadia, 2011). This model has not yet been applied among Multiracial college students.

Multiracial College Students' Drinking Behavior

College students consistently report the highest rates of drinking behavior, compared to both their non-college attending counterparts as well as any other age groups (O'Malley &

Johnston, 2002; Slutske, 2005; Substance Abuse and Mental Health Services Administration, 2019; Turrisi et al., 2006). Among college students, White, American Indian, and Latinx college students report higher rates of drinking behavior than other monoracial groups, such as Black and Asian college students (Chavez & Sanchez, 2010). Budding evidence indicates that Multiracial college students report rates of past-year frequency, quantity, and binge drinking which are comparable to the rates of White, American Indian, and Latinx college students (Chen et al., 2012; Straka et al., 2020). Multiracial college students may be at-risk for engaging in drinking behavior, and yet, potential risk and protective factors that may make this population vulnerable to the deleterious short-and long-term consequences of drinking behavior are largely unknown.

Racial Discrimination

Racial discrimination is defined as "the differential treatment of individuals because of their membership in a particular racial group" (American Psychological Association, 2022). Multiracial individuals' racial discrimination experiences may be distinctive from those of monoracial groups. For example, Multiracial individuals may experience racial discrimination from their peers both within and outside of racial groups they identify with (Shih & Sanchez, 2005; Fisher et al., 2014). Multiracial individuals may also experience racial discrimination from immediate or extended family members (Franco & Carter, 2019). Indeed, familial discrimination has been posited to be more detrimental than discrimination from non-family members, due to challenges with family cohesion, which has been found to be associated with poorer well-being for Multiracial individuals (Franco et al., 2021; Schlabach, 2013). Racial discrimination from peers and family members has been associated with challenges with identity formation, negative

self-esteem, increased levels of depression, and substance use (Coleman & Carter, 2007; Franco & Carter, 2019; Salahuddin & O'Brien, 2011).

Among Multiracial college students specifically, racial discrimination is prevalent. Qualitative findings suggest that most Multiracial college students report experiencing racial discrimination from peers, professors, and the institution at large. Multiracial college students report regularly having their multiracial identities denied, such that they may feel they are not "monoracial enough" to fit in on campus or among peer groups (Harris, 2017; Albuja et al., 2019) or being forced to choose belonging to one racial group on assessments (Museus, 2016). This messaging can communicate lack of legitimacy of racial identification (Bamshad et al., 2004) and can lead to increased rates of negative affect (e.g., depression) among multiracial college students (Franco & Franco, 2016; Reid-Marks et al., 2020). In the absence of quantitative studies investigating multiracial college student discrimination, in the monoracial literature, studies suggest that for example, among Black college students, racial discrimination is associated with drinking behaviors indirectly via depressive symptoms (Su et al., 2021). Despite these findings, the literature is scarce regarding the relationship between Multiracial individuals' racial discrimination experiences and the association with health behaviors.

In assessing Multiracial specific discrimination, there is also a lack of empirically validated instruments assessing the experiences of Multiracial college students. A notable exception is the Multiracial Challenges and Resiliencies Scale (Salahuddin & O'Brien, 2011), which has been shown to be reliable and valid in assessing Multiracial discrimination experiences as well as resiliencies in the lives of Multiracial adults. However, it is unclear whether this scale fully captures the Multiracial college experience with discriminatory events, given the lack of studies using this measure among Multiracial college students. In a similar

vein, another scale for assessing discrimination, the Everyday Discrimination Scale (Williams et al., 1997), has been shown to be a reliable and valid measure for assessing day-to-day discriminatory experiences among diverse racial groups of college students, including Multiracial college students. The Everyday Discrimination Scale, however, does not include assessing for the unique experiences of discrimination that Multiracial college students may encounter such as familial discrimination. Thus, it is important to use both a measure for general discrimination experience and a measure for Multiracial specific discrimination experiences to better capture diverse discriminatory experiences encountered by Multiracial individuals.

Racial Socialization

Racial socialization is a process wherein a transmission of information occurs regarding race (Hughes et al., 2006). Various individuals (e.g., parents, siblings, other family members, peers) can provide racial socialization messages; however, parents are the most commonly reported socializing agents (Coll et al 1996; Maccoby, 1994; Umaña-Taylor & Hill, 2020). In a review, Hughes and colleagues (2006) delineated four recurrent racial socialization themes in the literature: cultural socialization, preparation for bias, promotion of mistrust, and egalitarianism. The most robust of these themes is cultural socialization, which involves providing messages related to the history, culture, and heritage of one's racial group. Preparation for bias includes teaching messages which prepare children for prejudice and discrimination. Promotion of mistrust consists of messages which teach children to be wary of trusting those in other racial groups. Lastly, egalitarianism, a theme less explored in the literature, involves valuing individual qualities rather than racial group membership. These four themes encompass the information from messages surrounding race that are passed on to children (Hughes et al., 2006).

Racial socialization is a vital tool for shaping individuals' understanding of race and identity (Hughes et al., 2006). Among individuals from marginalized monoracial groups (e.g., Black, Asian, American Indian, Latinx), racial socialization has been shown to foster positive beliefs about personal racial groups to counter societal devaluation (Rockquemore & Laszloffy, 2005). Racial socialization is also associated with positive psychological adjustment (fewer depressive symptoms, less perceived stress, fewer problem behaviors, and increased well-being (Bynum et al., 2007; Neblett et al., 2008). Lastly, racial socialization has also been shown to enhance coping with perceived racial discriminatory experiences (among Black youth specifically; Scott, 2004).

The literature on racial socialization, however, largely presumes a homogenous approach concerning race of primary caregiver and child, which neglects Multiracial individuals who may identify with a singular racial identity associated with a primary caregiver's racial identity, an identity that shifts based on context (i.e., Protean), or choose not to identify with a racial group (i.e., Transcendent), with their racial identifications often shifting over time (Rockquemore & Brunsma, 2002; Terry & Winston, 2010). Indeed, racial socialization is complicated for Multiracial individuals and primary caregivers may report challenges associated with socializing their Multiracial child. For example, White parents of Multiracial children report lacking the lifelong experience of being a person of color, resulting in a lack of implicit and explicit knowledge of how to socialize their children (O'Donoghue, 2005; Rauktis et al., 2016). In a similar vein, within-family differences among the primary caregiver dyad exist in providing racial socialization messages to their Multiracial children as a function of race (Gonzales-Backen, 2013). Limited evidence suggests that among Mexican American Multiracial adults, Monoracial fathers from marginalized racial groups were reported to provide the most

socialization messaging to their Multiracial children, followed by monoracial mothers from marginalized racial groups, White mothers, Multiracial mothers, Multiracial fathers, and lastly White fathers (Jackson et al., 2019). This finding suggests there may be differences within caregivers in terms of racial socialization, however, comparable research has not been done with other Multiracial groups. Additionally, no prior research has examined differences in racial socialization provided by primary caregivers and its association with drinking behavior among Multiracial college students.

Protective Role of Racial Socialization in the Association of Discrimination with Drinking Behavior

The protective role of racial socialization in the association of discrimination with drinking behavior has mainly been investigated among monoracial individuals and yielded mixed findings, in large part due to limited studies. Using cross-sectional data, racial socialization did not moderate the relationship between discrimination with drinking behavior among diverse monoracial adolescents (Nieri et al., 2022) or Black college students (Su et al., 2020). On the other hand, in a cross-sectional study of monoracial college students, racial socialization indirectly inhibited drinking behavior by fostering social bonds (Grindal, 2017). To our knowledge, no prior study has studied whether racial socialization is directly associated with drinking behavior or whether racial socialization moderates the relationship of discrimination with drinking behavior among Multiracial college students. Given that Multiracial college students may be at-risk for drinking behavior and report elevated rates of racial discrimination, understanding the role of a racial socialization as potential protective factor, is exigent.

Pandemic-Related Considerations

The COVID-19 pandemic (first reported in January 2020 in the United States; Centers for Disease Control and Prevention [CDC]) has had an unprecedented and contextually novel impact on both discrimination experiences and college student health behaviors (e.g., drinking behavior). Monoracial individuals from marginalized racial groups (e.g., Black communities) have been disproportionately impacted by COVID-19 due to a lack of fair opportunities for economic, physical, and emotional health (CDC, 2020). Regarding discrimination, there has been a rise in Sinophobia (Anti-Chinese sentiments) on the internet and various media platforms (e.g., Twitter; Schild et al., 2020). Concerning drinking behavior among college students, COVID-19 may have changed alcohol use patterns among college students. For example, university closings may have influenced the availability of alcohol for college students. Those college students with access to alcohol could be consuming alcohol at rates different from their typical alcohol usage to cope with the negative affect from their distress related to the pandemic such as social isolation (Lechner et al., 2020; McPhee et al., 2020). In the absence of guiding literature on these unprecedented potential contextual influences, individuals' experiences related to stress caused by COVID-19 and changes in drinking behaviors due to the pandemic were considered.

The Current Study

The overall goal of this cross-sectional study was to extend the literature pertaining to racial socialization, racial discrimination, and drinking behaviors among Multiracial college students. Specifically, the proposed study aimed to identify associations between racial socialization and drinking behavior among Multiracial college students (Aim 1). Using Csizmadia's model (2011) and the Phenomenological Variant of Ecological Systems Theory (2006), it was hypothesized that there would be significant and negative associations between racial socialization and drinking behavior among Multiracial college students (Hypothesis 1).

This study also aimed to examine racial socialization as a protective factor in the association of discrimination (i.e., general discrimination and Multiracial discrimination) with drinking behavior among Multiracial college students (Aim 2). It was hypothesized that the relationship of discrimination with drinking behavior would be weaker among those reporting higher levels of racial socialization (Hypothesis 2). Lastly, an exploratory aim of this study was to examine whether differences across primary caregivers in racial socialization would be associated with drinking behavior among Multiracial college students (Exploratory Aim 1).

Methods

Participants

Undergraduate students ($N = 193$) were recruited from the subject pool for psychology research, through various psychology courses, and through flyers posted around a private, northeastern university. Participants were eligible if they were English-speaking, between the ages of 18 and 25, currently enrolled part-or full-time at the university, indicated lifetime drinking, and self-reported as Multiracial. Approximately 79% of all U.S. college students are between the ages of 18 and 25 (U.S. Census Bureau, 2018), thus age restrictions were included to capture the typical age range of college students. The lifetime drinking eligibility criterion was included to maximize probability of capturing drinking behavior, the primary phenomenon of interest; and abstainers would not have developed drinking behaviors.

