Does multiracial identity integration moderate the relation between racism and health?

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DOES MULTIRACIAL IDENTITY INTEGRATION MODERATE THE RELATION BETWEEN RACISM AND HEALTH?

by

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Abstract

Current estimates suggest that approximately 9 million U.S. citizens identify as biracial or multiracial (henceforth “multiracial”) and that the multiracial population grew 32% from 2000 to 2010 (Humes et al., 2011). Despite the growth and increased visibility of this population, the psychological research on this group is limited and further research is needed to address the potential unique needs of multiracial individuals with regard to experiences of racial oppression, racial identity, and connections to health (Choi, Harachi, Gillmore, & Catalano, 2006). Past findings have suggested a significant, direct relation between perceived racial discrimination and psychological distress among multiracial individuals and that multiracial identity integration may moderate these relations (Jackson, Yoo, Guevarra Jr., et al., 2012). Extending this empirical literature, this study examined relations between the potential moderating effect of multiracial identity integration (i.e. low racial conflict and low racial distance) between the relations of experiences of racism (i.e. perceived racial discrimination and internalized racism) on health (i.e. subjective health, psychological distress, and binge drinking) of 249 multiracial adults living within the U.S.

It was hypothesized that perceived discrimination and internalized racism would be associated with higher levels of psychological distress and lower levels of subjective health status and higher frequency of binge drinking. It was further hypothesized that high levels of multiracial identity integration would mitigate these relations and low levels of multiracial identity integration would intensify them. Participants included 249 multiracial adults living in the U.S. whom identified primarily as female (84.7%) and heterosexual (74.7%). Three hierarchical linear regression analyses were conducted to test the research hypotheses with criterion variables of psychological distress, subjective health status, and binge drinking episodes
while controlling for age, education, and income. Contrary to hypotheses, the moderation effect of multiracial identity integration was non-significant in all three regressions. Also inconsistent with hypotheses, no significant relations were found with binge drinking. Consistent with hypotheses, perceived discrimination and internalized racism were positively associated with psychological distress, $\Delta F (4, 239) = 19.12, R^2 = .28; \Delta R^2 = .23, p = .000$. Also consistent with hypotheses, the incremental main effect of perceived discrimination was significant and negatively associated with subjective health status $\Delta F (4, 239) = 3.495, R^2 = .10; \Delta R^2 = .07, p = .001$. Findings from the current study are discussed in the context of prior theory and research, as well as implications for future directions.
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Chapter I: Introduction

The U.S. population continues to diversify, with an increasing representation and recognition of interracial families and individuals who self-identify as biracial or multiracial (Renn, 2008). Since the passage of Civil Rights legislation and anti-miscegenation laws in the 1960s, a Biracial Baby Boom has occurred (Root, 1998). Estimates suggest that in 2010, 3 of every 20 new marriages were interracial (Humes, Jones, & Ramirez, 2011).

The increased representation of multiracial individuals is reflected in a policy change to the 2000 U.S. Census, which permitted individuals to self-identify with multiple racial groups (Rockquemore, Brunsma, & Delgado, 2009). Current estimates suggest that approximately 9 million U.S. citizens identify as biracial or multiracial (Humes et al., 2011). Furthermore, the multiracial population grew 32% from 2000 to 2010, making this one of the fastest growing racial groups in the U.S. (Humes et al., 2011).

While these figures indicate a substantial growth in the multiracial population, they likely are an underestimate. The U.S. Census currently designates the Hispanic or Latino/Latina category as an ethnic rather than a racial group, so that people of mixed Hispanic/Latino and non-Hispanic/Latino (e.g., White or Asian) background are not represented in the multiracial figures (Humes et al., 2011). Furthermore, Census data and other population estimates rely on self-report and thus only include people who choose to identify with more than one race. For this reason, the estimate of 9 million multiracial individuals does not reflect individuals whose parents have 2 or more racial backgrounds when the individual self-identifies with only one of these backgrounds (Humes et al., 2011).

Despite the growth and increased visibility of the multiracial population, our psychological understanding of this group is limited. Further research is needed to address the
potentially unique needs of multiracial individuals (Choi, Harachi, Gillmore, & Catalano, 2006). Although scholarship on the experience of multiracial individuals appeared in the literature as early as the 1930s (e.g., Stonequist, 1937), much of the early work was theoretical, with limited empirical scholarship in the field of psychology.

Scholars (Gibbs, 1987; Stonequist, 1937) historically posited that multiracial individuals face a challenging identity formulation and negotiation process due to the complexity of the social construct of race and the reality of racism in the U.S. (Rockquemore, Brunsma, & Delgado, 2009; Shih & Sanchez, 2009). Although the multiracial population is largely heterogeneous, much of the existing empirical literature has focused not on their shared experiences, but rather on differences between multiracial and monoracial groups in terms of the unique deficits or challenges experienced by multiracial individuals (Bratter & Gorman, 2011; Chavez & Sanchez, 2010; Choi, Harachi, Gillmore, & Catalano, 2006; Cooney & Radina, 2000; Renn, 2008; Salahuddin & O’Brien, 2011). Moreover, most studies focused on specific multiracial subgroups—most notably Black/White (Chavez & Sanchez, 2010; Clark, Corneille, & Coman, 2013; Gillem, Cohn, & Thorne, 2001) and Asian/White groups (Chong, 2012; Lou, Lalonde, & Wilson, 2011). However, the unique challenges to racial identity transcend multiracial groups (Rockquemore et al., 2009; Shih & Sanchez, 2009) and warrant further research on between- as well as within-group differences.

The U.S. is a racialized society with a multifaceted system of racial oppression (Feagin, 2006). Although the scientific community widely recognizes race as a social rather than a biological construct (see Shih, Bonam, Sanchez, & Peck, 2007), race continues to play an important role in society, social systems, and individual lives. This multifaceted system is comprised of systemic, cultural, institutional, social, interpersonal, and intrapersonal forces
The current study focused on two aspects of this system, namely perceived discrimination and internalized racial oppression.

Perceived racial discrimination is an individual-level, interpersonal component of racism, defined as one’s perception of being treated unfairly by others because of race. The negative messages about a person’s racial background that the individual receives through interpersonal interactions and other levels of racial oppression may become internalized. Internalized racism refers to the intrapersonal component of the system of racial oppression and reflects the valence of a person’s assessment of their racial group membership and acceptance of stereotypes (Speight, 2007). In the recent literature, internalized racism has been identified as potentially one of the most damaging aspects of the system of racism, which is viewed as pernicious, unchallenged, and undermining social and civil progress among racial minority groups (Speight, 2007).

The system of racial oppression is said to privilege whiteness rather than simply discriminating against specific racial minority groups (Feagin, 2006). As such, individuals who do not clearly fit into the white racial category become part of the racial system of oppression that serves to elevate the white racial group while marginalizing racial minorities. From this perspective, multiracial individuals are viewed as “non-white” and subject to racial discrimination (Root, 1998). In fact, viewing multiracial individuals as non-white has been historically codified in law via the one-drop rule of hypodescent which states that an individual with any degree of Black heritage is considered Black and subject to Jim Crow laws (Root, 1998). Thus, multiracial individuals tend to have similar, but unique, experiences compared to members of monoracial minority groups with the system of racial oppression (e.g., perceived discrimination and internalized racism).
Like members of monoracial minority groups, multiracial individuals tend to experience a significant degree of racial discrimination, microaggressions, and rejection by others (Giamo, Schmitt, & Outten, 2012; Jackson, Yoo, Guevarra Jr., & Harrington, 2012; Miville, Constantine, Baysden, & So-Lloyd, 2005; Rockquemore et al., 2009) which have been inversely associated with health. Whereas the link between racial discrimination and poor psychological and physical health outcomes has been widely established with regard to members of racial minority groups (Pieterse, Todd, Neville, & Carter, 2012; Priest et al., 2013), there is recent, but limited, empirical support for this link within the multiracial population (Giamo et al., 2012; Jackson, Yoo, Guevarra Jr., et al., 2012).

Some research suggests that a strong racial identity can serve as a psychological buffer for members of racial minority groups who experience discrimination (Branscombe, Schmitt, & Harvey, 1999; Mossakowski, 2003). Similar studies with multiracial samples have been hampered by a lack of consensus about what constitutes a strong racial identity for this population. Furthermore, the limited research on the relation between discrimination and health for multiracial individuals (e.g., Jackson, Yoo, Guevarra Jr., et al., 2012) has been confined to psychological distress and negative affect. The current study contributes to this line of study by examining the role of another salient aspect of racism, namely internalization of racial oppression, and by expanding the scope of health outcomes (e.g., health status and alcohol use) from earlier research on this topic.

Substance use is one area of health-risk behavior with this population that has been the focus of much empirical investigation (Chavez & Sanchez, 2010; Choi et al., 2006; Clark et al., 2013). Much of this research has examined substance use among multiracial individuals in comparison to monoracial groups and hypothesized multiracial individuals to be at greater risk of
substance use or misuse. Clark et al. (2013), for example, examined the developmental trajectory of alcohol use from adolescence to adulthood in multiracial and monoracial groups using the Add Health national data set (Harris, 2009). These authors found that Black-White biracial individuals between the ages of 27-35 had the highest probability of daily drinking and were among the most likely groups to report heavy drinking. Additional research found multiracial adolescents to be at higher risk of substance use than their monoracial peers. Choi et al. (2006) found multiracial adolescents to be more likely than their monoracial counterparts to have ever smoked or to have ever used tobacco, and S. Cheng and Lively (2009) found higher rates of substance use among some groups of multiracial adolescents compared to their monoracial peers.

Despite the breadth of literature comparing substance use among multiracial versus monoracial individuals, no studies have examined within-group differences with the multiracial population. Therefore, to facilitate a more nuanced understanding of this population, the current study examined the role of multiracial identity integration as a within-group factor in moderating the contributions of perceived discrimination and internalized racial oppression to the psychological distress, health status, and alcohol use of multiracial individuals. Specifically, it was reasoned that, like members of other racial minority groups, multiracial individuals who report a strong, integrated sense of identity would experience less negative associations between aspects of racism (internalized racism and perceived discrimination) and health outcomes (health status, psychological distress, and alcohol use) in comparison to multiracial individuals with less integrated racial identity.

