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Black racial identity and externalizing symptoms: The regulatory role of dyadic relationships

A dissertation submitted in partial fulfillment of the requirements for the degree of Philosophy of
Science at Virginia Commonwealth University.

by

Sultan A. Hubbard, M.S.

Virginia Commonwealth University, May 2019

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Abstract

BLACK RACIAL IDENTITY AND EXTERNALIZING SYMPTOMS: THE REGULATORY ROLE OF DYADIC RELATIONSHIPS

By Sultan A. Hubbard, M.S.

A dissertation submitted in partial fulfillment of the requirements for the degree of Philosophy of
Science at Virginia Commonwealth University.

Virginia Commonwealth University, 2023

Major Director: Shawn O. Utsey, Ph.D.
Professor
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This study explored caregiver impact on Black racial identity (BRI) and externalizing through the integration of BRI, racial socialization (RS), and social support theoretical frameworks. The study used 85 Black undergraduates ($M_{\text{age}}=19.3$, $SD=3.43$) who rated three caregivers, respectively. Restricted maximum likelihood estimation was conducted to estimate variance components. BRI, RS, internalizing, and externalizing variables reflected significant trait effects and dyadic effects. However, racial centrality and public regard did not reflect significant dyadic effects. Participant burden due to randomization of caregivers and items likely suppressed dyadic effects. Moreover, caregivers who evoked private regard were perceived as having high cultural socialization attitudes and as providing high racial barrier and pride socialization. Caregivers who evoked assimilationist attitudes were perceived as having low cultural socialization attitudes and providing low racial barrier socialization. Expect for antidominant attitudes, dyadic BRI was not linked to externalizing. Findings suggest importance of dyadic effects on BRI, RS, and externalizing.

Black Racial Identity and Externalizing Symptoms: The Regulatory Role of Dyadic Relationships

Chapter 1: Introduction

The major aim of this study was to integrate the theoretical traditions of Black racial identity (BRI) and social support to explore the problem of externalizing symptoms, a major dimension of psychopathology. Specifically, this author placed the key theoretical perspectives of the Multidimensional Model of Racial Identity (MMRI; Sellers et al., 1998) and Relational Regulation Theory (RRT; Lakey & Orehek, 2011) in concert with one another to explore social relations mechanisms on externalizing symptoms. This author also explored whether different BRI constructs (i.e., Vandiver et al., 2002), influence this process. In step with this goal, exploration of the role of racial socialization occurred, as it maintains strong theoretical and empirical links to BRI. Given these aims, a review of the historical origins of BRI theory followed by discussing two dominant theories within the BRI literature, the Nigrescence Model (Cross & Vandiver, 2002) and the MMRI will occur. In addition, this author will review RRT research on BRI and internalizing and its implications for the study of externalizing symptoms.

History of Black Racial Identity Theory

Black racial identity (BRI) is a culturally specific construct which plays an important role in the mental health of Black people. BRI is the extent to which Black people identify with Blackness and ascribe meaning to Blackness (Swanson et al., 2009). Since the first theories of BRI were articulated roughly 50 years ago, various racial identity theories have been put forth (*for review* Constantine, 1998; Cross, 1994; Sullivan & Esmail, 2012). The first written reflections of BRI and its nuances may be traced to W. E. B. DuBois's 1903 *The Souls of Black Folk* (1994) where he discusses the idea of double consciousness, the phenomenon whereby