Two questions were asked to confirm that participants self-reported as Multiracial. Additionally, participants were asked to report the race(s) and/or ethnicity of their biological parents. Participants who did not report at least two races and/or ethnicity of their biological parents which would qualify them for Multiracial status or participants who did not self-report as Multiracial in the two qualifying questions were excluded from the final sample ($n = 26$). In

addition, two attention checks were implemented within the survey (Keith et al., 2017). All remaining participants answered at least one attention check correctly, thus participants were not excluded. The final sample consisted of 193 participants (see Figure 1).

Procedure

University Institutional Review Board approval was obtained for all study procedures. A cross-sectional questionnaire was completed online and remotely from a location of participants' choosing. All participants ($N = 193$) completed an electronic consent form and web-based questionnaire assessing demographic characteristics, drinking behaviors, racial socialization, discrimination experiences, and COVID-19 related stress and engagement in health behaviors. Most participants were compensated for their participation with SONA (Participating in Psychological Research) credit; extra credit received from participating psychology courses ranging from 1-4% of their overall grade at the discretion of the course instructor. Others received a $5 electronic gift card to either Starbucks or Amazon. Approximately 87% of participants were recruited from SONA or participating psychology courses and 13% were recruited from flyers and received an electronic gift card. A Mann-Whitney U test found that drinking behavior reported by participants recruited from SONA or participating psychology courses did not differ significantly from drinking behavior reported by participants recruited from flyers $U(N_{\text{Sona/PSY courses}} = 143, N_{\text{Flyer}} = 23,) = 1316$, $z = -1.55$, $p = .12$). On average, participants completed the survey in 20 minutes (range = 11 - 40 minutes) and were compensated accordingly.

Measures

Drinking behavior

Drinking behavior was assessed using the Alcohol Use Disorder Identification Test-Consumption (AUDIT-C; Babor et al., 2001; Saunders et al., 1993). The AUDIT-C is a three-item measure derived from the first three items on the AUDIT, "How often did you have a drink containing alcohol in the past year?" "How many drinks containing alcohol did you have on a typical day when you were drinking in the past year?" and "How often did you have six or more drinks on one occasion in the past year?" Participants responded according to a 5-point scale (ranging from 0-4). The overall sum score (range 0-12) suggests the higher the score, the greater alcohol consumption levels. The AUDIT-C is a valid screen for drinking behavior and hazardous drinking among college students, including Multiracial college students (Campbell & Maisto, 2018). Cronbach's alpha for the scale in the current study was .80. In the absence of guiding literature for a cut-off score used specifically for Multiracial college students, the overall sum score was used as a primary outcome in analyses due to effectiveness in detecting drinking behavior among college students (DeMartini & Carey, 2012).

Binge Drinking

Binge drinking (i.e., 5 drinks for males, 4 drinks for females within a two-hour period) within the past 12 months was assessed using one item (National Institute on Alcohol Abuse and Alcoholism [NIAAA], 2003), "During the last 12 months, how often did you have 5 or more (males) or 4 or more (females) drinks containing any kind of alcohol within a two-hour period?" Participants responded according to a 10-point scale (0 = *I did not have 5/4 or more drinks within a two- hour period in the past year*, 1 = *1 or 2 times in the past year*, 2 = *3 to 11 times in the past year*, 3 = *once a month*, 4 = *2 to 3 times a month*, 5 = *once a week*, 6 = *twice a week*, 7 = *3 to 4 times a week*, 8 = *5 to 6 times a week*, 9 = *Every day*). The 12-month timeframe is intended to capture drinkers who may engage in binge drinking albeit infrequently, who might be missed

by a shorter time frame of recall (NIAAA, 2021; LaBrie et al., 2007). Binge drinking frequency was used as a secondary outcome in analyses to examine drinking behaviors among college students (Jackson, 2008).

Racial Socialization

Racial socialization was evaluated using the Familial-Ethnic Socialization Measure (Umaña-Taylor, 2001). This 12-item measure assesses the frequency of which participants perceived that their family socialized them in regard to their race and ethnicity (e.g., *"My family teaches me about the history of my ethnic/cultural background" and "My family celebrates holidays that are specific to my ethnic/cultural background"*) All items are rated on a 5-point Likert scale (1 = *Not at all true*, 5 = *Very often or very much*). This scale has demonstrated excellent levels of Cronbach's alpha coefficients ranging from .92 to .94 among diverse heterogenous samples of monoracial college students (Umaña-Taylor et al., 2004).

For the purpose of the present study, several changes were made to the Familial-Ethnic Socialization Measure. First, items were changed from present-tense to past-tense and worded as, "When I was growing up, this primary caregiver…" so that participants could answer retrospectively (Chong & Kuo, 2015). Second, items were changed to ask about a "primary caregiver" rather than "family," and to account for caregiver differences in Multiracial individuals, participants answered the questions twice, one time for each of two primary caregivers (Chong & Kuo, 2015). A statement was provided to participants, "N*ow, we would like to know about the person you feel RAISED YOU PRIMARILY. If you have more than one primary caregiver, choose the one who is IMPORTANT to you. If you have more than one important primary caregiver, we will ask about ANOTHER person you feel RAISED YOU PRIMARILY shortly."* Students were provided with an option not to answer to one of these item

sets depending on the presence and the number of their primary caregivers. Cronbach's alpha for the scale for the first caregiver was .94 and .95 for the second caregiver in the current study. Racial socialization provided by at least one caregiver, independent of caregiver race has been shown to be associated with positive outcomes in youth (for a review, see Atkin & Yoo, 2019). Thus, given the small number of participants who opted to provide data for two caregivers (n = 82), to maximize sample size while minimizing missing data, rather than averaging to obtain a single racial socialization score, the highest sum score provided by any participant (grand mean centered) was used as a predictor in main analyses.

For exploratory analyses, for participants who provided racial socialization scores for both caregivers, the score provided for the first caregiver was subtracted by the racial socialization score provided for the second caregiver. The absolute value was taken of this difference, for a total difference score and used as a predictor in exploratory analyses.

Discrimination

General discrimination. The Everyday Discrimination Scale (Williams et al., 1997) is a 9-item measure which assesses frequency of discriminatory experiences in day-to-day life (e.g., receiving poorer service than others in restaurants and stores; being called names or insulted). Participants responded to a 6-point scale (0 = *Never*, 1 = *Less than once a year*, 2 = *A few times a year*, 3 = *A few times a month*, 4 = *At least once a week*, 5 = *Almost every day*). Additional items assessed attribution of discrimination to race (0 = *No*; 1 = *Yes*). The Everyday Discrimination Scale has been validated among college students, including Multiracial college students (Greenfield et al., 2021). Cronbach's alpha for the scale in the current study was .82. A continuous total sum score (grand mean centered), ranging from (0 - 45), with higher scores indicating greater frequency of discrimination events, was used as a predictor in main analyses.

Multiracial discrimination. The Multiracial Challenges and Resilience Scale (Salahuddin & O'Brien, 2011) investigates the challenges (i.e., others' surprise and disbelief regarding racial heritage; lack of family acceptance; Multiracial discrimination; and challenges with racial identity) and resiliency (i.e., appreciation of human differences; Multiracial pride) experienced by Multiracial individuals. For the proposed study, we used the first 15-items on challenges or experiences with discrimination that are specific to Multiracial individuals (e.g., "*A family member said something negative about Multiracial/biracial people*" and "*A person outside of my family made a hurtful statement about of the racial group(s) with whom I identify*"). The first 15-items are rated on a 6-point Likert scale for frequency of occurrence (0 = *Never happened to me;* 1 = *Happened to me once;* 2 = *Happened to me 2-4 times;* 3 = *Happened to me 5-7 times;* 4 = *Happened to me 8-10 times;* 5 = *Happened to me more than 10 times*) The first 15-items correspond to four factors (i.e., Others' surprise and disbelief regarding racial heritage; Lack of family acceptance; Multiracial discrimination; and Challenges with racial identity) which have been validated on Multiracial adults, with Cronbach's alpha for the Challenges scale, in the acceptable to good range αs = .68 - .83; Salahuddin & O'Brien, 2011) indicating diverse Multiracial discrimination experiences cluster together. Cronbach's alpha for the scale in the current study was .91. A continuous frequency score (grand mean centered), ranging from (0 – 75) was used as a predictor in main analyses.

Demographics and other covariates

Age (range = 18 – 25), which was included as a continuous variable, sex assigned at birth (0 = *female*, 1 = *male),* and Greek affiliation (0 = *non-member*, 1 = *member*) were assessed and included as covariates based on previous findings demonstrating these sociodemographic

characteristics' associations with drinking behavior among Multiracial college students (Chavez & Sanchez, 2010; Park et al., 2009; Young & Mayson, 2010).

The Patient Health Questionnaire - 4 (PHQ-4; Kroenke et al., 2009) is a 4-item screening tool to assess depression (2-items) and anxiety (2-items). Participants indicated how often they during the past month they felt bothered by, "feeling nervous, anxious or on edge," "not being able to stop or control worrying," "little interest in pleasure in doing things," and "feeling down, depressed, or hopeless." The timeframe of the original measure was adapted from the past 2 weeks and response options were based on a 4-point Likert scale (0 = *not at all* to 3 = *nearly every day*). The PHQ-4 has high sensitivity and specificity in screening for depression and anxiety (Kroenke et al., 2009) and is reliable and valid to use for assessing negative affect among college students (Khubchandani et al., 2016). There are well-known associations between negative affect and drinking behavior among college students (Löwe et al., 2010), with discrimination also to be shown be associated in this relationship (Goodhines et al., 2020). Thus, a sum score of the PHQ-4 (ranging from 0-12), with higher scores suggesting greater negative affect, was included as a covariate in analyses.

The Pandemic Stress Index (Harkness, 2020) was used to evaluate experiences of individuals related to stress caused by COVID-19. The Pandemic Stress Index is a 3-item measure assessing behaviors during COVID-19 (e.g., practice social distancing; quarantining; caring for someone), how COVID-19 impacted day-to-day life, and outcomes (e.g., sleep, alcohol, anxiety, depression, stigma, fear of getting disease). Participants were asked to select as many behaviors and outcomes from the questions. Psychometrics have not yet been developed on this unpublished measure, however, given the relevancy of this measure as it may relate to

drinking behavior, the outcome questions, with the absence of alcohol specific outcomes was summed to create a total measure of outcomes, and were used as a covariate in main analyses.