The current study contributes to the literature by examining multiracial identity integration (defined as low levels of racial conflict and racial distance) as a moderator of the relation between racism (i.e., perceived racial discrimination and internalized racism) and health
(i.e., health status, psychological distress, and alcohol use). The study replicated and extended the work of Jackson, Yoo, Guevarra, and Harrington (2012), who examined the moderating role of multiracial identity integration in the relation between perceived discrimination and psychological distress. The extension is the inclusion of internalized racism and two health factors (subjective health status and alcohol use), in a more diverse multiracial sample. The following sections summarize and critique the relevant literature on multiracial identity integration, perceived racial discrimination, and internalized racism.

Multiracial Identity Development

Models of multiracial identity development, which reflect changing racial attitudes in the U.S. (Rockquemore, Brunsma, & Delgado, 2009), include three stage-based conceptualizations: the problem approach, the equivalent approach, and the variant approach (Rockquemore, Brunsma, & Delgado, 2009). In early problem approach models of multiracial identity development (e.g., Stonequist, 1937), multiracial individuals were regarded as inherently deficient and highly vulnerable to psychological distress and social marginality. From this perspective, the development of psychologically healthy multiracial identity was not possible, since multiracial individuals would hold heritage of both racial groups but belong to neither (Rockquemore, Brunsma, & Delgado, 2009).

In the 1960s and 1970s, the problem approach to multiracial identity integration was largely replaced by the equivalent approach (Rockquemore et al., 2009). In this conceptualization, multiracial individuals are thought to follow racial identity development paths similar to those of monoracial minority group members, such that a Black-White multiracial individual experiences Black identity development, for example (Rockquemore et al., 2009). This approach conceptualizes healthy multiracial identity development as the development of a
strong monoracial (i.e., Black) identity, to the exclusion of other aspects of a person’s multiracial identity.

In contrast, models of multiracial identity development published in the 1980s and 1990s took a variant approach (Rockquemore et al., 2009). Perhaps most influential of these models is Poston’s Biracial 1990 Identity Development model. In this approach, biracial identity development is conceptualized as occurring in five stages: Personal Identity, Choice of Group Categorization, Enmeshment/Denial, Appreciation, and Integration. From this perspective, multiracial individuals give primacy to a personal, non-racial identity throughout childhood until they become more aware of racial categorization, often when they are pressured to choose one of their racial backgrounds as a singular identity (Poston, 1990). This model postulates that following this identity choice, individuals tend to experience guilt and confusion after having rejected one of their parents’ racial backgrounds and cultures. Multiracial individuals would then develop a greater appreciation of additional reference groups and finally integrate and value their multiple racial identities. From this perspective, healthy multiracial identity is viewed as the integration of distinct aspects of one’s racial heritage (Poston, 1990).

More recent models of multiracial identity development have taken an ecological approach, in which identity development is viewed as fluid and contextual (Renn, 2008). In this view, multiracial identity is situational and malleable throughout a person’s lifetime and is influenced by contextual factors such as age, gender, developmental environment, racial climate, and political landscape (Root, 1998). While this approach is more complex in its consideration of multiracial identity development, it has received little empirical investigation. Due to the inclusion of multiple influencing factors and conceptualization of multiracial identity as unstable
over the course of even brief periods, this conceptualization is difficult to examine quantitatively and has received only limited examination qualitatively.

Much of the research on multiracial identity has been conducted in the context of the problem approach. However, the problem approach, in which multiracial identity is conceptualized as challenging and precipitating poorer psychological and physical outcomes, has received limited support and does not reflect the full spectrum of multiracial identity. Empirical inquiry comparing psychological characteristics of multiracial individuals with monoracial individuals has produced mixed results. A review of this literature has at times suggested poorer social and psychological outcomes of multiracial as compared to monoracial adolescents (Shih & Sanchez, 2005). However, results have been mixed and indicate only a slight tendency for multiracial individuals to exhibit greater levels of problem behaviors and psychological distress. For example, in an examination of the relation between racial identification and social engagement among multiracial high school students (Binning, Unzueta, Huo, & Molina, 2009), results indicated significantly lower ratings of positive affect and school citizenship behavior, and higher ratings of alienation and stress in multiracial adolescents compared to monoracial adolescents.

Due to the mixed results, recent research has examined within-group differences. As multiracial identity theories became more complex, multiracial identity integration has been examined as an individual difference factor that may account for contradictory results in studies on the psychological outcomes of multiracial groups. From the perspective of individual differences in multiracial identity integration (C.-Y. Cheng & Lee, 2009; Jackson, Yoo, Guevarra Jr., et al., 2012), the primary concern of multiracial individuals is their perception of their multiple racial identities as either congruent or incongruent and the extent to which one is
able to integrate these differing identities (C.-Y. Cheng & Lee, 2009). The conceptualization of multiracial identity integration is based on the broader literature of cultural identity integration, including acculturation and bicultural processes (Benet-Martinez & Haritatos, 2005).

According to C.-Y. Cheng and Lee (2009), multiracial identity integration is comprised of two constructs, racial identity conflict and racial identity distance (C.-Y. Cheng & Lee, 2009). Racial conflict is defined as perceived contradictions of norms and values between one’s multiple identities, whereas racial distance is defined as perceived separation of these multiple identities (C.-Y. Cheng & Lee, 2009). Thus, multiracial identity integration is theorized as the extent to which an individual views their two or more racial backgrounds as representing a unified and harmonious sense of racial self. High multiracial identity integration (i.e., low racial distance and low racial conflict; C.-Y. Cheng & Lee, 2009) is theorized as a psychologically healthy outcome of multiracial identity development and thus to promote positive psychological well-being (Jackson, Yoo, Guevarra Jr., et al., 2012).

Experiences of Racism

Much empirical attention has been paid to the experiences of racial discrimination among members of racial/ethnic minority groups in the U.S. A recent meta-analysis indicated that racial discrimination is a common experience among racial minority groups (Pieterse et al., 2012), and perceptions of discrimination tend to be associated with negative physical health and mental health outcomes (Anderson, 2013; Chae, Lincoln, Adler, & Syme, 2010; Graham, West, & Roemer, 2013; Paradies, 2006; Priest et al., 2013). Specifically, among individuals of color, experiences of discrimination were directly associated with cardiovascular problems (Chae et al., 2010), mortality rates (Williams & Mohammed, 2013), stress (Anderson, 2013; Brondolo,
Brady, Pencille, Beatty, & Contrada, 2009), depression (Pieterse et al., 2012), and anxiety (Graham et al., 2013).

Similar results have been found for multiracial individuals (Bratter & Gorman, 2011; Giamo et al., 2012; Jackson, Yoo, Guevarra Jr., et al., 2012). A growing literature highlights the deleterious effects of racial discrimination on the mental and physical health of multiracial individuals (Giamo et al., 2012; Jackson, Yoo, Guevarra Jr., et al., 2012). Indeed, some studies suggest that experiences of racial discrimination may be more prevalent for this group than for monoracial minority groups. For example, in comparing monoracial black students to students who identify as black and another race, Brackett et al. (2006) found that the multiracial participants perceived relatively more racial bias and more frequent experiences of physical discrimination than monoracial black students.

In addition to race-based challenges like microaggressions, stereotyping, and violence, multiracial individuals tend to experience discrimination due to racial ambiguity and racial categorization (Miville et al., 2005; Rockquemore et al., 2009; Root, 1998; Shih & Sanchez, 2005). Due to the prevailing belief that race is a biological construct (Shih et al., 2007), it is common for multiracial individuals to be forced or pressured to choose a single racial designation rather than identifying as multiracial. Research suggests that external pressure to choose a singular racial identity, as opposed to being able to identify oneself as multiracial, is associated with social anxiety and poor self-esteem (Coleman & Carter, 2007; Townsend, Markus, & Bergsieker, 2009).

Research on the impact of perceived discrimination on multiracial individuals is consistent with research on monoracial minority group populations. For example, Giamo and colleagues (2012) found that perceived discrimination was negatively associated with life
satisfaction in a sample of 252 multiracial individuals. However, it is of note that the measure used to assess perceived discrimination included items focused on perceptions of group discrimination (e.g., “Negative treatment of multiracial people is a widespread problem today”) in addition to items assessing personal experiences (e.g., “I feel that I am personally a target of discrimination by others because of my multiracial ethnicity”). Thus, these findings do not permit an inference about whether perceptions of group discrimination, individual discrimination, or both are negatively associated with a person’s life satisfaction. Furthermore, Giamo et al.’s (2012) findings are limited to life satisfaction and offer no information about other aspects of health or mental health, such as psychological distress.

Since research on experiences of racial discrimination among multiracial individuals is in its infancy, further studies are warranted to examine the impact of racial discrimination on multiracial individuals across a range of physical and mental health outcomes. Although health disparities among racial minority groups, as well as the relation between perceived discrimination and physical health, are well documented (Anderson, 2013; Priest et al., 2013; Williams & Mohammed, 2013), there is a paucity of research examining these relations among multiracial individuals.

Although internalized racism has been identified, in theory, as a critical component of the system of racial oppression (Speight, 2007), the construct has received little empirical attention. Studies of internalized racism with minority groups other than multiracial groups demonstrated significant associations with physical and mental health. Much of this literature has focused on Black individuals, with consistently significant associations between internalized racism and depression (Carr, Szymanski, Taha, West, & Kaslow, 2014), stress (Tull, Sheu, Butler, &
Cornelious, 2005) as well as physical health, including body weight (Cort, Gwebu, Tull, Cox, & Modise, 2013) and cardiovascular status (Cort et al., 2013; Jagusztyn, 2007).