Black people are conscious of their Blackness while wrestling with the hazards of their American identity. However, the developmental psychology roots of racial identity theory may be historically traced to the psychosocial theory of Erik Erikson (1950, 1968) who espoused that development progressed in sequential stages. Erikson built upon Sigmund Freud's (1949) psychosexual developmental theory to incorporate issues of culture, society, and social identity. He maintained that within a series of eight stages, spanning from infancy to older adulthood, one encounters various developmental "crisis" that must be overcome to continue healthy development. Although his theory discussed identity generally, it did not account for the unique cultural, sociopolitical, and historical elements unique to Black identity and its development. As the civil rights and Black power movements commenced Black intellectuals began to create stage theories of Black development that purposed circumstances, behaviors, and affective/cognitive processes that accompanied what was believed to be healthy Black development. Some of these early theories emphasized that racial identity differences challenged therapeutic progress for Black patients and that assimilationist practices were roads to psychological health (e.g., G. G. Jackson & Krischner, 1973; Vontress, 1971). Others emphasized that over-identification with White people as an alternative to internalizing positive Black perceptions was indicative of psychopathology (*for review* Constantine, 1998; Cross, 1994; Sullivan & Esmail, 2012).

BRI scholars have produced robust theoretical frameworks within the past five decades (Baldwin 1980, 1981, 1984; Cross, 1971, 1978, 1991, 1995; Cross & Vandiver, 2001; Worrell et al., 2001; Jackson, 1975; Myers 1988, 1993; Thomas, 1971; Sellers et al., 1998). Gaines & Reed (1994, 1995) distinguished between two approaches of studying identity: the general and culturally specific approaches. The general approach is one which emphasizes the group status of

oppressed individuals (e.g., Black people) and the common affective, cognitive, and behavioral processes all oppressed groups experience as they strive for healthy identity development. This approach has also received more attention historically perhaps because it explores generalizable rather than culturally specific phenomena (Constantine et al., 1998). Theories of Jean Phinney (1992) and Luhtanen & Crocker (1992) may be categorized among the general approach as their theories attempt to describe universal effects of stigmatization as well as the universal protective and promotive factors of identity.

The culturally specific approach examines discrimination of Black people as a unique history that is not generalizable to other oppressed groups. It also conceptualizes unique Black cultural processes (e.g., Africultural coping) as promoting mental health. Cross (1971, 1978, 1991, 1995; Cross & Vandiver, 2001; Worrell et al., 2001) and other theorists (e.g., Baldwin, 1980, 1981, 1984; Myers, 1998, 1993; Kambon, 1992) are often categorized as among the culturally specific approach as they assess the unique elements of Black oppression and Black culture. An approach which harmonizes essential features of the general and culturally specific approaches can be described as an integrative approach. The Multidimensional Model of Racial Identity (Sellers et al., 1998) is an example of an integrative approach as it gleans key concepts of the culturally specific (e.g., nationalistic, humanist, assimilationist, and oppressed minority racial ideologies) and general approaches (e.g., racial centrality, private regard, and public regard) into a coherent theoretical model. In the upcoming sections I will review the seminal extended Nigrescence Model briefly and the MMRI in detail.

The Extended Nigrescence Model

The Nigrescence Model is a seminal theory of BRI and has been revised over the years (Cross, 1971, 1978, 1991, 1995; Cross & Vandiver, 2001; Worrell et al., 2001). The expanded

Nigrescence Model (Cross & Vandiver, 2001) is a BRI theory which hypothesizes that encountering racially significant events catapults exploration of Black identity, culture, and the systemic effects of White dominance on the lives of Black people. This process directly effects two aspects of one's self-concept: personal identity (PI) and reference group orientation (RGO). PI represents individual personality and RGO indicates valence one ascribes to group membership. The theory denotes four racial identity phases: Pre-encounter, Encounter, Immersion/Emersion, and Internalization (Worrell et al. 2001). Similar to Erikson's works (1950, 1968), the initial version of the theory (Cross, 1971, 1978) predicted that BRI moved through linear progression. However, the theory now predicts that phases can be revisited and recycled.