Data Analytic Strategies

Data Diagnostics

Descriptive statistics and bivariate correlations were computed using IBM *SPSS* Version 27 (IBM Corp. 2020). Shapiro-Wilk normality tests and graphical inspection were used to identify outliers, outliers, skewness, kurtosis, and non-normality among all study variables. Shapiro-Wilk normality tests calculated using SPSS found the drinking behavior variable response scales to have abnormally distributed residuals at $p < .001$. Kurtosis scores calculated using SPSS were all within an acceptable range (kurtosis < |2|).

Bivariate correlations among study variables (i.e., Pearson's correlation coefficients for two continuous variables, Spearman's coefficients for continuous and dichotomous variables, and Phi coefficients for two dichotomous variables) were computed for all study variables (see Table 1).

Path analysis was conducted using *Mplus* Version 8.1 (Muthén and Muthén 2018), which allowed for estimation of complex relationships among multiple variables in a single model simultaneously. Full information maximum likelihood estimation (Graham et al., 2003) was used to accommodate missing data (see Table 1). Drinking behavior and binge drinking which represent counts of observed behavior despite ordinal Likert response options, were treated as count variables in analyses to enable specification of non-normal distribution and accommodate predictable positive skew of college student responses. Drinking behavior ($M = 4.83$; variance = 6.06, dispersion parameter = 0.13; $p = 1.00$) and past-year binge drinking ($M = 2.60$; variance =

2.20, dispersion parameter = 0.56; $p = 1.00$) were conservatively modeled with a negative binomial (vs. Poisson) distribution due to its relatively less restrictive modeling assumptions (Gardner et al., 1995), despite nonsignificant dispersion parameters (Goodhines et al., 2020). Montecarlo integration was used to model the influence of continuous variables (i.e., racial socialization and discrimination) on the count outcome variables (Muthén and Muthén 1998–2017, pp. 526–529). McFadden's R^2 was used for negative binomial models and is defined as 1-LL_{mod} / $LL_{0,}$ where LL_{mod} is the log likelihood value for the fitted model, and LL_0 is the log likelihood for the null model which includes only the intercept as a predictor, such that the slope of each covariate is set to 0 (Hilbe, 2011). For significant interactions, simple slopes were examined to clarify racial socialization differences in associations of discrimination with drinking behavior (Aiken & West, 1991). Standardized regression coefficients are presented for an effect-size measure of predictor variables (i.e., racial socialization and discrimination), with bootstrapped 95% confidence intervals (CI's) also presented.

Aim 1 Analysis

Outcome variables of drinking behavior and binge drinking were analyzed using path analysis. To test the aim of investigating the association between racial socialization on drinking behavior (Aim 1), a fully saturated path model (and thus no model fit indices) was estimated. Grand mean centered racial socialization, age, male sex, Greek affiliation, negative affect, and pandemic stress were estimated as predictors with drinking behavior as an outcome variable. To test the aim of the secondary outcome, past-year binge drinking was entered as an outcome for a separate model with the predictors remaining the same. Standardized coefficients bootstrapped 95% CI's, p-values, as well as unstandardized coefficients and their *SE* were reported.

Aim 2 Analysis

To test the aim of the protective role of racial socialization in the association of discrimination with drinking behavior, a fully saturated path model (and thus no model fit indices) was estimated to test the interaction effect of socialization in the association of general discrimination and Multiracial discrimination with drinking behavior. Two models were specified. The first model estimated grand mean centered general discrimination, grand mean centered racial socialization, the interaction (i.e., racial socialization * general discrimination), age, male sex, Greek affiliation, negative affect, and pandemic stress as predictors with drinking behavior as an outcome variable. The second model estimated grand mean centered Multiracial discrimination, grand mean centered racial socialization, the interaction (i.e., racial socialization * Multiracial discrimination), age, male sex, Greek affiliation, negative affect, and pandemic stress as predictors with drinking behavior as an outcome variable. To test the aim of the secondary outcome, two additional models (using the same predictor variables) were specified to test the interaction effect of socialization in the association of general discrimination and Multiracial discrimination with binge drinking. Standardized coefficients bootstrapped 95% CI's, *p*-values, as well as unstandardized coefficients and their *SE* were reported (see Table 2).

Exploratory Aim Analysis

To test the exploratory aim of investigating the association of caregiver differences in racial socialization on drinking behavior (Exploratory Aim 1), a fully saturated path model (and thus no model fit indices) was estimated to test the association of caregiver differences in socialization on drinking behavior. Caregiver socialization difference (absolute value), age, male sex, Greek affiliation, negative affect, and pandemic stress were estimated as predictors with drinking behavior as an outcome variable. To test the secondary outcome, caregiver socialization difference (absolute value), age, male sex, Greek affiliation, negative affect, and pandemic stress

were estimated as predictors with binge drinking specified as an outcome variable. Standardized coefficients, bootstrapped 95% CI's, *p*-values, as well as unstandardized coefficients and their *SE* were reported.

Power analysis

A priori analysis was conducted using the software program G*Power (Faul et al., 2009; Faul et al., 2007) to determine the sample sizes required to test the aforementioned aims. Heads and colleagues (2021) provided an effect size for the moderating role of racial socialization on the association between discrimination and drinking behavior (R^2 = .056), albeit among Black college students. Power analysis results using the negative binomial distribution indicated that 138 participants would be needed to achieve a threshold power of .80 at the two-tailed alpha level of .05. Thus, the final sample data of 193 participants would provide sufficient power to detect associations with drinking behavior, if present.

Ancillary Analyses

Two sets of ancillary analyses were conducted. First, residual error covariance between the two primary outcomes (i.e., AUDIT-C and one past-year binge drinking frequency item) was modeled by specifying a latent factor. A path model was estimated for all main analyses, with the use of a latent factor with four indicators (i.e., all three items on the AUDIT-C, and one past-year binge drinking frequency item) as an outcome variable. Original hypothesized models were compared to the latent factor model by using the Akaike Information Criterion (AIC) and sample-adjusted Bayesian Information Criterion (BIC). Smaller values indicate better model fit. Model fits that supported use of the latent factor were then reported.

Second, the indirect role of negative affect in the relationship of discrimination and socialization with drinking behaviors was investigated. To test this, a fully saturated path model was estimated. Specifically, discrimination, socialization, and the interaction of discrimination * socialization were included as predictors. Indirect paths included discrimination to negative affect, socialization to negative affect, the interaction (discrimination * socialization) to negative affect, and negative affect to drinking behaviors. Indirect effects were calculated by multiplying unstandardized coefficients of the indirect paths leading to alcohol use. Significance of serial indirect pathways were assessed using 95% confidence intervals (CIs) based on 10,000 resamples; CIs that did not encompass zero indicated significance. This bootstrapping method has demonstrated superior performance and power to detect indirect effects comparable to other traditional methods (e.g., Sobel test; Preacher & Selig, 2012). The direct path included a path from discrimination to drinking behaviors, socialization to drinking behaviors, and the interaction (discrimination * socialization) to drinking behaviors, after accounting for indirect paths. Age, male sex, Greek affiliation, and pandemic stress were included as covariates.

Results

Descriptive Analyses

Sample characteristics and bivariate correlations among study variables are presented in Table 1. The final sample (N = 193) was 30% male, and the average age of participants was 20 years (SD = 1.33). Approximately 33% reported Greek affiliation.

Regarding COVID-19 pandemic drinking, 40% of Multiracial college students reported a decrease in alcohol frequency, 25% reported the same alcohol frequency and 35% reported an increase in alcohol frequency. Regarding alcohol quantity, 36% of Multiracial college students

reported a decrease in alcohol quantity, 34% reported the same alcohol quantity, and 30% reported an increase in alcohol quantity during the COVID-19 pandemic.

A majority of Multiracial college students (85%) reported experiencing general discrimination at least once in their life. Approximately 70% of Multiracial college students reported Multiracial discrimination at least once in their life. Of Multiracial college students in the sample reporting Multiracial discrimination, a majority (ranging from 73-98% of the sample) reported distress associated with the racial discriminatory event. Nearly 54% of Multiracial college students reported racial discrimination from their family members and 36% reported racial discrimination from peers and other non-family members.

Regarding caregiver racial socialization, 88% (n =174) of participants endorsed their mother as the first caregiver they reported receiving racial socialization from (caregiver racial breakdown: 42% White; 17% Black or African American; 4% American Indian or Alaska Native; 24% Asian; 2% Native Hawaiian or Other Pacific Islander; and 23% Hispanic, Latinx, or of Spanish origin), with an average of 41.98 (SD = 12.11; range 0 – 60). A smaller subsample (n = 108) also reported racial socialization for a second caregiver; 83% of Multiracial college students endorsed their father as the second caregiver (caregiver racial breakdown: 31% White; 8% Black or African American; 4% American Indian or Alaska Native; 9% Asian; 1% Native Hawaiian or Other Pacific Islander; 13% Hispanic, Latinx, or of Spanish origin; and 4% Other) and similarly reported an average of 40.54 (SD = 13.13). Prevalence of caregiver socialization from both caregivers among our Multiracial college sample was reportedly higher than prevalence of caregiver socialization provided to diverse monoracial and Multiracial college students (Grindal, 2017), but lower than Black college students (Bowman Heads et al., 2018; Heads, 2020). Approximately 92% of Multiracial college students reported their caregivers being

their parents (versus grandparent, stepparent, etc.), with 79% their caregivers presently married, 17% divorced, and 4% separated.

The average level of drinking behavior reported by Multiracial college students (M = 4.83, SD = 2.46; range = 1 - 12) was similar to diverse college students, inclusive of Multiracial identification (M = 4.88, SD = 2.88; range = 1 – 12; Russell & Barry, 2021). It should be noted that our sample did not include abstainers whereas the reported sample did include abstainers. In our sample, 57% of Multiracial college students reported past-year binge drinking and 18% reported more frequent past-month binge drinking. In a national sample of Multiracial college-aged individuals, 25% reported past-month binge drinking (NSDUH, 2021).