Despite a growing body of literature on this topic, a search of the literature revealed no studies on internalized racism with multiracial participants. Due to the importance of internalized racism among members of racial minority groups, it stands to reason that this construct is an important focus of study for multiracial adults, as well. Based on previous findings with monoracial participants, it stands to reason that multiracial individuals likely experience psychological distress associated with negative, internalized conceptualizations of their racial identity. Furthermore, it is likely that multiracial individuals who report high levels of internalized racism in turn experience negative health outcomes, including substance use. Specifically, alcohol use may be higher for multiracial individuals who experience high levels of discrimination and internalized racism if they drink to cope with a negative sense of racial identity. Limited research has supported this hypothesis with a Black sample (Caldwell, Sellers, Bernat, & Zimmerman, 2004), with findings suggesting that high levels of private self-regard (i.e. positive feelings toward Black racial group) are associated with lower levels of alcohol use.

It is reasoned that the negative effect of perceived discrimination and internalized racism may be mitigated by a sense of identity integration. Specifically, greater racial identity integration may buffer the associations between internalized racism and health outcomes such that people who perceive more distance and conflict between their various racial identities are likely to have poorer health. No studies examining internalized racism among a multiracial sample were identified in a search of the literature. Therefore, further inquiry is warranted to assess the influence of internalized racism on health in this population and the potentially
moderating role of multiracial identity integration. A review and critique of the literature on multiracial identity integration as a potential moderating factor follows.

Multiracial Identity Integration as Protective

One study to date has examined multiracial identity integration as a moderator of the relation between experiences of racism and health. Jackson et al. (2012) examined identity integration as a moderator of the relationship between perceived racial discrimination and psychological adjustment in a sample of 263 multiracial adults. Participants were recruited through multiracial organization listservs (i.e., MAViN, Multiracial Americans of Southern California, SWIRL, and the Biracial Families Network). The sample was primarily women (75%) and highly educated (90% with some college or a college degree, of whom 40% had an advanced degree). Participants reported their identity as 23% Asian/White, 13% Black/White, 5% Hispanic/White, 4% Black/Asian, and 3% Asian/Hispanic. Additionally, many individuals identified with three racial backgrounds: 4% Black/White/Indian and 3% Black/White/Hispanic. It is noteworthy that only 7% of participants did not identify White as one of their racial backgrounds, thus limiting the generalizability of the findings to people of color. Generalizability was further limited by the participants’ middle-income socioeconomic status, as the average income was between $40,000 and $59,000.

Participants completed measures of perceived discrimination (Perceived Ethnic Discrimination Questionnaire—Community Version; PEDQ–CV; Brondolo et al., 2005), psychological distress (Depression Anxiety Stress Scale—Short Form; DASS–21; Henry & Crawford, 2005), positive and negative affect (Positive and Negative Affect Schedule; PANAS; Thompson, 2007), and multiracial identity integration (Multiracial Identity Integration scale; MII; C.-Y. Cheng & Lee, 2009), in which integration is conceptualized as low Conflict and
Distance. Preliminary analyses revealed (a) significant associations between MII-Conflict and Distress and Negative Affect, and (b) no significant associations between MII-Distance and these variables, perhaps signifying that this variable is less salient than MII-Conflict.

Analysis of the moderating role of MII-Conflict and MII-Distance in the relation between perceived discrimination and psychological distress and negative affect was tested using three hierarchical regressions. Results indicated that multiracial participants who perceived higher levels of racial discrimination reported significantly more distress symptoms and negative affect, regardless of their levels of Conflict and Distance, and there was a significant interaction between MII-Conflict and perceived discrimination on negative affect (Jackson et al., 2012). Specifically, participants with high MII-Conflict reported significantly more negative affect when experiencing higher levels of discrimination than did participants with low MII-Conflict. No significant interaction for Distance was observed, however, suggesting that racial identity conflict may be the more salient construct in relation to perceived discrimination and mental health outcomes.

Jackson et al.’s (2012) study supports the theory that multiracial identity integration may serve as a buffer against experiences of racism and may be protective of mental health. Despite this support, several critiques of this study can be made. First, Jackson et al.’s research was limited by sample characteristics. That is, participants were recruited from multiracial organization listservs; it is likely that members of these organizations possessed greater levels of multiracial identity integration and racial pride than do multiracial individuals who do not belong to such organizations or those who choose not to participate in studies of multiracial identity. Thus, research with a more diverse sample of multiracial participants is warranted.
Second, although the hypothesized moderation effect of racial distance was not significant in Jackson, et al. (2012) this finding may represent an artifact of the study, since the majority of participants endorsed high levels of multiracial identity integration. That is, the lack of variability in MII-Distance ($M = 1.86, SD = .73$) and (to a lesser extent) MII-Conflict ($M = 2.54, SD = 1.05$) may have contributed to the non-significant interaction effects.

Third, Jackson et al. (2012) did not conduct a power analysis to determine an appropriate sample size to detect moderation effects, so there may have been insufficient statistical power to detect one. Thus, replication of this study is needed to address these methodological limitations and expand the sample.

Summary and Hypotheses

The construct of identity integration has been central to many models of multiracial identity development (C.-Y. Cheng & Lee, 2009; Choi-Misailidis, 2003; Poston, 1990; Rockquemore et al., 2009), and the empirical literature suggests its influence as a protective factor against racial discrimination (Jackson, Yoo, Guevarra Jr., et al., 2012). The current study investigated the moderating influence of racial identity integration on the relations between (a) perceived racial discrimination and (b) internalized racial oppression on mental and physical health in a diverse sample of multiracial adults.

The study tested three moderation hypotheses: Multiracial identity integration (Conflict and Distance) moderates the relation between perceived discrimination and internalized racism on health status (H1), psychological distress (H2), and drinking behavior (H3). Specifically, it is hypothesized that high levels of multiracial identity integration (i.e., low racial conflict and low racial distance) attenuate the negative associations between experiences of racism (i.e. perceived racial discrimination and internalized racism) and health outcomes, whereas low levels of
multiracial identity integration exacerbate these associations. That is, participants with low multiracial identity integration who report relatively higher levels of experiences with racism are hypothesized to report poorer health outcomes than participants with high multiracial identity integration whom report similar levels of experiences with racism.

Multiracial identity integration, perceived discrimination, and internalized racism were also tested for their main effects on health status, psychological distress, and binge drinking. Specifically, multiracial identity integration was predicted to be positively associated with health status and negatively associated with psychological distress and drinking behavior, whereas perceived racial discrimination and internalized racism were predicted to be negatively associated with health status and positively associated with psychological distress and drinking behavior.
Chapter II: Method

Participants

An a-priori sample size analysis was conducted to determine an adequate sample to detect effect with power = .80 with studywise \( \alpha = .05 \), across 3 statistical tests based on effect sizes of interaction effects in prior research (Jackson, Yoo, Guevarra, et al., 2012; Soper, 2016). Jackson, Yoo, Guevarra Jr., et al. (2012) found \( \Delta R^2 = .065 \) for MII x Perceived Discrimination interactions. Thus, \( f^2 \) was estimated to be .065 for the interaction effect. The sample size analysis with power = .80 and studywise \( \alpha = .05 \) with 3 tests, 4 predictor vectors in set A (i.e. main effects), 4 predictor vectors in set B (i.e. the 2-way interaction terms), and 2 predictor vectors in set C (i.e. the 3-way interaction terms) indicated a total sample size of 295 participants.

Participants were informed that the study would “examine the experiences and health of individuals with two or more racial backgrounds.” In order to include multiracial participants with a large range of racial identity statuses, broad inclusion criteria was used in order to get a broad representation of multiracial participants. Participants met inclusion criteria if they reported differing racial backgrounds of their biological parents, identified as multiracial or biracial, or identified with two or more racial groups.

Participants in the study included 249 multiracial individuals living in the U.S. who were at least 18 years of age. The majority of participants identified as female (84.7%) with 3.3% of participants identifying as male, .4% as transgender, and 1.2% as other gender identity (e.g., genderqueer; percentages do not sum to 100% due to missing data). Participants ranged in age from 18 to 74 with a mean age of 31.56 (SD = 10.55). 74.7% of participants identified as heterosexual, 12% as bisexual, 4.4% as gay or lesbian, and 8.4% identifying as another sexual orientation (e.g., asexual, queer, or pansexual). Most participants were highly educated with
65.8% of participants having completed a college degree or higher and another 30.1% of participants having completed some college and 2.8% with a high school diploma or GED. Participants reported their annual household income as under $20,000 (14.5%), between $20,000 and $50,000 (29.3%), between $50,000 and $80,000 (19.3%), between $80,000 and $120,000 (19.7) and over $120,000 (16.9%). Participants resided in 36 states with many participants currently residing in NY (19.7%) and CA (18.9%).

Participants were diverse with regard to racial background composition with 64.51% identifying with two racial backgrounds, 24.59% identifying with three or more races, and 10.88% not identifying with more than one race but reporting differing racial backgrounds of their biological parents. Specifically, 63 identified as Asian & White (25.40%), 54 as Black & White (21.77%), 13 as Hispanic & White (5.24%), 11 as Asian & Black (4.44%) 8 as Asian & Hispanic (3.23%), 7 as Black & Hispanic (2.82%), 2 as Black & Native American (0.81%), 1 as Asian & Native American (0.40%), and 1 as Hispanic & Native American (0.40%). Most participants that identified with three or more racial backgrounds identified as Black, Native American, & White (10.48%) or Asian, Black, & White (4.03%).