Moreover, these four phases are associated with distinct Black racial identities with the phase names denoting themes of each BRI. Themes are unique in cognitive, affective, social, and behavioral qualities. For example, the Pre-encounter phase consists of three racial identities—assimilation, miseducation, and self-hatred. These identities are characterized by a White RGO, negative self-image, and internalization of negative Black stereotypes. The second phase, Encounter, is not characterized by a racial identity, but is a stage where a Black person experiences a founding event that facilitates reexamination of their Black RGO leading to the immersion/emersion stage. This phase consists of two Black identities: the intense Black involvement and the anti-White identities (Vandiver et al., 2002). These identities are characterized by an “overromanticized” view of Blackness and a significantly negative view of White people and culture. The fourth phase is Internalization, and it contains the nationalist identity which is characterized by Black acceptance, centrality, and more balanced perspectives towards White people and culture.

The MMRI

The MMRI of Sellers et al. (1998) is a Black racial identity theory which has received much attention within the extant literature. The MMRI elucidates general and culturally specific mechanisms behind behavior, thought, and affective responses of Black people when exposed to potentially racist stimuli. It is similar to the Nigrescence Model in that it examines culturally specific factors shaping identity. The culturally specific dimensions are the nationalistic, assimilationist, oppressed minority, and humanist ideologies and these denote the meaning and significance one ascribes to BRI. Racial ideologies vary in nature (i.e., nationalist, assimilationist, oppressed minority, and humanist) and in the degree to which they are held by Black people. They denote the significance and meaning one ascribes to being Black. Nationalist indicates preferences for Black people, culture, and community advancement whereas assimilationist denotes a preference for adopting values and beliefs of the dominant culture. Oppressed minority ideology is an orientation towards identifying with other marginalized groups as a collective whereas Humanist indicates an identification with all people across ethnic and racialized groups.

The MMRI is dissimilar to the Nigrescence Model in that it incorporates general factors impacting identity. The general identity dimensions of the MMRI consist of racial centrality, racial private regard, racial public regard, and racial salience. Racial centrality indicates the extent to which one normatively identifies with Blackness. Racial regard is one's affective evaluations of being Black (i.e., private regard) and one's impressions of how non-Black individuals perceive Black people and culture (i.e., public regard). Racial salience indicates perceptions that one's race has become especially relevant in a particular situation or moment.

The theory distinguishes between dimensions of BRI that vary across individuals (i.e., racial centrality, racial ideologies, racial private/public regard) and situations (i.e., racial salience). Moreover, the MMRI postulates that BRI is not salient in all situations. Part of what determines whether BRI is salient are trait-like differences among people in the extent to which BRI is chronically accessible (i.e., racial centrality). In addition, specific situational cues vary in the extent to which they evoke BRI (i.e., racial salience). When one's racial salience is evoked, trait-like racial regard and trait-like racial ideologies are made relevant in the racially salient situation. These individual difference in what it means to be Black subsequently influence whether a person believes they have resources to deal with a situation (i.e., appraisal) and how to respond given their unique goals. The MMRI emphasizes the nuanced and fluid aspects of racial identity; that it is trait-like and yet a situationally influenced identity for Black people. It is trait-like as aspects of it are stable properties of individuals and these aspects may vary in degree from person to person (e.g., one peer may have higher racial centrality than another). However, it is situationally influenced in that aspects of identity are evoked by specific situations (e.g., White coworker emphasizing exceptional speech of a Black peer). The trait and situationally influenced domains of BRI provide unique avenues for the study of BRI and its complex relationship to mental and behavioral health outcomes.

Internalizing, Externalizing, and BRI

Since the genesis of BRI theory, the relationship between BRI and mental health has remained an important aim of study. Factor analytic research within normal and clinical samples (e.g., Achenbach, 1966; Costa & McCrae, 1992; Enslenck, 1944; Lorr et al., 1963; Krueger, 1999; Markon et al., 2005) has consistently observed internalizing and externalizing dimensions of psychopathology. The Internalizing and externalizing dimensions are composed of alike DSM

disorders based on statistical co-occurrences amongst disorders and symptoms. Internalizing symptoms may include depression and anxiety whereas externalizing symptoms may include aggressiveness, sensation seeking, impulsivity, social irresponsibility, attention issues, and substance use problems. Recent factor analytic research has suggested that the former externalizing dimension is best articulated as two distinct dimensions: disinhibited externalizing and antagonistic externalizing (Kotov et al., 2017). Those high in disinhibited externalizing may have issues with impulsivity, substance use, and the like, whereas those high in antagonistic externalizing may struggle with aggression and rule breaking.