Aim 1: Investigating the relationship between racial socialization and drinking behavior

Inconsistent with our hypotheses, racial socialization was not associated with drinking behavior (b = 0.00, SE = 0.003; β = 0.04, 95% bootstrapped CI [-0.45, 0.53], p = .88). Racial socialization was also not associated with past-year binge drinking (b = 0.01, SE = 0.01, β = 0.57, 95% bootstrapped CI [-0.04, 1.17], p = .13), after controlling for covariates of age, male sex, Greek affiliation, negative affect, and pandemic stress.

Aim 2: Determining the protective role of socialization in the association of discrimination with drinking behavior

As shown in Table 2, racial socialization moderated the effect of general discrimination with drinking behavior (b = 0.001, SE = 0.001, β = 0.45, 95% bootstrapped CI [0.09, 0.81], p = .03) after controlling for covariates of age, male sex, Greek affiliation, nativity, negative affect, and pandemic stress. As shown in Figure 3, our hypothesis was not supported as general discrimination with drinking behavior was negatively related among receiving low levels of

racial socialization (i.e., one standard deviation below the mean; b = -0.01, SE = 0.01, 95% CI [-0.20, 0.00], p =.04) and results demonstrated a nonsignificant relationship among high levels of racial socialization (i.e., one standard deviation above the mean; b = 0.07, SE = 0.01, 95% CI [-.04, .17], p =.19).

Racial socialization also did not moderate the effect of general discrimination with past-year binge drinking (b = 0.002, SE = 0.001, β = 0.54, 95% bootstrapped CI [0.000, 1.09], p = .10), after controlling for covariates of age, male sex, Greek affiliation, nativity, negative affect, and pandemic stress.

Inconsistent with our hypotheses, we did not find a significant interaction effect between Multiracial discrimination and racial socialization with drinking behavior (b = 0.00, SE = 0.00, β = 0.02, 95% bootstrapped CI [-0.53, 0.58], p = .93) after controlling for covariates of age, male sex, Greek affiliation, nativity, negative affect, and pandemic stress. Similarly, we did not find a significant interaction effect between Multiracial discrimination and racial socialization with past-year binge drinking (b = 0.000, SE = 0.000, β = -0.23, 95% bootstrapped CI [-0.92, 0.47], p = .55), after controlling for covariates of age, male sex, Greek affiliation, negative affect, and pandemic stress.

Exploratory Aim 1: Investigating the association of caregiver differences in racial socialization with drinking behavior

For the exploratory aim, differences in racial socialization were not associated with drinking behavior (b = 0.01, SE = 0.01, β = 0.43, 95% bootstrapped CI [-0.22, 1.08], p = .28) or past-year binge drinking (b = 0.02, SE = 0.01, β = 0.65, 95% bootstrapped CI [0.08, 1.22], p =

.08), after controlling for covariates of age, male sex, Greek affiliation, negative affect, and pandemic stress.

Ancillary Analyses

First, replicated models with a latent factor suggested better model fit for hypothesis 1, (AIC = 1778.54; BIC = 1835.09) compared to the outcome of AUDIT-C (AIC = 6408.92; BIC = 6523.12) or past-year binge drinking frequency (AIC = 6371.65; BIC = 6485.84). Consistent with primary analysis, racial socialization was not associated with the latent drinking factor (b = 0.00, SE = 0.003; β = 0.01, 95% bootstrapped CI [-0.07, 0.08], p = .88). For hypothesis 2, replicated models using a latent factor did not provide better model fit for general discrimination (AIC = 10494.53; BIC = 10703.34) nor for Multiracial discrimination (AIC = 11125.23; BIC = 11334.04) than the original model for general discrimination and AUDIT-C (AIC = 9334.19; BIC = 9510.38), for general discrimination and past-year binge drinking frequency (AIC = 9299.48; BIC = 9475.66), for Multiracial discrimination and AUDIT-C (AIC = 9968.72; BIC = 10144.90), or for Multiracial discrimination and past-year binge drinking frequency (AIC = 9930.85; BIC = 10107.03). For exploratory aim 1, replicated models using a latent factor (AIC = 1078.05; BIC = 1125.99) did not provide better model fit than the original AUDIT-C (AIC = 5769.92; BIC = 5884.12) or past-year binge drinking frequency (AIC = 5733.29; BIC = 5847.48) outcomes.

Second, the indirect relationship of general discrimination with drinking behavior via negative affect yielded patterns of non-significance consistent with primary analyses. Specifically, an indirect path from racial socialization to drinking behavior via negative affect after controlling for covariates was not significant (b = 0.00, SE = 0.00, β = -0.02, 95% bootstrapped CI [-0.06, 0.03], p = .44). Similarly, we did not find a significant indirect path from

general discrimination to drinking behavior via negative affect (b = 0.003, SE = 0.002, β = 0.07, 95% bootstrapped CI [-0.03, 0.18], p = .44). We did not find a significant indirect path from the interaction of racial socialization * general discrimination (b = 0.00, SE = 0.00, β = -0.02, 95% bootstrapped CI [-0.06, 0.03], p = .47) to drinking behavior. After accounting for indirect paths and covariates racial socialization was not directly associated with drinking behavior (b = 0.00, SE = 0.003, β = -0.01, 95% bootstrapped CI [-0.35, 0.33], p = .96) and general discrimination was not directly associated with drinking behavior (b = -0.01, SE = 0.01, β = -0.19, 95% bootstrapped CI [-0.58, 0.21], p = .37). The interaction of racial socialization * general discrimination was, however, directly associated with drinking behavior (b = 0.001, SE = 0.001, β = 0.37, 95% bootstrapped CI [0.08, 0.65], p = 0.03).

The indirect relationship of Multiracial discrimination with drinking behavior via negative affect yielded patterns of non-significance consistent with primary analyses. Specifically, an indirect path from racial socialization to drinking behavior via negative affect after controlling for covariates was not significant (b = 0.00, SE = 0.00, β = -0.03, 95% bootstrapped CI [-0.08, 0.03], p = .31). Similarly, we did not find a significant indirect path from Multiracial discrimination to drinking behavior via negative affect (b = 0.001, SE = 0.001, β = 0.09, 95% bootstrapped CI [-0.02, 0.21], p = .15). We did not find a significant indirect path from the interaction of racial socialization * Multiracial discrimination (b = 0.00, SE = 0.00, β = -0.001, 95% bootstrapped CI [-0.04, 0.04], p = .96). After accounting for indirect paths and covariates racial socialization was not directly associated with drinking behavior (b = 0.00, SE = 0.003, β = 0.01, 95% bootstrapped CI [-0.37, 0.39], p = .95) Multiracial discrimination was not directly associated with drinking behavior (b = -0.002, SE = 0.003, β = -0.17, 95% bootstrapped CI [-0.55, 0.21], p = .39). The interaction of racial socialization * general discrimination was not

directly associated with drinking behavior (b = 0.00, SE = 0.00, β = 0.03, 95% bootstrapped CI [-0.40, 0.45], p = .90).

The indirect relationship of general discrimination with past-year binge drinking frequency via negative affect yielded patterns of non-significance consistent with primary analyses. Specifically, an indirect path from racial socialization to past-year binge drinking frequency via negative affect after controlling for covariates was not significant (b = -0.01, SE = 0.001, β = -0.01, 95% bootstrapped CI [-0.04, 0.02], p = .46). Similarly, we did not find a significant indirect path from general discrimination to past-year binge drinking frequency via negative affect (b = 0.004, SE = 0.004, β = 0.04, 95% bootstrapped CI [-0.03, 0.11], p = .25). We did not find a significant indirect path from the interaction of racial socialization * general discrimination (b = 0.00, SE = 0.00, β = -0.01, 95% bootstrapped CI [-0.04, 0.02], p = .51) to past-year binge drinking frequency. After accounting for indirect paths and covariates racial socialization was not directly associated with past-year binge drinking frequency (b = 0.07, SE = 0.01, β = 0.14, 95% bootstrapped CI [-0.07, 0.35], p = .20) and general discrimination was not directly associated with past-year binge drinking frequency (b = 0.00, SE = 0.001, β = -0.00, 95% bootstrapped CI [-0.22, 0.21], p = .97). The interaction of racial socialization * general discrimination was not directly associated with past-year binge drinking frequency (b = 0.001, SE = 0.001, β = 0.17, 95% bootstrapped CI [-0.04, 0.37], p = .13).

The indirect relationship of Multiracial discrimination with drinking behavior via negative affect yielded patterns of non-significance consistent with primary analyses. Specifically, an indirect path from racial socialization to drinking behavior via negative affect after controlling for covariates was not significant (b = 0.00, SE = 0.00, β = -0.03, 95% bootstrapped CI [-0.08, 0.03], p = .31). Similarly, we did not find a significant indirect path from

Multiracial discrimination to drinking behavior via negative affect (b = 0.001, SE = 0.001, β = 0.09, 95% bootstrapped CI [-0.02, 0.21], p = .15). We did not find a significant indirect path from the interaction of racial socialization * Multiracial discrimination (b = 0.00, SE = 0.00, β = -0.001, 95% bootstrapped CI [-0.04, 0.04], p = .96). After accounting for indirect paths and covariates racial socialization was not directly associated with drinking behavior (b = 0.00, SE = 0.003, β = 0.01, 95% bootstrapped CI [-0.37, 0.39], p = .95) Multiracial discrimination was not directly associated with drinking behavior (b = -0.002, SE = 0.003, β = -0.17, 95% bootstrapped CI [-0.55, 0.21], p = .39). The interaction of racial socialization * general discrimination was not directly associated with drinking behavior (b = 0.00, SE = 0.00, β = 0.03, 95% bootstrapped CI [-0.40, 0.45], p = .90).