Design

An ex post facto design was used with two predictor variables (i.e. perceived discrimination and internalized racism), two moderating variables (i.e. MII-Distance and MII-Conflict), and three criterion variables (i.e. psychological distress, subjective health status, and alcohol use; see Fig. 1). The predictor variables were measured using the Perceived Ethnic Discrimination Questionnaire-Community Version (Brondolo et al., 2005) and the Appropriated Racial Oppression Scale (Rangel, 2014). The moderator variables, multiracial identity integration conflict and distance, were measured using the Conflict and Distance subscales of the
Multiracial Identity Integration scale (C.-Y. Cheng & Lee, 2009). The criterion variables were measured with the Multidimensional Health Questionnaire – Health Status Subscale (MHQ-HS, Pincus, Swearingen, & Wolfe, 1999), Depression Anxiety Stress Scale—Short Form (DASS–21; Henry & Crawford, 2005), and the Daily Drinking Questionnaire (DDQ; Collins, Parks, & Alan, 1985). Demographic variables were examined in preliminary analyses to determine their possible inclusion in the major analyses as covariates in order to control for their associations with dependent variables. Based on these analyses, age, level of education, and household income were considered as covariates in the main analyses. Because level of education, age and income correlated significantly with study IVs and DVs, these variables were selected as covariates in the main analyses.

Instruments

Perceived Ethnic Discrimination Questionnaire. Perceived racism was measured with the Brief Perceived Ethnic Discrimination Questionnaire—Community Version (PEDQ–CV; Brondolo et al., 2005; see Appendix A). The Brief PEDQ-CV is a 17-item self-report measure developed to assess perceived ethnic/racial discrimination over the lifespan. As in previous multiracial research with this scale (e.g., Jackson, Yoo, Guevarra, & Harrington, 2012), all items were revised to start with the stem “Because of your multiracial background.” The measure includes 4 subscales: Exclusion/Rejection (e.g., “Have others ignored you or not paid attention to you?”), Stigmatization/Disvaluation (e.g., “Have others hinted that you are dishonest or can’t be trusted?”), Work/School Discrimination (e.g., “Have you been treated unfairly by co-workers or classmates?”), and Treatment/Aggression (e.g., “Have others actually hurt you or tried to hurt you?”). Items were rated on a 5-point Likert-type scale from 1 (never happened) to 5 (happened very often), with higher scores representing more frequent experiences of discrimination.
The PEDQ-CV was chosen since it assesses perceived racial discrimination irrespective of racial group membership and because no measures of multiracial discrimination were identified in a search of the literature. Although the PEDQ-CV has primarily been used to assess monoracial individuals’ experiences of discrimination, some studies have included small percentages of multiracial participants (Brondolo et al., 2005; Yoo, Steger, & Lee, 2010). Furthermore, the scale was used in the Jackson et al. study, assessing the moderating role of multiracial identity integration in the relation between perceived discrimination and psychological distress (Jackson, Yoo, Guévarra, et al., 2012), with $\alpha = .92$. In the current study the mean item score of the PEDQ-CV was 35.84 ($SD = 12.34$) with an internal reliability of $\alpha = .92$.

The full-scale score, which represents an overall index of perceived discrimination was used. Associations with measures of perceived racism and psychological adjustment have supported the convergent and discriminant validity of the PEDQ-CV. Specifically, the PEDQ-CV demonstrated significant correlations in the validation study (Brondolo et al., 2005) with the Black version of the Perceived Racism Scale (PRS; $r = .61$, $p < .001$; McNeilly et al., 1995) and Latino PRS ($r = .57$, $p < .001$). In further examination, PEDQ-CV scores were positively correlated with trait anxiety ($r = .35$, $p < .001$), providing some support for the measure’s criterion validity.

 Appropriated Racial Oppression Scale. Internalized racism was measured by the Appropriated Racial Oppression Scale (AROS; Rangel, 2014; see Appendix B). The AROS is a 24-item, self-report instrument that measures internalized racism among racial minority group members of any racial background. Total scores range from 7-168. The AROS has 4 subscales: Emotional Reactions (7 items; e.g., “There have been times when I have been embarrassed to be
a member of my race”), American Standard of Beauty (6 items; e.g., “I find people with lighter skin-tones to be more attractive”), Devaluation of Own Group (8 items; “I feel that being a member of my racial group is a shortcoming”), and Appropriation of Negative Stereotypes (3 items; “People of my race shouldn’t be so sensitive about race/racial matters”). Items were rated on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree).

The AROS demonstrated adequate reliability evidence in the initial validation sample, with subscale $\alpha = .70$ to .86 and a total scale $\alpha = .90$ (Rangel, 2014). Subscale means were 27.2 (Emotional Responses), 20.7 (American Standard for Beauty), 15.8 (Devaluation of Own Group), and 13.5 (Patterns of Thinking). Subscale SDs were 11.99 (Emotional Responses), 10.82 (American Standard for Beauty), 8.93 (Devaluation of Own Group), and 6.12 (Patterns of Thinking). In the validation sample, the mean item score of the total scale was 77.2 ($SD = 37.86$). Among this sample of 291 participants, approximately 20% identified as multiracial. Convergent validity was supported in the initial validation sample (Rangel, 2014) by significant relations with the Schedule of Racist Events (SRE; Landrine & Klonoff, 1996) and Collective Self-Esteem Scale total score (CSES; Luhtanen & Crocker, 1992). Criterion validity was supported with the Mental Health Inventory-18 item (MHI-18; Veit & Ware, 1983) demonstrating significant associations between AROS and depression ($r = .32$, $p < .001$) and anxiety ($r = .26$, $p < .001$; Rangel, 2014). In the current study the mean item score of AROS was 54.76 ($SD = 19.92$) with an internal reliability of $\alpha = .89$.

**Multiracial Identity Integration.** Multiracial identity integration was measured with the Multiracial Identity Integration Scale (MII; C.-Y. Cheng & Lee, 2009; see Appendix C). This 8-item measure was adapted from the Bicultural Identity Integration scale (Benet-Martinez & Haritatos, 2005) for the assessment of identity integration with multiracial individuals. The MII
includes two subscales: Racial Distance (4 items; e.g., “In any given context, I am best described by a single racial identity”) and Racial Conflict (4 items; e.g., “I am conflicted between my different racial identities”). Items are rated on a 5-point Likert scale ranging from 1 (completely disagree) to 5 (completely agree), with higher scores representing less multiracial identity integration (i.e., more racial distance and more racial conflict). Two of the Racial Distance and one of the Racial Conflict items are reverse scored. Subscale total scores range from 4-20.

The MII was selected as it is the only existing measure of multiracial identity integration found in a search of the literature and because it demonstrated adequate psychometric properties in its initial validation (i.e., \( \alpha = .70 \) and .80; (C.-Y. Cheng & Lee, 2009)) and subsequent research (i.e., \( \alpha = .65 \) and .81; Jackson et al., 2012). In the validation study, \( m = 2.55 \) and \( SD = 1.12 \) for racial distance and \( m = 2.29 \) \( SD = .9 \) for racial conflict. Construct validity was assessed by examining the relation between MII and multiracial pride, as measured by 4 Likert items (e.g., “I like being a multiracial person”(C.-Y. Cheng & Lee, 2009). Supporting the MII’s construct validity, multiracial pride was negatively correlated with MII-Distance. Criterion validity was supported by significant direct associations between Conflict and Distance and (a) psychological distress (DASS-21; \( r = .31, p < .05 \)) and (b) negative affect (PANAS; \( r = .32, p < .05 \); Jackson, Yoo, Guevarra Jr., et al., 2012). In the current study the mean item score of MII-C was 3.03 (\( SD = 1.08 \)) with an internal reliability of \( \alpha = .78 \). The mean item score of MII-D was 2.12 (\( SD = 0.66 \)) with an internal reliability of \( \alpha = .65 \).

Depression Anxiety Stress Scale. Psychological distress was measured using the Depression Anxiety Stress Scale—Short Form (DASS–21; Henry & Crawford, 2005; see Appendix D). The DASS-21 is a 21-item, self-report instrument measuring psychological distress over the past week along 3 subscales, including Depression (7 items; e.g., “I felt down-
hearted and blue”), Anxiety (7 items; e.g., “I felt scared without any good reason”), and Stress (7 items; e.g., “I found it difficult to relax”). Items were rated on a 4-point scale ranging from 1 (never) to 4 (almost always), with higher scores indicating higher depression, anxiety, or stress with $M = 17.8$ and $SD = 20.18$.

The DASS-21 was chosen because it is a popular measure of psychological distress, has evidence of strong psychometric properties, and was used in the study being replicated and extended (i.e., Jackson et al., 2012). The DASS-21 has been shown to display convergent validity with the PANAS with significant associations of the total score and negative affect ($r = .69$, $p < .05$) and positive affect ($r = 0.40$, $p < .05$; Henry & Crawford, 2005), as well as high internal consistency reliability in a multiracial sample ($\alpha = .93$). Due to the high intercorrelations of the DASS-21, the full-scale score was used for the analyses. Total scale scores range from 21-84. In the current study the mean item score of DASS was $36.74$ ($SD = 11.70$) with an internal reliability of $\alpha = .94$.

Multidimensional Health Assessment Questionnaire. Physical health status was measured using the Multidimensional Health Assessment Questionnaire – Health Status Subscale (MHQ-HS; Pincus, Swearingen, & Wolfe, 1999; see Appendix E). The MHQ-HS is a 5-item self-report measure that assesses perceptions of the physical status of one’s body. Items are rated on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree), with higher scores indicating better self-perceived health. A sample item is “I am in good physical health.” The MHQ-HS demonstrated $\alpha = .80$ in the initial validation with a sample of college students. Convergent validity was assessed in association with a measure of health-promoting behaviors (Bausell, 1986). Examination of this result indicated a significant association ($r = .17$, $p < .05$; Snell & Johnson, 1997), lending support to the construct validity of the MHQ-HS. Total scores range
from 5-25. In the current study the mean item score of MHQ-HS was 15.68 (SD = 4.51) with an internal reliability of $\alpha = .85$.