The link between internalizing, externalizing, and BRI has been documented within the literature (e.g., Yip, Wang, Mootoo, Mirpuri, 2019; Lee & Ahn, 2013). For example, Settles et al. (2010) found that those with high public and private racial regard experienced fewer depression symptoms and higher self-esteem. The meta-analysis of Lee & Ahn (2013) found similar links between racial centrality, public regard, and private regard and less psychological stress. Links between BRI and externalizing have also been noted. For example, Black people with more positive racial identity are less willing to use drugs and alcohol (Stock et al., 2013), are less likely to engage in drug (Belgrave et al., 2000a), alcohol or cannabis use (Banks, et al., 2021), are less likely to act aggressively (McMahon & Watts, 2002; Davis et al., 2017), engage in risky sexual activity (Belgrave et al., 2000b), as well as engage in other rule breaking behaviors such as skipping school, stealing, fighting, and damaging property (Davis et al., 2017).

Although BRI research has made important advances, a limitation is that BRI is frequently treated as a trait-like individual difference variable even though the MMRI (Sellers et al., 1998) conceptualizes BRI as both trait-like (e.g., racial centrality) and situationally influenced (i.e., racial salience) (e.g., Shelton & Sellers, 2000). Yet, situational influences on

BRI have received limited empirical attention. Hubbard et al. (2022) sought to fill this gap by exploring the effects of specific personal relationships, an important class of situational influence, on BRI. This research drew from Relational Regulation Theory (RRT; Lakey & Orehek, 2011) which is described in the next chapter.

Chapter 2: Literature Review

Relational Regulation Theory (RRT)

The proposed research integrates BRI theory with Relational Regulation Theory (RRT) to explore the extent to which specific personal relationships evoke positive BRI, and low internalizing and externalizing symptoms. RRT is a social support theory which provides explanations for the main effects between social support and internalizing symptoms. According to RRT (Lakey & Orehek, 2011), individuals continuously regulate affect, thought, and behavior through ordinary shared conversations and shared activities with important specific relationship partners, rather than talking about stress and how to cope with it. As individuals engage in ordinary, yet meaningful, interactions with important others regulation of internalizing symptoms occurs. RRT also predicts that as regulation occurs within the recipient of regulation (i.e., recipients) they begin to form perceptions about the psychological qualities of the provider of regulation (i.e., providers). Thus, when a provider evokes few internalizing symptoms, the recipient typically forms perceptions of the provider, principally that they are highly supportive.

Regulation is relational insofar as it is idiosyncratic to specific recipients. Consider an example of Kasey and Ali discussing top Black bodybuilding competitors in a recent bodybuilding competition. For example, Kasey may successfully regulate Ali's emotions by talking about the recent top placings of Black men's physique bodybuilding competitors in the 2020 Olympia. The successful attempt of Kasey (the provider of regulation) to regulate Ali (the

recipient of regulation) is unique to Kasey, as it is unlikely Kasey may regulate others in the same manner. Similarly, although discussing bodybuilding competitions may regulate Ali's emotions, it is unlikely this topic would regulate most others. According to RRT, provider supportiveness, as perceived by the recipient, is a strong indicator of a successful provider of regulation. Perceived supportiveness of providers is also strongly relational as well. For example, Ali perceives Kasey as more supportive than he typically sees others, and more supportive than Kasey is typically seen by others.