The indirect relationship of Multiracial discrimination with past-year binge drinking frequency via negative affect yielded patterns of non-significance consistent with primary analyses. Specifically, an indirect path from racial socialization to past-year binge drinking frequency via negative affect after controlling for covariates was not significant (b = -0.001, SE = 0.001, β = 0.15, 95% bootstrapped CI [-0.04, 0.01], p = .37). Similarly, we did not find a significant indirect path from Multiracial discrimination to past-year binge drinking frequency via negative affect (b = 0.002, SE = 0.002, β =0.04, 95% bootstrapped CI [-0.03, 0.11], p = .26). We did not find a significant indirect path from the interaction of racial socialization * Multiracial discrimination (b = 0.00, SE = 0.00, β = 0.00, 95% bootstrapped CI [-0.02, 0.02], p = .96) to past-year binge drinking frequency. After accounting for indirect paths and covariates racial socialization was not directly associated with past-year binge drinking frequency (b = 0.01, SE = 0.01, β = 0.15, 95% bootstrapped CI [-0.05, 0.35], p = .16) and Multiracial discrimination was not directly associated with past-year binge drinking frequency (b = -0.01, SE = 0.01, β = -

0.12, 95% bootstrapped CI [-0.33, 0.08], p = .24). The interaction of racial socialization * Multiracial discrimination was not directly associated with past-year binge drinking frequency (b = 0.00, SE = 0.00, β = -0.07, 95% bootstrapped CI [-0.29, 0.15], p = .52).

Discussion

A growing empirical literature demonstrates that Multiracial college students endorse a high prevalence of at-risk health behaviors, such as drinking behavior. Yet, little is known about potential risk and protective factors of drinking behavior among this understudied population. Guided by Csizmadia's (2011) model, this single-wave online survey study of 193 Multiracial college students added to the limited extant literature by examining (Aim 1) associations of caregiver racial socialization with drinking behavior, and (Aim 2) caregiver racial socialization as a potential moderator of the relationship of discrimination with drinking behavior. Inconsistent with our study hypothesis, racial socialization was not associated with drinking behavior. While racial socialization moderated the effect of general discrimination with drinking behavior (as measured by the AUDIT-C), Multiracial college students low in racial socialization reported an inverse relationship between general discrimination and drinking behavior, inconsistent with our hypothesis. Racial socialization did not moderate the effect of Multiracial discrimination with drinking behavior. Contrary to our study hypothesis, racial socialization did not moderate the effect of general nor Multiracial discrimination with binge drinking. Caregiver differences in racial socialization were not associated with drinking behavior nor binge drinking. Nonetheless, these novel findings allow researchers to begin to understand the relationship between racial socialization, discrimination, and drinking behaviors among multiracial college students, who have been largely excluded or not differentiated in the extant literature.

Drinking behavior

Drinking behavior was assessed in the current study by using the AUDIT-C, which evaluates alcohol frequency, quantity, and binge drinking in the past year. Contrary to hypotheses, racial socialization was not protective in the relationship of general or Multiracial discrimination with drinking behaviors among Multiracial college students. Racial socialization moderated the effect of general discrimination with drinking behaviors, such that multiracial college students reporting low levels of racial socialization (one standard deviation below the mean) reported a significant inverse relationship between general discrimination with drinking behavior. These results suggest that for Multiracial college students who reported receiving low levels of socialization and high levels of general discrimination, also reported lower drinking behaviors and thus, Multiracial college students may not be engaging in coping-related drinking. Ancillary analyses demonstrated that negative affect was not a mechanism by which discrimination was related to drinking behaviors for Multiracial college students. Perhaps it may be that racial socialization provided by primary caregivers is not protective for multiracial college students in the relationship of discrimination with drinking behaviors.

Egalitarian socialization, or messages that focus on shared values and commonalities among all people (Priest et al., 2014) is the most common form of socialization provided to Multiracial youth (Nuru & Soliz, 2014). It is possible that this form of socialization does not protect Multiracial college students from the distress associated with experiencing general and Multiracial discrimination. Racial socialization stemming from monoracial experiences may not align with the racial experiences of their Multiracial child (Root, 2003) and can subsequently weaken their Multiracial child's ability to feel a sense of belonging to either a monoracial group or a Multiracial group (Vivero & Jenkins, 1999). In turn, caregivers may not be providing

cultural socialization or preparation for bias messaging which may not protect Multiracial college students against Multiracial specific discrimination. For example, caregivers may not be aware that their Multiracial child is experiencing racial discrimination from peers in racial groups that the child identifies with and may not have prepared the child to demonstrate specific cultural knowledge to demonstrate group membership (Rollins & Hunter 2013; Rondilla et al., 2017). However, the current study did not assess specific socialization measures provided to Multiracial college students, which may be a direction for future research.

Given the largely unexplored nature of racial socialization, racial discrimination, and drinking behavior among Multiracial college students, it is possible that current scales of measurement may not fully be capturing the experience of Multiracial college students. Racial socialization was measured using the Familial Ethnic Socialization Measure (Umaña-Taylor et al., 2004). This scale, while adapted for Multiracial youth, was created for marginalized monoracial groups (Umaña-Taylor et al., 2004). As Multiracial college students were asked to respond to the measure twice (one for each caregiver), perhaps this approach frames Multiracial identity as the sum of two monoracial categories and not entirely representative of the Multiracial socialization experience (Atkin et al., 2021). Similarly, the first 15-items of the Multiracial Challenges and Resiliencies Scale was used to assess Multiracial specific discriminatory experiences. Given the few studies using the scale, validity and reliability of this scale for Multiracial college students specifically, warrants further research. The Everyday Discrimination Scale, used for assessing general discrimination, while widely validated and empirically supported, may not fully capture the unique aspects of discrimination experienced by Multiracial individuals. Future research validating these measures specific for Multiracial college students may help with understanding how racial socialization is practiced in Multiracial families

and how racial socialization is associated with the relationship between discrimination and drinking behavior.

Inconsistent with our study hypothesis, caregiver differences in racial socialization were not associated with drinking behavior. Caregivers of Multiracial individuals are tasked with preparing children to negotiate their Multiracial racial identity and cope with racial discrimination, which is distinct and disparate from their own experiences (Rockquemore & Laszloffy, 2005; Rollins & Hunter, 2013). Caregivers' attitudes toward race and racial experiences may differ from each other and from those of their Multiracial children (Csizmadia et al., 2014). This may then lead to a caregiver potentially providing more or less racial socialization than the other caregiver (Rollins & Hunter, 2013); for example, White fathers provide the lowest frequencies of racial socialization and White mothers and Black fathers provide the highest frequency of racial socialization as compared to caregivers from other racial groups. Further, emerging literature is exploring the influence of peers as a potential socializing agent (Su et al., 2020). Taking into consideration the developmental context of college students, peers may serve as a salient influence on college students' drinking behavior (Borsari & Carey, 2001). Peers who share the same or similar racial identity with Multiracial college students may then provide socialization which could curtail drinking behavior consumption (Wang & Benner, 2016). Another socializing agent which could be salient, particularly for Multiracial college students is a sibling (Atkin & Yoo, 2019). Siblings may share the experience of navigating their Multiracial identity development in a family with monoracial primary caregivers, however, no prior research has examined this.

Binge Drinking

Contrary to our study hypothesis, caregiver racial socialization was not associated with binge drinking among Multiracial college students. The larger body of racial socialization and alcohol use literature which assumes all family members share a singular racial identity, has been focused on Black adolescents. Limited findings suggest that among diverse monoracial and Multiracial adolescents, racial socialization is not directly associated with binge drinking (Zapolski & Clifton, 2019).

Also inconsistent with our study hypothesis, racial socialization did not moderate the effect of general or Multiracial discrimination on binge drinking. Ancillary analyses demonstrated that a latent factor combining drinking behavior and binge drinking was not supported through model fit, and thus independently looking at binge drinking and drinking behavior (Letourneau et al., 2017). Our study sample reported lower rates of binge drinking than a national sample (NSDUH, 2021), which may limit the generalizability of the results. Further replication is warranted with a larger nationally representative sample to determine the patterns of Multiracial college student binge drinking.

We did not find support for the relationship between caregiver differences and binge drinking, inconsistent with our exploratory aim. As aforementioned, caregivers' racial socialization may not be associated with Multiracial individuals' binge drinking in the same way it might for monoracial individuals. Additional research on binge drinking and the intricacies of racial socialization in Multiracial families is needed.

Clinical Implications

Results of the current study may inform clinical intervention efforts. While efficacious treatments for drinking behavior consumption for college students in general exist (Mallett et al.,

2013), interventions tailored to Multiracial college students may be especially beneficial for this racial group to address unique risk factors and promote protective factors by which their drinking behavior operates. Indeed, mental health interventions developed for and provided to specific racial groups have shown to be more successful than traditional mental health interventions developed for an provided to all racial groups (Griner & Smith, 2006). These findings may also help clinicians to be culturally aware of an at-risk racial group and thus help Multiracial individuals and their families work together in addressing racial socialization.

Limitations and Future Directions

Notwithstanding novel findings, limitations of the current study must be considered. First, a sample of 193 Multiracial college students was recruited. While this sample provided sufficient power for analyses, a larger sample may provide support for more robust findings. Second, data were drawn from a sample of students enrolled in a northeastern private university. Because drinking patterns vary by individual and school characteristics (Johnston et al., 2015), and Multiracial college students in our sample reported lower levels of drinking behavior as compared to a national sample, replication in samples with greater demographic heterogeneity is warranted to investigate generalizability of the current results to the larger college student population. Third, cross-sectional data were collected retrospectively, which did not allow for extricating long-term versus concurrent influences of racial socialization, subjective assessments may have been vulnerable to self-reporting errors (e.g., under or over-reporting substance use), and causality could not be determined. Fourth, our sample consisted of lifetime drinkers. It is possible there is a relationship between Multiracial college students who received high levels of socialization with drinking abstinence. Fifth, while the outcome measures (i.e., drinking behaviors and binge drinking) assessed drinking within the past-year timeframe, a similar

timeframe was not provided for the discrimination and socialization measures. Perhaps the varying timeframe influenced results. Sixth, racial identification was not assessed among Multiracial college students, which is theoretically associated with racial socialization and an area for future research. Lastly, Multiracial college students were amalgamated into one group when there is literature to suggest differential patterns of drinking behaviors within the Multiracial group (e.g., Goings et al., 2020).

This study's findings open several avenues for future research. Using longitudinal data consisting of a large, representative sample would allow for researchers to draw meaningful, potentially casual conclusions about the direct and indirect effects of racial socialization. A larger sample may also allow for researchers to explore within-group differences, rather than exploring one distinct Multiracial group. Future research may consider exploring different themes, frequencies, and agents of socialization and how that is related to drinking behavior, inclusive of individuals who may abstain from drinking (Christophe et al., 2021). Similarly, more fine-grained data, such as that collected via daily diary or ecological momentary assessment may shed light on the parallel influences of racial socialization and racial discrimination on drinking behavior. Lastly, further validation of current measurement scales may elucidate our understanding of health behaviors and associated factors among this understudied population.