The Daily Drinking Questionnaire. Alcohol use was measured with the Daily Drinking Questionnaire (DDQ; Collins, Parks, & Alan, 1985; see Appendix F). Participants were asked to estimate their typical alcohol consumption during the past 30 days for each day of the week using a 7-day calendar. Participants were also asked the number of hours they spent consuming those drinks. The DDQ also includes an index of peak drinking with the item “In the past 30 days, what is the most number of drinks that you have had on any one occasion?” From the information provided, total number of drinks was calculated by summing responses for each day. Number of drinks consumed was used to calculate binge drink episodes. For reference while completing the measure, definitions of a standard drink were provided. Number of binge drinking episodes was used as a criterion variable. Convergent validity of the DDQ was assessed in association with the Drinking Practices Questionnaire, a measure of alcohol volume consumed (DPQ; Cahalan, Cisin, & Crossley, 1969). Convergent validity of the DDQ was supported by a significant positive correlation between the DDQ and DPQ ($r = .50$, $p < .05$).

Demographic questionnaire. A demographic questionnaire (see Appendix G) included questions about participants’ age, gender, sexual orientation, SES, marital status, student status (part-time/full-time/non-student), employment status (yes/no), highest level of education, geographical location, and degree of religion/spirituality. Three demographic items assessed multiracial status. Participants also provided information regarding their racial background. Participants first selected all checkboxes corresponding to their racial backgrounds (e.g., Asian, Black/African American, White/Caucasian, etc.). An open response format item allowed participants to indicate their racial backgrounds (e.g., Biracial, mixed, etc.). Participants selected
all checkboxes pertaining to their biological mother’s racial background, with a separate set of checkboxes pertaining to their biological father’s racial background. These items were used to assess for inclusion in the study. Volunteers were excluded from the study if they were under 18 years of age, identified only one racial background, or did not currently live in the U.S.

Procedure

Participants were recruited within the general Albany, NY community and from college campuses in the US through flyers requesting participation in the study. Flyers invited adult individuals “with two or more racial backgrounds” to participate in a study on “health and experiences of race.” Tear-off slips provided a link to the web-based survey. Participants were also recruited via national multiracial organization listservs and social media pages (i.e., the MAViN organization, SWIRL, and the Biracial Families Network).

Respondents reaching the online survey arrived at the electronic informed consent form, which included a brief description of the study, potential risks, benefits, confidentiality of data, the voluntary nature of participation, and the right to withdraw at any time. The researcher’s contact information was provided, as well as that of the investigator’s advisor and the office of Research Compliance. Participants at least 18 years of age agreeing to terms of the informed consent clicked “Continue” in order to provide consent and begin the survey.

Participants first completed the demographic form to assess eligibility. Eligible participants completed the remaining instruments in three counterbalanced versions so as to control for order effects. Participants were randomly assigned to one of three versions of the survey. All participants completed the demographic questionnaire first in order to assess eligibility. Participants that completed Form A then completed the racism measures, multiracial identity measure, and health measures. Participants that completed Form B then completed the
multiracial identity measure, health measures, and the racism measures. Participants that completed Form C then completed the health measures, the racism measures, and the multiracial identity measure. Upon completing the survey, participants reached a page thanking them for their participation and linking to a separate page to enter their contact information to enter a drawing to win a gift card for $25. One gift card was raffled for every 20 participants and participants were notified via e-mail if they had been selected. If participants did not respond within two weeks, another participant was selected.
Chapter III: Results

Preliminary Analyses

Missing data. The informed consent form was completed by 351 participants. 96 participants were removed from the data set because they did not complete the survey or had missing data that exceeded 20% for any measure. An additional 6 participants were removed from the data set because they did not meet the inclusion criteria, leaving 249 eligible participants. Participants with less than 5% missing data were retained for further analyses. 61 participants provided incomplete data with missing values ranging from 1 to 4 and logical imputation procedures were performed to compute missing values based on means (Tabachnick & Fidell, 2012). Missing values were imputed for 83 values of the total 22,161 values within the data set (0.37%). Descriptive statistics (i.e., mean, standard deviation, intercorrelations; see Table 1) were computed for all predictor, criterion, moderator, and demographic variables in order to assess sample characteristics, range of responses, and potential covariates. Graphs of participants’ responses on each variable were computed in order to screen for potential outliers.

Assumptions of multiple regression (i.e. normality, linearity, and homoscedasticity, independence of data, outliers, and multicollinearity) were tested. Residuals constructed for the independent (PEDQ-CV and AROS) and dependent variables (DASS, MHQ, and Binges) were graphed in scatterplot. As the residuals approximated the horizontal line where y = 0, the assumption of linearity was determined to have been met. Statistical tests for skewness indicated that the assumption of normality was met as scores from the PEDQ-CV, AROS, DASS, and MHQ fell within the range of -2 to +2 (Tabachnick & Fidell, 2012). Examination of q-q plots for these measures provided additional support that the assumption of normality had been met as plots slope lines were approximately equal to 1. A statistical test for skewness indicated that the
assumption of normality was violated for Binges as it fell outside the range of -2 to +2 (Tabachnick & Fidell, 2012). However, because multiple regression is robust to the violation of the assumption of normality, because transformation of data (square root transformation) did not produce a distribution significantly nearer to normal distribution, and because transformation of data would substantially complicate the interpretation of results (Tabachnick & Fidell, 2012), transformed data for binge drinking data was not used for the major analyses.

The assumption of homoscedasticity was examined through scatterplots of the residuals. Multiple regression is robust to violations of the assumption of homoscedasticity when heteroscedasticity is not severe (Tabachnick & Fidell, 2012). Residuals were plotted against the predictor variables and results indicated that the assumption of homoscedasticity was met as the data were clustered around a y = 0 line (Cohen et al., 2003). The assumption of independence of data was assumed as participants were instructed to take the survey no more than once. Counterbalancing measures further protected the assumption of independence. Multicollinearity was assessed through inspection of the variance inflation (VIF) index with criteria = 5.00 or greater and through Tolerance with criteria = less than 0.20 (Cohen et al., 2003). Examination of these indices indicated that this assumption had not been violated.

Participants completed one of three versions of the online survey to which they were randomly assigned after completing the informed consent form. Cell sizes were examined and determined to be roughly equivalent. Potential order effects were examined through a one-way MANOVA in which the survey order (1-3) was entered as the IV and measure scores were entered as the DV. No significant order effects were revealed using Pillal’s multivariate test for significance, $V = .02, F(16, 480) = 0.34, p = .99$. A multivariate test for homogeneity of dispersion through Box’s M test was non-significant, $M = 71.42, F(72, 147766) = 0.95, p = .61$. 
Major Analyses

Moderation effects were assessed through 3 multivariate multiple regressions testing the significance of the interaction terms with Equation 2: $Y_{\text{B(Self-Rated Health, Psychological Distress, and Alcohol Use)}}$

$$Y = A + B_1 X_1(\text{Perceived Discrimination}) + B_2 X_2(\text{Internalized Racism}) + B_3 M_1(\text{Distance}) + B_4 M_2(\text{Conflict}) + B_5 X_1(\text{Perceived Discrimination}) * M_1(\text{Distance}) + B_6 X_2(\text{Internalized Racism}) * M_1(\text{Distance}) + B_7 X_1(\text{Perceived Discrimination}) * M_2(\text{Conflict}) + B_8 X_2(\text{Internalized Racism}) * M_2(\text{Conflict}) + B_9 X_1(\text{Perceived Discrimination}) * M_2(\text{Conflict}) + B_{10} X_1(\text{Perceived Discrimination}) * X_2(\text{Internalized Racism}) * M_2(\text{Distance}) + e_{MJ}.$$ 

Hierarchical multiple regression using Aiken and West’s (1991) procedure was used to test the hypotheses that multiracial identity integration (conflict and distance) would moderate the relation between experiences of racism (i.e. perceived racial discrimination and internalized racism) and health (i.e. subjective health status, psychological distress, and binge drinking). Three hierarchical multiple regression analyses were performed with Perceived Discrimination and Internalized Racism as independent variables and Psychological Distress (regression 1), Subjective Health Status (regression 2), and Binges (regression 3) as dependent variables. All continuous independent variables were centered to reduce multicollinearity between the main effect and interaction terms (Aiken & West, 1991). In Step 1, age, income, and level of education were entered as covariates to control for their significant correlations with dependent variables. In step 2, perceived racial discrimination, internalized racism, and multiracial identity integration conflict and distance were entered to test for main effects. In Step 3, the 4 two-way interaction terms of perceived racial discrimination by multiracial identity integration conflict (1) and distance (2), as well as internalized racism by multiracial identity integration conflict (3) and distance (4) were entered to test for the hypothesized interaction effects (i.e., Perceived Discrimination x MII-Conflict, Perceived Discrimination x MII-Distance, Internalized Racism x
MII-Conflict and Internalized Racism x MII-Distance). In step 4, the 2 three-way interaction terms of perceived racial discrimination by MII conflict by MII distance (1) and internalized racism by MII conflict by MII distance (2) were entered to test for hypothesized interaction effects (i.e., Perceived Discrimination x MII-Conflict x MII-Distance and Internalized Racism x MII-Conflict x MII-Distance). To minimize the likelihood of committing a Type 1 error, a bonferroni correction was completed and statistical significance was tested at .0166.

Psychological distress. In Step 1, age, income, and level of education were entered as covariates. Step 1 was statistically significant, $R^2 = .13, p = .001$; specifically, income was statistically significant, $\beta = -0.294, p < .001$ (see table 3) indicating an inverse relation between income and psychological distress. In Step 2, consistent with the hypothesis, the incremental main effect (i.e., Perceived Discrimination, Internalized Racism, MII-Distance, and MII-Conflict) on Psychological Distress was statistically significant $\Delta F (4, 238) = 14.75, R^2 = .31; \Delta R^2 = .17, p < .001$. Specifically, perceived discrimination was positively associated with psychological distress, controlling for internalized racism and multiracial identity integration subscales. Internalized racism was positively associated with psychological distress, controlling for perceived discrimination and multiracial identity integration subscales. In Step 3, inconsistent with the hypothesis, the incremental effect of the set of two-way interaction terms (i.e., Perceived Discrimination x MII-Conflict, Perceived Discrimination x MII-Distance, Internalized Racism x MII-Conflict and Internalized Racism x MII-Distance) on Psychological Distress was not statistically significant $\Delta F (4, 234) = 1.36, R^2 = .32; \Delta R^2 = .02, p = .249$. In Step 4, inconsistent with the hypothesis, the incremental effect of the set of three-way interaction terms (i.e., Perceived Discrimination x MII-Conflict x MII-Distance and Internalized Racism x MII-Conflict...
x MII-Distance) was not statistically significant $\Delta F (2, 232) = .719$, $R^2 = .33$; $\Delta R^2 = .004$, $p = .488$.