Conclusions

This study's novel findings suggest the relationship between general or multiracial discrimination with drinking behaviors was not weaker among those reporting higher levels of racial socialization. Although replication and further explication is needed, current findings offer initial evidence to paucity of literature on racial socialization, general and Multiracial

discrimination, and drinking behavior among Multiracial college students, which could potentially inform clinical alcohol interventions and/or programming and anti-discrimination policies.

Table 1

Bivariate Correlations of Demographic, Psychosocial, and Drinking-Related Variables

Study variables (range)	*n*	*M* (*SD*) or %	*r*									
			1	2	3	4	5	6	7	8	9	10
1. Age (18-25)	193	20.34 (1.33)	-									
2. Male sex (1=yes/0=no)	193	30%	**.15***	-								
3. Greek affiliation (1=yes/0=no)	187	32%	-.05	-.06	-							
4. Pandemic stress (0-14)	193	5.45 (3.57)	-.04	-.09	.12	-						
5. Negative affect (0-12)	173	4.50 (3.79)	-.14	- **.25****	-.12	**.27****	-					
6. Racial socialization (0-60)	175	43.73 (12.04)	.02	-.07	.05	.04	-.06	-				
7. Caregiver difference in racial socialization (0-34)	107	6.80 (7.57)	.12	-.05	-.13	.18	**.23***	**.22***	-			
8. General discrimination (0-40)	164	15.16 (6.15)	-.06	.03	- **.22****	.15	**.30****	-.04	**.23***	-		
9. Multiracial discrimination (0-75)	165	13.98 (14.98)	-.12	-.06	-.06	**.22****	**.36****	.04	**.34****	**.50****	-	
10. Drinking behavior (AUDIT-C; 0-12)	166	4.83 (2.46)	-.03	**.18***	**.20***	.13	.09	-.04	.09	-.04	-.03	-
11. Past-year binge drinking frequency (0-8)	171	2.60 (2.20)	.01	.08	.15	.08	.08	.07	.18	.01	-.05	**.76****

Note. Pearson's *r* correlation statistics are reported for two continuous variables (i.e., age and all alcohol variables). Spearman's r_s correlation statistics are reported for continuous variables and a dichotomous variable (e.g., sex). Phi coefficients are reported for two dichotomous variables (e.g., sex and Greek affiliation). Significant correlations at $p < .05$ are denoted in bold. *$p < .05$; **$p < .01$.

Table 2.

Results from models estimating the moderating effect of socialization in the association of discrimination with drinking behavior

	Outcomes			
	Drinking behavior		Binge drinking	
Predictors/covariates	*ß*	95% CI	*ß*	95% CI
Model of general discrimination	R^2 = .14		R^2 = .15	
Age	- 0.19	[- 0.62, 0.23]	- 0.01	[- 0.70, 0.54]
Sex	**0.67****	[0.31, 1.03]	0.38	[- 0.21, 0.97]
Greek affiliation	**0.24***	[0.00, 0.48]	0.38	[0.00, 0.76]
Pandemic stress	**0.46***	[0.09, 0.84]	0.31	[- 0.30, 0.91]
Negative affect	0.40	[- 0.01, 0.81]	0.42	[- 0.23, 1.08]
Socialization	0.02	[- 0.39, 0.43]	0.52	[- 0.03, 1.06]
General discrimination	- 0.23	[- 0.72, 0.26]	- 0.04	[- 0.71, 0.62]
Socialization * General discrimination	**0.45***	[0.09, 0.81]	0.54	[0.00, 1.09]
Model of Multiracial discrimination	R^2 = .19		R^2 = .18	
Age	- 0.21	[- 0.68, 0.33]	- 0.01	[- 0.72, 0.56]
Sex	**0.72****	[0.36, 1.09]	0.42	[- 0.18, 1.03]
Greek affiliation	**0.34***	[0.02, 0.67]	**0.48***	[0.02, 0.93]
Pandemic stress	**0.49***	[0.08, 0.91]	0.02	[- 0.22, 1.03]
Negative affect	0.41	[- 0.04, 0.85]	0.03	[- 0.18, 1.12]
Socialization	0.05	[- 0.44, 0.53]	0.01	[- 0.02, 1.11]
Multiracial discrimination	- 0.18	[- 0.68, 0.33]	- 0.01	[- 1.01, 0.49]
Socialization * Multiracial discrimination	0.02	[- 0.53, 0.58]	0.00	[- 0.92, 0.47]

Note. N = 193. Results of models are based on negative binomial regression, standardized coefficients, 95% Confidence Intervals and McFadden's Pseudo R^2 are reported.

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

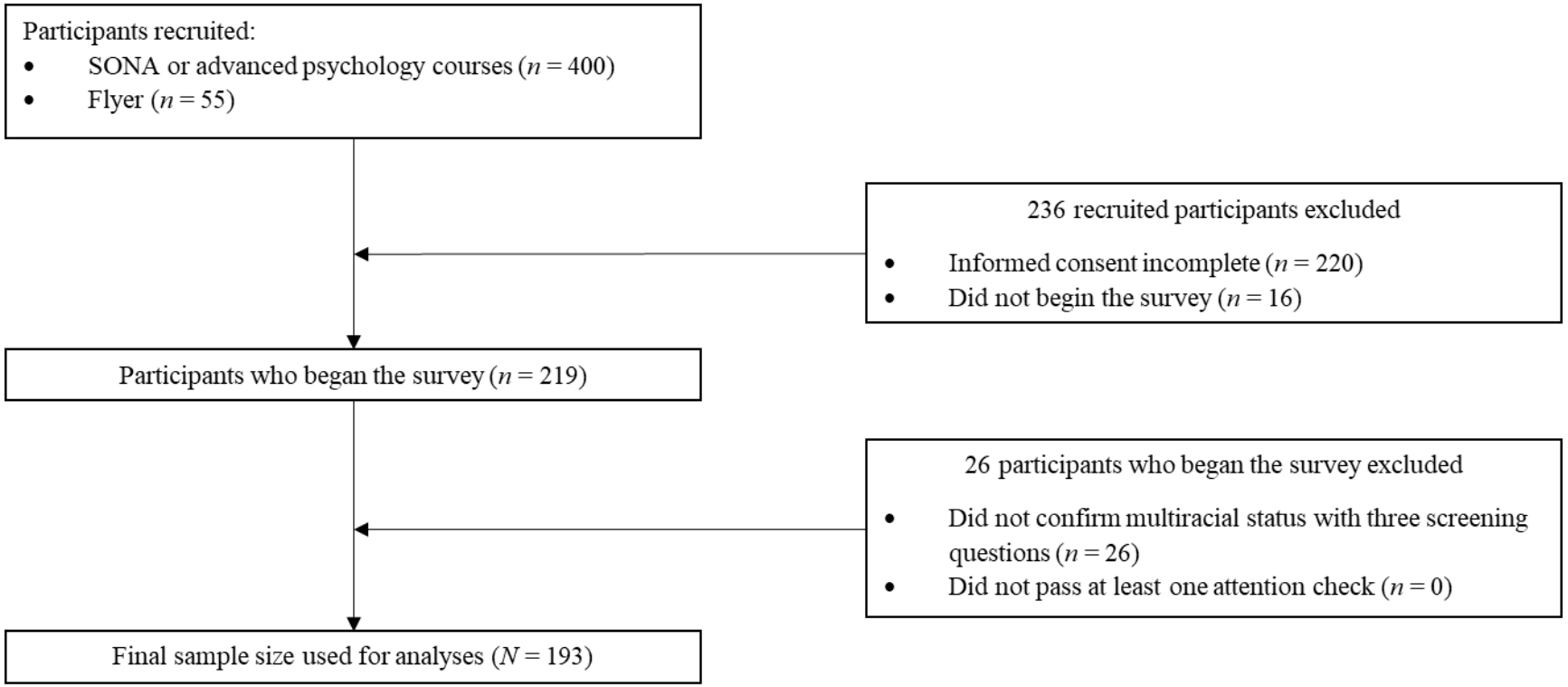

Figure 1. Study recruitment and enrollment flow chart.

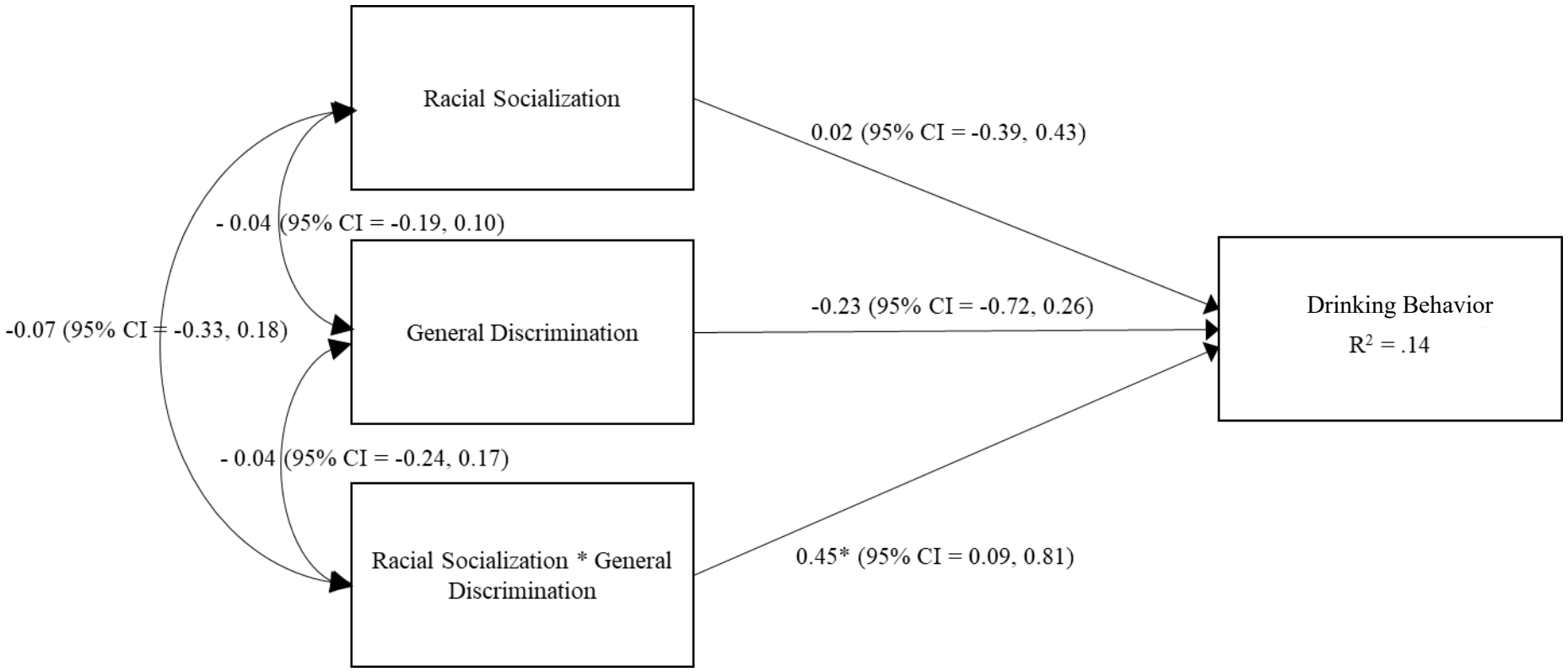

Figure 2. Results from a fully saturated path model testing the interaction between general discrimination and racial socialization on drinking behavior, after controlling for age, sex, Greek affiliation, pandemic stress, and negative mood; covariate pathways are not shown for simplicity. Standardized (and bootstrapped 95% CI) coefficients for paths leading to a continuous variable.

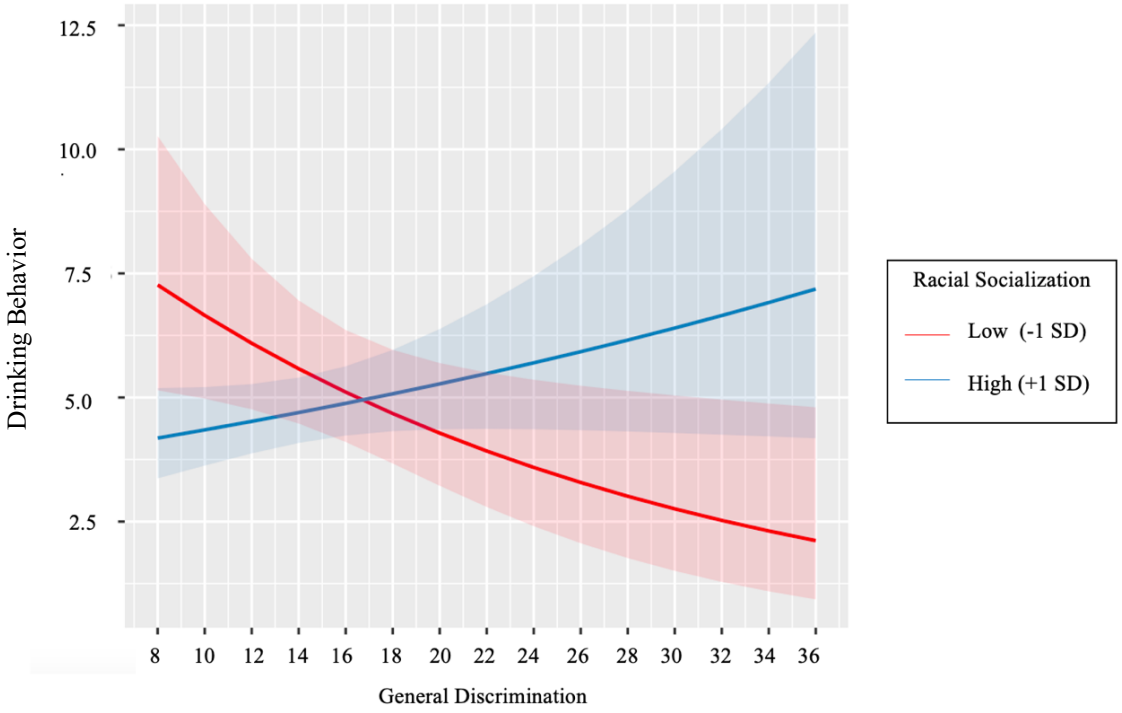

Figure 3. *n* = 150. Simple slopes for association of general discrimination with drinking behavior by racial socialization, controlling for age, Male sex, Greek affiliation, negative affect, and pandemic stress.

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FATIMA DOBANI

(she/her)

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EDUCATION

Expected 2025	**Doctoral Program, Clinical Psychology** Syracuse University, Syracuse NY (APA Full Accreditation)
2015	**Bachelor of Arts, Psychology** Baylor University, Waco TX

HONORS AND AWARDS

2022	Summer Pre-Dissertation Fellowship Recipient, Syracuse University
2021-2022	Student Merit Award, Women in Science and Engineering, Syracuse University
2020-2021	University Fellowship Recipient, Syracuse University
2020	Student Merit Award, Future Professoriate Program, Syracuse University
2020	Robert Wood Johnson Foundation Health Policy Research Scholar Semi-Finalist, Washington, D.C

RESEARCH INTERESTS

- Etiology and epidemiology of substance-related problems among diverse and understudied populations

RESEARCH EXPERIENCE

2021- **Thesis Research**
Department of Psychology, Syracuse University | Advisor: Aesoon Park PhD
Associations of Racial Discrimination with Hazardous Alcohol Use in Multiracial College Students: Buffering Role of Ethnic-Racial Socialization
Activity: This study tested the moderating role of racial socialization on the relationship between racial discrimination and hazardous alcohol use among multiracial college students.

2019- **Graduate Research Assistantship**
Department of Psychology, Syracuse University | Advisor: Aesoon Park PhD

- *Racial Differences in Developmental and Daily Sleep-Alcohol Associations in Youth* (R0 1AA027677; PI: Park)
  Responsibilities: Data analysis and manuscript preparation.

- *Person-Environment Interplay in Alcohol Use and Consequences among Black Youth* (R15 AA022496; PI: Park)
  Responsibilities: Data analysis and manuscript preparation.

2017-19 **Post-Baccalaureate Clinical Research Assistantship**
Warriors Research Institute, Baylor Scott & White Health | Supervisor: Suzy B. Gulliver, PhD

- *Building Peer Support and Telehealth for Central Texas Veterans* (HHS000077100001; PI: Gulliver)
  Responsibilities: Managed and trained research assistants to deliver assessments and recruitment and retention of study participants, facilitated participant consenting procedure, managed compliance with IRB.

- *Project ACCESS: Expanding Evidence-Based Treatment via Telehealth for Fire Service; Building Peer Support and Telehealth for Central Texas Veterans* (EMW-2016-FP-00371; PI: Gulliver)
  Responsibilities: Managed and trained research assistants to deliver assessments and recruitment and retention of study participants, facilitated participant consenting procedure, managed compliance with IRB.

- *Pathways of Risk and Resilience in Firefighter Recruits* (R0 1MH073808-01A2; PI: Gulliver)
  Responsibilities: Disseminated research findings through posters and manuscripts, maintained contact with study participants, data cleaning.

- *Stamp Out Stigma: A National Campaign to Decrease Stigma and Increase Behavioral Health in Fire Service* (EMW-2014-FP-00924; PI: Gulliver)
  Responsibilities: Entered and analyzed data, disseminated research findings through posters and manuscripts.

2014-2015 **Undergraduate Lead Research Assistantship**
Department of Psychology, Baylor University | Supervisors: Courtney Kurinec, Ph.D. and Charles III Weaver, Ph.D.
Research focus: Psycholinguistics, Juror Decision-Making
Responsibilities: Conducted sessions with participants, assisted with data analysis, represented lab at ARMADILLO conference

Research Workshops & Advanced Coursework

2021 *Perspectives in Diversity: Conducting Inclusive Research (Panel)*, Phillandra Smith, Sierra Wetmore, Yuhsun Peng
Committee for Diversity and Inclusion by Psychology Graduate Students
Syracuse University, Syracuse NY

Perspectives on Being a Culturally Responsive Psychologist: Insights for Research and Clinical Practice, Jessica Desalu, Ph.D.
Psychology Department, Syracuse University, Syracuse NY

Scientific Writing Workshop, Elizabeth Paley, Ph.D.
Women in Science and Engineering, Syracuse University, Syracuse NY

PUBLICATIONS

Book Chapters

Dobani, F., Pennington, M. L., Coe, E., Morrison, P., & Gulliver, S. B. (2020). Bridging the Gaps: Toward Effective Collaboration Between Peer Supporters and Behavioral Health Professionals. In *Mental Health Intervention and Treatment of First Responders and Emergency Workers* (pp. 190-204). IGI Global.

Peer-Reviewed Publications

Pennington, M. L., Coe, E., **Dobani, F**., Kruse, M. I., Sanford, K., Meyer, E. C., & Gulliver, S. B. (2021). Keeping the flame alive: Marriage and divorce among professional firefighters. *Journal of Family Issues.* https://doi.org/10.1177/0192513X211029256

Gulliver, S. B., Zimering, R. T., Knight, J., Morissette, S. B., Kamholz, B. W., Pennington, M. L., **Dobani, F**., Carpenter, T. P., Kimbrel, N. A., Keane, T. M., & Meyer, E. C. (2021). A prospective study of fire fighters' PTSD and depression symptoms: the first three years of service. *Psychological Trauma: Theory, Research, Practice, and Policy.* https://doi.org/10.1037/tra0000980

Gulliver, S. B., Zimering, R. T., **Dobani, F**., Pennington, M. L., Morissette, S. B., Kamholz, B. W., Knight, J. A., Keane, T. M., Kimbrel, N. A., Carpenter, T. A., & Meyer, E. C. (2019). Alcohol use and mental health symptoms in female firefighter recruits. *Occupational medicine*, *69*(8-9), 625-631. https://doi.org/10.1093/occmed/kqaa015

Manuscripts Under Review

Goodhines, P. A., Wedel, A., **Dobani, F.,** Zaso, M. J., Gellis, L. A., & Park, A. Self-medication for sleep among racially-diverse urban adolescents: Concurrent and prospective associations with mood, sleep and substance use. *Addictive Behaviors.*

Manuscripts in Progress

Dobani, F., Zaso, M. J., Desalu, J. M., & Park, A. (In preparation). Multiracial adolescent alcohol outcomes: A meta-analysis.