Subjective health status. In Step 1, age, income, and level of education were entered as covariates. Step 1 was statistically significant, $R^2 = .07$, $p < .001$; specifically, income was statistically significant, $\beta = 0.724$, $p = .001$ (see table 4), indicating a positive relation between income and subjective health status. In Step 2, consistent with the hypothesis, the incremental main effect (i.e., Perceived Discrimination, Internalized Racism, MII-Distance, and MII-Conflict) on Subjective Health Status was statistically significant $\Delta F (4, 238) = 3.909$, $R^2 = .13$; $\Delta R^2 = .06$, $p = .004$. Specifically, perceived discrimination was negatively associated with subjective health status, controlling for internalized racism and multiracial identity integration subscales. In Step 3, inconsistent with the hypothesis, the incremental effect of the set of two-way interaction terms (i.e., Perceived Discrimination x MII-Conflict, Perceived Discrimination x MII-Distance, Internalized Racism x MII-Conflict and Internalized Racism x MII-Distance) on Subjective Health Status was not statistically significant $\Delta F (4, 234) = 0.65$, $R^2 = .14$; $\Delta R^2 = .01$, $p = .63$. In Step 4, inconsistent with the hypothesis, the incremental effect of the set of three-way interaction terms (i.e., Perceived Discrimination x MII-Conflict x MII-Distance and Internalized Racism x MII-Conflict x MII-Distance) was not statistically significant $\Delta F (2, 232) = .406$, $R^2 = .14$; $\Delta R^2 = .003$, $p = .667$

Binge drinking. In Step 1, age, income, and level of education were entered as covariates and were not significant, $R^2 = .016$, $p = .086$ (see table 5). In Step 2, inconsistent with the hypothesis, the incremental main effect (i.e., Perceived Discrimination, Internalized Racism, MII-Distance, and MII-Conflict) on Binge Drinking was not statistically significant $\Delta F (4, 238)$
=.549, \( R^2 = .036; \Delta R^2 = .007, p = .70 \). In Step 3, inconsistent with the hypothesis, the incremental effect of the set of two-way interaction terms (i.e., Perceived Discrimination x MII-Conflict, Perceived Discrimination x MII-Distance, Internalized Racism x MII-Conflict and Internalized Racism x MII-Distance) on Binge Drinking was not statistically significant \( \Delta F(4, 234) = .37, R^2 = .042; \Delta R^2 = .006, p = .83 \). In Step 4, inconsistent with the hypothesis, the incremental effect of the set of three-way interaction terms (i.e., Perceived Discrimination x MII-Conflict x MII-Distance and Internalized Racism x MII-Conflict x MII-Distance) was not statistically significant \( \Delta F(2, 232) = 1.02, R^2 = .05; \Delta R^2 = .008, p = .362 \).
Chapter IV: Discussion

Major Findings

Prior theory and research have suggested that multiracial individuals experience a complex identity development process based on navigating multiple racial backgrounds within a diverse society (Root, 1998). This process has been theorized to be further complicated by multiracial individuals’ interactions with a multifaceted system of racial oppression. As such, multiracial individuals are believed to experience both similar and distinct challenges as their monoracial minority counterparts, leading to impacts on mental and physical health. Although psychological research with the multiracial population is in its infancy, there is some data to suggest that multiracial individuals experience racism (Giamo, Schmitt, & Outten, 2012; Miville, Constantine, Baysden, & So-Lloyd, 2005; Rockquemore et al., 2009), and that multiracial individuals’ perceptions of experiencing discrimination is associated with their psychological distress (Jackson, et al, 2012).

Psychological theories of multiracial identity development have been categorized as following a problem, equivalent, variant, or ecological approach, with variant and ecological approaches highlighting the distinct and normative processes for multiracial individuals. Poston’s (1990) theory of biracial identity development suggests that identity development occurs in five stages: Personal Identity, Choice of Group Categorization, Enmeshment/Denial, Appreciation, and Integration. From this perspective, healthy multiracial identity is viewed as the integration of distinct aspects of one’s racial heritage (Poston, 1990). Multiracial identity integration is theorized to contribute to the psychological health of multiracial individuals and to serve as a protective factor against race-related stress. Thus, the current study examined the relations between experiences of racism (i.e. perceived discrimination and internalized racism)
and health outcomes (i.e. subjective health status, psychological distress, and binge drinking), as well as multiracial identity integration as a moderator of these relations.

Findings from the current study support the hypothesis that perceived discrimination is positively associated with psychological distress and inversely related to subjective health status. These findings are consistent with prior research and theory on the deleterious effect of perceptions of interpersonal racism on both mental and physical health among multiracial adults (e.g., Bratter & Gorman, 2011; Giamo et al., 2012; Jackson, Yoo, Guevarra Jr., et al., 2012). Consistent with findings among monoracial racial minority samples, the effect size for the relation between perceived discrimination and psychological distress is greater than in the relation between perceived discrimination and physical health.

A small yet growing body of empirical literature has demonstrated significant associations between internalized racial oppression and psychological and physical health outcomes among racial minority participants with a recent meta-analysis highlighting the consistency of these associations (Pieterse & Gale, 2014). However, internalized racism has not received adequate empirical attention among multiracial individuals. Findings from the current study support the hypothesis that the construct of internalized racism is relevant and salient to the experiences of multiracial adults. Furthermore, the findings support the hypothesis that internalized racism is significantly associated with psychological distress among multiracial adults, similar to their monoracial minority counterparts.

In contrast, internalized racism was not significantly associated with subjective health status and this finding is inconsistent with theory and research with monoracial minority groups. Prior research has indicated a stronger association between internalized racism and mental health than the link between internalized racism and physical health. It may be possible that
associations between internalized racism and physical health are mediated by psychological distress. It is reasoned that these deleterious effects may be cumulative over time and thus may exist only in the health behaviors, but not health outcomes, of younger multiracial adults. Additionally, participants in this sample reported high levels of education, which were positively associated with subjective health status. As such, it may have been more difficult to detect an association between internalized racism and health in comparison to a sample with a greater degree of variability in educational attainment. It is noteworthy that the correlation between perceived discrimination and internalized racism did not reach statistical significance. Because a measure of perceived discrimination has not yet been included in a study with the AROS, this finding contributes to the theoretical literature on the interrelations of various components of the multifaceted system of racial oppression. It is possible that individuals with a higher degree of internalized racial oppression are less likely to perceive individual-level racial discrimination and further research examining the relation between these variables is warranted.

Past research has indicated that multiracial health outcomes tend to fall between average health outcomes of the two racial backgrounds of a biracial individual (e.g., a Black-White biracial individual may report health outcomes that fall somewhere between the average health outcomes for Black respondents and average health outcomes for White respondents; Bratter & Gorman, 2011). As such, better overall health among a multiracial population in comparison to the monoracial Black and Latinx samples that represent the majority of prior research on internalized racism, may have limited the ability to detect a significant association between internalized racism and health in the current study. This possibility is additionally likely because past research demonstrates stronger associations between internalized racism and mental health in comparison to internalized racism and physical health (Pieterse & Gale, 2014).
Inconsistent with theorizing, no independent (i.e. perceived discrimination and internalized racism) or moderator variable (multiracial identity integration conflict and distance) was significantly associated with binge drinking among the current sample. However, this finding should be interpreted with caution for a number of reasons. Measurement error in the current study’s use of the DDQ (Collins, Parks, & Alan, 1985) may have obfuscated multiracial individuals’ reported alcohol use. Participants were instructed to complete the measure without a way to denote that they do not drink alcohol. Some participants left some or all of the DDQ items blank and it is unknown if these omissions indicated that they do not drink at all, if they did not drink that day (i.e. blank = 0), or if the item was missed due to participant error.

Participants were eliminated from the sample if they did not respond to any item of the DDQ and it is possible that some participants that did not drink during the past 30 days were erroneously eliminated from the data set. It was reasoned that omitted items on the DDQ for participants that responded to some of the DDQ items represented a response of 0. Thus, it is possible that some participants’ drinking behavior was underestimated as a participant may have consumed alcohol on a given day but erroneously missed that item.

Additionally, it is possible that significant associations between binge drinking and variables of interest in the current study were not observed due to the low level of reported alcohol use in the sample ($M = .27, SD = .71$). Low levels of reported alcohol use within this sample may reflect sample characteristics and/or under-reporting of alcohol use. Specifically, the sample was comprised primarily of well-educated, female, multiracial adults, which may represent a group with an overall low level of alcohol consumption. Prior research has suggested that binge drinking is negatively associated with level of education (Naimi, Brewer, Mokdad, Denny, Serdula, & Marks, 2003) and the low level of reported drinking may have significantly
decreased the likelihood of detecting significant associations between binge drinking and race-related variables.

It was reasoned that the negative effect of perceived discrimination and internalized racism on health outcomes would be mitigated by identity integration. Specifically, higher levels of racial identity integration were hypothesized to attenuate the associations between perceived discrimination and internalized racism on health outcomes such that participants perceiving more distance and conflict between their various racial identities were likely to have poorer health. Findings from the current study did not support these hypotheses, as multiracial identity integration did not significantly moderate the significant relations between racism and psychological distress or subjective health status. Neither multiracial identity integration variables were significantly associated with subjective health status in the multiple regression analysis.