NATIONAL PRESENTATIONS (Peer-reviewed)

Oral Presentations

Dobani, F., Zaso, M. J., Desalu, J. M., & Park, A. (2021, May). *Multiracial Adolescent Alcohol Outcomes: A Meta-Analysis* [Virtual Flash Oral Presentation]. 2021 virtual conference of the Association for Psychological Science.

Poster Presentations

*denotes undergraduate or mentored junior student co-author

Dobani, F & Park, A. (2022, June). *Association Between Racial Socialization and Racial Discrimination on Risky Drinking among Bi/Multiracial College Students.* [Poster presentation]. 45th scientific meeting of the Research Society on Alcoholism, Orlando, Fl.

Schwarz, A.*, Sanders, S.*, Umbach, A.*, **Dobani, F**., & Park, A. (2022, June). Past-Month Drinking among Bi/Multiracial Versus Monoracial Youth: Association Between Peer, Sibling, and Parental History of Alcoholism. [Poster presentation]. 45th scientific meeting of the Research Society on Alcoholism, Orlando, Fl.

Dobani, F., Zaso, M. J., Desalu, J. M., & Park, A. (2021, May). *Multiracial Adolescent Alcohol Outcomes: A Meta-Analysis* [Virtual Poster Presentation]. 2021 virtual conference of the Association for Psychological Science.

Dobani, F., Goodhines, P. A., Zhao, J., & Park, A. (2020, June). *Alcohol Behavior among Urban Multiracial and Monoracial Youth: Exploring the Role of Drinking with Siblings*. Poster presented at the 43rd scientific meeting of the Research Society on Alcoholism, New Orleans, LA.

Dobani, F., Meyer, E. C., Zimering, R. T., Knight, J. Keane, T. M., Gulliver, S. B. (2019, November). *Cumulative Trauma Exposure in Probationary Firefighters.* Poster presented at the 35th annual meeting of the Internal Society for Traumatic Stress Studies, Boston, MA.

Dobani, F., Meyer, E. C., Pennington, M. L., Zimering, R. T., Gulliver, S. B. (2019, June). *Alcohol Use and Associated Symptoms in Female Firefighters over the First Three Years of Service.* Poster presented at the 42nd annual meeting of the Research Society on Alcoholism, Minneapolis, MN.

Dobani, F., Coe, E., Rostockyj, J., Pennington, M. L., Dupree, J., Strack, J., Meyer, E. C., Gulliver, S. B. (2019, May). *Potentially Traumatic Event Exposure in Fire Service.*

Poster presented at the 31st annual convention at Association for Psychological Science, Washington, DC.

Dupree, J., Pennington, M. L., **Dobani, F.,** Strack, J., Meyer, E. C., Gulliver, S. B. (2019, May). PTSD and Perceived Social Support in Firefighters: The Irrelevance of Type. Poster presented at the 31st annual convention at Association for Psychological Science, Washington, DC.

Strack, J., Torres, V., Coe, E., Pennington, M. L., Dupree, J., **Dobani, F**., Meyer, E. C., Gomez, D., Gulliver, S. B. (2019, May). Mild Traumatic Brain Injuries and Psychological Distress in Firefighters. Poster presented at the 31st annual convention at Association for Psychological Science, Washington, DC.

Dobani, F., Gulliver, S. B., Keane, T. M., Zimering, R. T., Meyer, E. C., Morissette, S. (2018, November). *The Mediating Effect of Family Support between Exposure to Potentially Traumatic Events and PTSD in Firefighters.* Poster presented at the 34th annual meeting of the International Society of Traumatic Stress Studies, Washington, DC.

LOCAL PRESENTATIONS (Peer-reviewed)

Oral Presentations

Dobani, F., Maness, A. G., Pennington, M. L., Coe, E., Meyer, E. C., Gulliver, S. B. (2019, May). *Building a Continuum of Care: Recovery High School in Central Texas*. Podium presented at the Baylor Scott & White Central Texas Scholar's Day, Temple, TX.

Dobani, F. (2019, January). *Opening a Recovery High School in Central Texas.* Presented at Recovery Oriented Systems of Care Meeting, Waco, Texas.

Poster Presentations

Dobani, F., Zaso, M. J., Desalu, J. M., & Park, A. (2021, May). *Multiracial Adolescent Alcohol Outcomes: A Meta-Analysis* [Virtual Poster Session]. 2021 virtual conference for the 7th Annual Neuroscience Day at Syracuse University, Syracuse NY, United States.

Bynum, D. N., **Dobani, F.,** McCallum, A. R., & Gulliver, S. B. (2019, May). An Interdisciplinary Collaboration for Police Peer Support Groups: A Pilot Training in Psychoeducation and Engagement. Poster presented at the Baylor Scott & White Central Texas Scholar's Day, Temple, TX.

Dobani, F., Pennington, M. L., Denman, T. C., Maness, A. G., Meyer, E. M., & Gulliver, S. B. (2018, April). *Mediating effects of family social support on potentially traumatic events and PTSD in*

firefighters. Poster presented at 6th annual Baylor Scott & White Health Central Texas Research Day, Temple, TX.

Pennington, M. L., **Dobani, F**., Denman, T. C., Maness, A. G., Meyer, E. M., & Gulliver, S. B. (2018, April). *Mental functioning and drinking motives in firefighter recruits*. Poster presented at 6th annual Baylor Scott & White Health Central Texas Research Day, Temple, TX.

Terblanche, M., Pennington, M. L., **Dobani, F**., Denman, T. C., Maness, A. G., Meyer, E. C., & Gulliver, S. B. (2018, April). *Resilience and PSTD symptoms in firefighters*. Poster presented at 6th annual Baylor Scott & White Health Central Texas Research Day, Temple, TX.

Dobani, F., Lokhandwala, S. M., Davis, C., Kurinec, C. A., & Weaver, C. III. A. (2015, October). *Lexical ambiguity under increased cognitive load: Can busy speakers disambiguate?* Poster presented at the meeting of the ARMADILLO Southwest Cognition Conference, Waco, TX.

STATISTICAL SKILLS

Statistical Training & Advanced Coursework

2022 *Introduction to Structural Equation Modeling*, Aesoon Park, Ph.D.
Syracuse University, Syracuse NY
2020 *R Statistical Software Workshop,* Sara Burke, Ph.D.
Psychology Department, Syracuse University, Syracuse NY

Software Skills

Statistical: *SPSS*, *R*, *MPlus*

Research & Data Management: *Qualtrics*, *REDCap*

Reference Management: *EndNote*

CLINICAL INTEREST

- Evidence-based treatment of substance use disorders, and co-occurring psychopathology among young-adults and adults
- Diverse client populations including race/ethnicity

CLINICAL EXPERIENCE

2021-2022 **Graduate Student Therapist**
Psychological Services Center, Syracuse University

Supervisors: Amy Goodrum PhD, Aaron Gleason PhD, Deborah Pollack PhD, Luke Mitzel PhD, Katherine Kidwell PhD, Shannon Sweeney PhD, Kevin Antshel PhD, Afton Kapuscinski PhD

2017 **First Episode Early Psychosis Case Manger (QMHP-CS)**
MHMR Center, Heart of Texas Region, Waco, TX
Supervisors: Dina Fell MSW, Melinda Bonds MSW, Sheila Mundy MD

2016 **Clinical Case Manager (QMHP-CS)**
MHMR Center, Heart of Texas Region, Waco, TX
Supervisor: Dina Fell MSW

Assessments Administered:

Minnesota Multiphasic Personality Inventory – Third Edition (MMPI-3)

Continuous Performance Test- Gordon Diagnostic System (GDS)
Minnesota Multiphasic Personality Inventory – Second Edition (MMPI-2)
Personality Assessment Inventory (PAI)
Wechsler Adult Intelligence Scale – Fourth Edition (WAIS-IV)

TEACHING INTERESTS

- Introductory psychology, abnormal psychology, health psychology, etiology of substance use disorders, drugs and human behavior, introductory statistics, research methods

TEACHING EXPERIENCE

Teaching Assistant

AY2019-20 Foundations of Human Behavior (PSY 205)
Syracuse University, Syracuse NY
Supervisor(s): Shannon Houck PhD & Meredith Martin, Ph.D.

MENTORING EXPERIENCE

Research/Professional Mentorship of Undergraduate Students

2021- Aubriana Schwarz
2021- Shockey Sanders
2021- Ashlyn Umbach*
Note. *Underrepresented race/ethnicity students in science.

PROFESSIONAL AFFILIATION AND DEVELOPMENT

Affiliations

2020-	Future Professoriate Program, Student member
2020-	Women in Science and Engineering (by faculty nomination), Student member
2020-	Central New York Psychological Association, Student member
2020-	Society of Clinical Child and Adolescent Psychology, Division 53 of the American Psychological Association, Student member
2020-	American Psychological Association, Student member

PROFESSIONAL AND COMMUNITY SERVICE

Leadership and Committee Membership

2021-	Clinical Representative, Psychological Action Committee (elected by peers), Syracuse University, Syracuse, NY
2019-2020	Secretary (elected by peers), Psychology Action Committee, Syracuse University, Syracuse, NY
2019-	Psychology Action Committee, Student Member, Syracuse University, Syracuse, NY
2019-	Committee for Diversity and Inclusion, Student Member, Syracuse University, Syracuse, NY

SERVICE TO FIELD

2021	Poster Session Evaluator, 2021 Virtual New York Psychological Association Convention, New York State Psychological Association, New York, NY

Independent* and Supervised Peer Review:

Alcoholism: Clinical and Experimental Research

Addictive Behaviors

Alcohol

Community Volunteering

2020-2021	Listener for Asian Mental Health Collective, Syracuse NY

REFERENCES

Aesoon Park, Ph.D.	Primary Ph.D. Advisor Professor of Psychology, Syracuse University 430 Huntington Hall, Syracuse, NY 13244-2340 Work: (315) 443-2391

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Jillian Scheer, Ph.D.	Secondary Ph.D. Advisor Assistant Professor of Psychology, Syracuse University 430 Huntington Hall, Syracuse, NY 13244-2340 Work: (315) 443-2354 Email: jrscheer@syr.edu
Kevin Antshel, Ph.D.	Professor of Psychology, Clinical Psychology Program Director Syracuse University 430 Huntington Hall, Syracuse, NY 13244-2340 Work: (315) 443-9450 Email: kmantshe@syr.edu