These results replicate past research that failed to detect a significant moderation effect between perceived discrimination and psychological distress (Jackson et al., 2012). Several potential explanations exist for the findings in the current study. First, it is possible that a Type 2 error occurred due to measurement error. Similar to prior research (Jackson et al., 2012), internal reliability for the Multiracial Identity Integration Scale was poor within this sample (conflict $\alpha = .78$, distance $\alpha = .65$). Thus, it is possible that the construct of multiracial identity integration does indeed moderate the relations as hypothesized and that this effect would be detected with improved instrumentation that more accurately and fully captures the construct of multiracial identity integration.

Second, it is possible that the construct of multiracial identity integration does not operate similarly across differing compositions of multiraciality. For example, the construct and function
of multiracial identity integration may differ for Black-White biracial individuals and Asian-White individuals based on the differing histories and the current cultural context of the minority racial group. Asian Americans are commonly “positively” stereotyped as “the Model Minority” or “honorary White” (Gupta, Szymanski, & Leong, 2011) and thus, integration of these identities may be less salient than for Black-White individuals whom experience negative stereotyping. Racial identity may also be a less salient variable for some racial/ethnic backgrounds more than others depending on cultural beliefs about race (Rockquemore, Brunsma, & Delgado, 2009).

Third, it is possible that, contrary to multiracial identity development theory, multiracial identity integration does not function as a salient protective factor for multiracial individuals experiencing racism. Perceived racial discrimination and internalized racism may overwhelm the protective benefits of multiracial identity integration or multiracial identity integration may not confer protective benefits in general. Alternatively, multiracial identity integration may be context-dependent as suggested by ecological theories of multiracial identity development (Rockquemore, Brunsma, & Delgado, 2009) and the moderating effect may not be amenable to detection in cross-sectional research.

Limitations

The current study is limited in several areas. Since all measures were self-report, mono-method bias and common method variance may limit inferences from the results. The hypotheses of the present study were examined through univariate analyses which did not control for the interrelations between dependent variables. In the current study, there was a moderate negative correlation between subjective health status and psychological distress and failure to control for this correlation may have partially obfuscated resulted. Thus, further study in this area utilizing techniques that would control for relations between DVs (e.g., canonical correlation, SEM) may
help to clarify the interrelations between these variables. As many of the measures included items that asked participants to reflect on experiences of race and racism, it is possible that participants’ responses were influenced by how they believe they should answer; thus social desirability could threaten the study’s internal validity. Since the AROS has been used in little peer-reviewed empirical research beyond its validation sample, the current study is limited insofar as limited psychometric evidence exists for its use. Self-selection bias and convenience sampling further limit findings of the current study, as the participant pool was likely comprised, on average, of individuals interested in racial issues. Data was collected through an online questionnaire and thus limited participants to individuals with access and ability to use computing systems. Since the study is ex post facto, no causal inferences are warranted.

Measurement error may have increased the likelihood of Type 2 error in the study’s hypothesis testing. Type 2 error seems especially likely for tests of hypothesis relating to the binge drinking outcome variable due to issues in responding to the DDQ (Collins, Parks, & Alan, 1985) discussed above. Type 2 error, due to measurement error, is a credible possibility with regard to the non-significant findings for moderation effects due to the poor internal reliability in this sample and insufficient construct representation of the Multiracial Identity Integration Scale (C.-Y. Cheng & Lee, 2009).

The results are also limited in their generalizability by sample representativeness in demographic variables (e.g., gender, religion, geographic region, etc.). In particular, participants in the current study primarily identified as female, highly educated, and heterosexual. The extent to which the results of the current study accurately represent the experiences of multiracial male-identified, trans, and genderqueer individuals, multiracial adults without a college degree, and sexual minority multiracial adults is unknown. It is noteworthy that age was significantly
positively associated with perceived discrimination and negatively associated with internalized racism, multiracial identity integration conflict, and psychological distress, suggesting that older multiracial adults perceive higher levels of discrimination and experience less internalized racism, multiracial conflict, and psychological distress.

Additionally, education and income were significantly positively associated with subjective health status and negatively associated with internalized racism and psychological distress. Income was also negatively associated with perceived discrimination. These results suggest that education and income may serve as a protective factor against experiencing racism (both interpersonal and intrapersonal) and as a facilitative factor to health among multiracial individuals. Similar to prior research, participants in the current study were primarily female. As such, the psychological literature of multiracial identity may not fully represent the experience of multiracial men and further research with a greater number of male participants may help to elucidate potential gender differences in multiracial identity development and integration.

Implications and Future Directions

The current study makes substantial contributions to the multiracial literature in a number of ways. First, it expands the literature by examining the impact of perceived discrimination on the subjective health, psychological distress, and alcohol use outcomes of multiracial adults. Second, since this study represents the first substantial empirical examination of internalized racial oppression among multiracial individuals, findings contribute to research and theory on this construct for the multiracial population. The present findings indicate that both perceived discrimination and internalized racial oppression represent salient aspects of a multiracial experience of race in the U.S. and indicate the need for further empirical, theoretical, and clinical attention.
Third, the present study examined the relations between experiences of racism and alcohol use among a multiracial sample. The current findings do not suggest significant associations between experiences of racism and alcohol use among multiracial adults. However, these findings should be interpreted with caution due to potential measurement error within the study. Further research should be conducted to examine the relations between experiences of racism and alcohol use among multiracial populations with differing methods of measurement for alcohol use.

Fourth, the study focused attention on the role of multiracial identity integration with a greater diversity of participants than has been examined thus far in the literature. This greater variability provides additional psychometric evidence about the Multiracial Identity Integration scale (C.-Y. Cheng & Lee, 2009). As in prior research, the measure demonstrates low internal consistency reliability, particularly for the multiracial identity integration distance subscale and further research with multiracial individuals would likely benefit from continued measure development, particularly with regard to the construct of identity integration.

As multiracial identity integration did not significantly moderate the relations between experiences of racism (i.e. perceived discrimination and internalized racism) and health outcomes (i.e. subjective health status, psychological distress, and binge drinking), the current study does not highlight protective factors in the experience of racism among multiracial individuals. Thus, it is possible that multiracial identity integration does not serve as a protective factor among multiracial individuals and those seeking to facilitate health among multiracial individuals (e.g., parents, educators, and psychologists) may benefit from focusing on other protective factors. Further inquiry with improved measurement and increased sample size is
warranted to gain a greater understanding of this construct and its functioning in relation to the psychological and physical health of multiracial adults.

Multiracial identity models (e.g., Poston, 1990) that posit identity integration as protective are not supported by the present study’s failure to detect significant moderation effects of multiracial identity integration in the relation between racism and health outcomes are not supported. These findings indicate that parents, educators, and mental health professionals endeavoring to intervene with multiracial individuals to foster resilience to perceived discrimination and internalized racism may choose to focus efforts in other areas of their experience. For example, multiracial individuals may benefit from racial socialization which outlines both the reality of racism within the U.S., as has been shown to be protective among monoracial minority groups (Harris-Britt, Valrie, Kurtz-Costes, & Rowley, 2007), as well as challenges specific to multiracial experience.
References:


Appendix A: Perceived Ethnic Discrimination Questionnaire (Brondolo et al., 2005)

Think about your ethnicity/race. How often have any of the things listed below happened to you, because of your ethnicity?

BECAUSE OF YOUR MULTIRACIAL BACKGROUND...

<table>
<thead>
<tr>
<th>How often...</th>
<th>Never</th>
<th>Sometimes</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Have you been treated unfairly by teachers, principals, or other staff at school?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2. Have others thought you couldn't do things or handle a job?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3. Have others threatened to hurt you (ex: said they would hit you)?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4. Have others actually hurt you or tried to hurt you (ex: kicked or hit you)?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>5. Have policemen or security officers been unfair to you?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>6. Have others threatened to damage your property?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7. Have others actually damaged your property?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8. Have others made you feel like an outsider who doesn't fit in because of your dress, speech, or other characteristics related to your ethnicity?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9. Have you been treated unfairly by co-workers or classmates?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10. Have others hinted that you are dishonest or can't be trusted?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>11. Have people been nice to you to your face, but said bad things about you behind your back?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>12. Have people who speak a different language made you feel like an outsider?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>13. Have others ignored you or not paid attention to you?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>14. Has your boss or supervisor been unfair to you?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>15. Have others hinted that you must not be clean?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>16. Have people not trusted you?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>17. Has it been hinted that you must be lazy?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
Appendix B: Appropriated Racial Oppression Scale (Rangel, 2014)

Instructions: This questionnaire is designed to measure people’s social attitudes, beliefs, feelings and behaviors concerning race. There are no right or wrong answers—everyone’s experience is different. We are interested in YOUR experiences with race. Be as honest as you can in your responses.

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Strongly Disagree</td>
<td>2</td>
<td>Disagree</td>
<td>3</td>
<td>Disagree</td>
</tr>
<tr>
<td>1.</td>
<td>Good hair (i.e., straight) is better.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2.</td>
<td>I feel critical about my racial group.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3.</td>
<td>Although discrimination in America is real, it is definitely overplayed by some members of my race.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4.</td>
<td>People of my race don't have much to be proud of.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5.</td>
<td>I don’t really identify with my racial group's values and beliefs.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6.</td>
<td>I feel that being a member of my racial group is a shortcoming.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7.</td>
<td>I prefer my children not to have broad noses.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8.</td>
<td>I find people who have straight and narrow noses to be more attractive.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9.</td>
<td>I find persons with lighter skin-tones to be more attractive.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10.</td>
<td>I wish I could have more respect for my racial group.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11.</td>
<td>People of my race shouldn't be so sensitive about race/racial matters.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12.</td>
<td>I wish I were not a member of my race.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13.</td>
<td>In general, I am ashamed of members of my racial group because of the way they act.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14.</td>
<td>I wish my nose were narrower.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15.</td>
<td>Sometimes I have a negative feeling about being a member of my race.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16.</td>
<td>People take racial jokes too seriously.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17.</td>
<td>I would like for my children to have light skin.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18.</td>
<td>There have been times when I have been embarrassed to be a member of my race.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19.</td>
<td>Whites are better at a lot of things than people of my race.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20.</td>
<td>It is a compliment to be told &quot;You don't act like a member of your race.&quot;</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>21.</td>
<td>When I look in the mirror, sometimes I do not feel good about what I see because of my race.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>22.</td>
<td>Whenever I think a lot about being a member of my racial group, I feel depressed.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>23.</td>
<td>When interacting with other members of my race, I often feel like I don't fit in.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>24.</td>
<td>Because of my race, I feel useless at times.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Completely Disagree</td>
<td>Completely Agree</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---------------------</td>
<td>------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>My racial identity is best described by a blend of all the racial groups to which I belong (R)</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>I keep everything about my different racial identities separate</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>I am a person with a multiracial identity (R)</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>In any given context, I am best described by a single racial identity</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>I am conflicted between my different racial identities</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>I feel like someone moving between the different racial identities</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>I feel torn between my different racial identities</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>I do not feel any tension between my different racial identities (R)</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix D: Depression Anxiety Stress Scale (Henry & Crawford, 2005)

Please read each statement and select a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:
0 Did not apply to me at all - NEVER
1 Applied to me to some degree, or some of the time - SOMETIMES
2 Applied to me to a considerable degree, or a good part of time - OFTEN
3 Applied to me very much, or most of the time - ALMOST ALWAYS

1. I found it hard to wind down
   0 1 2 3

2. I was aware of dryness of my mouth
   0 1 2 3

3. I couldn’t seem to experience any positive feeling at all
   0 1 2 3

4. I experienced breathing difficulty (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion)
   0 1 2 3

5. I found it difficult to work up the initiative to do things
   0 1 2 3

6. I tended to over-react to situations
   0 1 2 3

7. I experienced trembling (e.g., in the hands)
   0 1 2 3

8. I felt that I was using a lot of nervous energy
   0 1 2 3

9. I was worried about situations in which I might panic and make a fool of myself
   0 1 2 3

10. I felt that I had nothing to look forward to
    0 1 2 3

11. I found myself getting agitated
    0 1 2 3

12. I found it difficult to relax
    0 1 2 3

13. I felt down-hearted and blue
    0 1 2 3

14. I was intolerant of anything that kept me from getting on with what I was doing
    0 1 2 3

15. I felt I was close to panic
    0 1 2 3
16. I was unable to become enthusiastic about anything
17. I felt I wasn’t worth much as a person
18. I felt that I was rather touchy
19. I was aware of the action of my heart in the absence of physical exertion (e.g., sense of heart rate increase, heart missing a beat)
20. I felt scared without any good reason
21. I felt that life was meaningless
Appendix E: Multidimensional Health Assessment Questionnaire (Pincus, Swearingen, & Wolfe, 1999)

Instructions: Please circle the corresponding number to indicate how much you disagree or agree with each of the following statements.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Unsure</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I am in good physical health.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>My body is in good physical shape.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>I am a well-exercised person.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>My body needs a lot of work to be in excellent physical shape.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>My physical health is in need of attention.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Appendix F: The Daily Drinking Questionnaire (Collins, Parks, & Alan, 1985)

Directions: Please indicate the number of drinks that you typically consumed on each day of the week over the past 30 days, and how many total hours you spent consuming alcohol. A drink is considered a 12oz beer (i.e., most bottled or canned beer), a 5oz glass of wine (i.e., a regular-sized glass of wine), or a 1.25oz (one shot) drink of hard alcohol.

<table>
<thead>
<tr>
<th></th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
<th>Sunday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drinks:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</table>

In the past 30 days, what is the most number of drinks you have had on any one occasion? _____

On that occasion, over how many hours did you consume alcohol? _______

In the past 2 weeks, how many times have you had 5 or more drinks at one sitting (if you are a male), or 4 or more drinks in one sitting (if you are a female)? __________

At what age did you have your first drink of alcohol? __________
Appendix G: Demographic Questionnaire

1. Age: _______________

2. Gender:
   - Male
   - Female
   - Transgender
   - Other, please specify:

3. Sexual orientation:
   - Heterosexual
   - Bisexual
   - Gay/Lesbian
   - Other, please specify:

4. What is your Education level?
   - Some high school
   - High school diploma or GED
   - Some college education
   - College graduate
   - Some graduate/professional education
   - Completed graduate/professional school

5. What is your annual household income?
   - Under $ 20,000
   - $ 20,000- 50,000
   - $ 50,000- 80,000
   - $ 80,000- 120,000
   - Over $ 120,000

6. Marital Status:
   - Single, never married
   - Married
   - Separated
   - Cohabitating
   - Divorced
   - Widowed

7. Student status
   - Part-time
   - Full-time
   - Non-student
8. Employment status
   - Part-time
   - Full-time
   - Not working

9. In what state do you currently live? ______________

10. What is your religious/spiritual affiliation (e.g., Protestant, Islamic, Atheist, spiritual but not religious)? ______________

11. How important to you is your religion/spirituality? 
    [1-5 scale: 1: Not Important, 3: Moderately Important, 5: Very Important]

12. How do you identify your Race/Ethnicity? ______________

13. From the list below, please select all that apply to your race/ethnicity:
   - African American/Black
   - Asian American/Pacific Islander
   - Latino/a American or Hispanic American
   - Native American/Alaskan Native
   - White American (non-Hispanic)
   - Other, please specify:

14. Upon meeting you, most people would tend to describe you as having what racial background? ______________

Please respond to the following regarding your biological family members’ racial backgrounds.

From the list below, please select all that apply to your biological MOTHER’S race/ethnicity:
   - African American/Black
   - Asian American/Pacific Islander
   - Latino/a American or Hispanic American
   - Native American/Alaskan Native
   - White American (non-Hispanic)
   - Other, please specify:
   - Don’t know

From the list below, please select all that apply to your biological FATHER’S race/ethnicity:
   - African American/Black
   - Asian American/Pacific Islander
   - Latino/a American or Hispanic American
   - Native American/Alaskan Native
- White American (non-Hispanic)
- Other, please specify:
- Don’t know
Appendix H: Informed Consent Form

Introduction
Experiences of Biracial and Multiracial Adults and People who have Biological Parents with Different Racial Backgrounds

Purpose of the Study
The purpose of this study is to learn more about the experiences of people who have biological parents that have different racial backgrounds from one another. It is my hope that this study will increase awareness and sensitivity to the unique challenges and benefits of biracial and multiracial identity among scholars, mental health professionals, educators, and caregivers.

Procedures
If you continue, you will be provided an online survey and asked to answer some questions. Your answers will remain anonymous. Participation in this study is voluntary; even if you begin the study, you may decide to leave the survey at any time. You also retain the option to not answer any questions or portions of the survey.

Risks and Benefits
There are no anticipated risks of this study beyond the risk that you may experience some mild personal discomfort when answering some of the questions. If you do encounter discomfort with this survey, please remember that you may discontinue at any time. There are no benefits to your participation in this study beyond contributing to a better understanding of multiracial experiences. As a token of appreciation for your time in completing the study, you will have the opportunity to enter a drawing for a $25 gift certificate to Target. There will be one drawing for every 20 participants in the study up to 400 participants (20 gift cards).

Online Data Collection
This study has been approved by the University at Albany Institutional Review Board (IRB). IRB approval is indicative only of the fact that procedures implemented by this study adequately protect the rights and welfare of participants. While your data will remain confidential unless otherwise required by law, please remember that absolute confidentiality cannot be guaranteed due to the nature of Internet and computer use. To best ensure confidentiality, please be sure to close your browser when finished. In addition, the Institutional Review Board, the sponsor of the study, and University or government officials responsible for monitoring this study may inspect these records.

Questions or Concerns
If you have questions concerning your rights as a research participant or if you wish to report any concerns about the study, please contact the University at Albany’s Office of Regulatory Research Compliance at its toll-free phone number 1-866-857-5459 or via email at hsconcerns@albany.edu. You may also contact me (Michael Gale)
at mgale@albany.edu, or the faculty sponsor of this study, Dr. Alex Pieterse, at apieterse@albany.edu or (518) 437-4423.

By clicking "continue" below, you are

(a) indicating that you have read the information about this study;

(b) providing consent to participate in the study; and,

(c) indicating that you are at least 18 years of age.

If you do not wish to participate in this study, please decline participation by closing the window.
Appendix I: E-mail and Social Media Recruitment

Hello,

My name is Michael Gale and I’d like to invite you to participate in a study that helps in understanding the experiences of biracial or multiracial adults or adults who have biological parents of different racial backgrounds from one another. I would really appreciate you taking the time to participate in my study!

The study is expected to take about 20-30 minutes. To participate in this study, you need to:

• Identify as biracial or multiracial OR
• Have biological parents who have different racial backgrounds from one another AND
• Be at least 18 years of age

To thank you for participating, you can choose to enroll in a drawing where you will have a chance to win a $25 Target gift card. One drawing will be held for every 20 participants up to 400 participants (20 gift cards). Your responses will be anonymous and confidential, and you may withdraw at any time with no penalties.

Here is the link to the study: https://www.psychdata.com/s.asp?SID=168273

If you have any questions, please contact me at mgale@albany.edu, or my dissertation chair, Dr. Alex Pieterse, at apieterse@albany.edu.

Thank you for your time and consideration!

*Please feel free to forward this message to those who may be interested in participating.*

This study is approved by University at Albany’s Institutional Review Board. All information that you provide will be anonymous. If you have questions about your rights as a participant, you may contact the Office of Regulatory Research Compliance at the University at Albany at 1-866-857-5459 or hsconcerns@albany.edu.
Appendix J: Figures and Tables

Figure 1: Hypothesized Model
Table 1

Demographics

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<th>Variable</th>
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Table 1 continued

**Demographics**

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Table 2

*Racial Demographics*

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