Social Relations Model (SRM)

RRT relies heavily on the analytic approach of the SRM (Kenny, 1994; Kenny et al., 2006), which provides conceptual and quantitative definitions for isolating relationship and other effects on constructs. The effects can be estimated using a round robin design where participants within a group rate each other, though they do not rate themselves. Consider an example of Judah and Zeke rating their experience of racial private regard when with Jazmin and Joy. Recipient trait effects indicate the extent to which recipients' ratings of private regard differ across providers. For example, on average Judah perceives higher private regard when with Jazmin and Joy than does Zeke. Provider trait effects indicate the extent to which some providers evoke higher private regard on average, across recipients. For example, Judah and Zeke have higher private regard when with Jazmin than with Joy. Relationship effects denote patterns whereby a recipient experiences higher private regard with a provider than the recipient typically experiences with other providers and higher regard than what the provider usually evokes in other recipients. For example, Judah experiences higher private regard when with Jazmin whereas Zeke experiences higher regard when with Joy (Figure 1).

The round robin design described above has limitations, particularly its ability to examine the most important relationships of participants, the main focus of this study. In a round robin design participants usually do not share the same important relationships. The one-with-many design is a better option in that it permits the study of participants' most important personal relationships (Kenny, Kashy & Cook, 2006). In this design each recipient in the study rates their own most important personal relationships, thus providers are nested within recipients (Table 1). The design produces two important effects, recipient trait and dyadic effects. Recipient trait effects are identical to those obtained in the round robin design (i.e., the extent to which recipients' ratings of providers differ across providers). One limitation of the one-with-many design is that provider and relationship effects cannot be distinguished as recipients must rate the same providers to statistically distinguish provider and relationship effects. Thus, dyadic effects are the combination of provider and relationship effects.

An example of a one-with-many design is presented in Figure 2. Judah has higher private regard when with DeMarcus than when with Jessica and Alex, respectively, whereas Zeke has higher private regard when with Yolanda than with Taylor & Jerry (Figure 2). This design has been used to study important personal relationships for many constructs including Black racial identity (Hubbard et al., 2022), big five personality traits (Lakey et al., 2021), positive and negative affect (Lakey & Scoboria, 2005; Williamson et al., 2019), internalizing and externalizing symptoms (Quick & Lakey, 2017), self-esteem (Barry et al., 2007), perceived social support and shared activities (Woods et al., 2016) and negative thinking (Lakey & Tanner, 2013).

Dyadic BRI and Internalizing

Hubbard et al. (2022) integrated MMRI theory and RRT by examining how BRI and internalizing may be evoked by specific personal relationships. Using a one-with-many design, Hubbard et al. (2022) found strong dyadic effects on BRI, accounting for between 12% to 20% of the variance. That is, recipients' BRI, whether that be private regard, public regard, or centrality, fluctuated as a function of the providers that recipients were with or were thinking about. Hubbard et al. (2022) similarly found strong dyadic effects on depression and anxiety symptoms, accounting 28% and 40% of the variance, respectively. Additionally, when a recipient experienced high racial centrality with a provider, the recipient also experienced high private regard, low anxiety, low depression, and perceived the provider as highly supportive. Similarly, participants who experienced high private regard with a provider also experienced high racial centrality, low depression, low anxiety, and perceived the provider as highly supportive. These findings indicate the significance of important relationships on BRI and internalizing symptoms. However, these findings have not yet been replicated in previous studies. Replication in the proposed study was a secondary aim.

A limitation of Hubbard et al. (2022) is that the assessment of BRI constructs could have been broader. The MMRI BRI constructs of centrality, public and private regard were assessed, but there are other BRI constructs beyond those included in the MMRI theory. For example, other BRI inventories include additional constructs such as the assimilation, self-hatred, miseducation, anti-dominant, ethnocentricity, racial salience, and multicultural inclusive racial identity attitudes (e.g., Worrell et al, 2019). Dyadic effects on BRI may depend upon the BRI constructs and measures that are used. Likewise, the pattern of correlations between dyadic BRI and mental health may also differ depending on the BRI constructs and measures used. Given

this, additional research is needed to assess whether the results of Hubbard et al. (2022) extend to other BRI inventories (e.g., Worrell et al., 2019).

An additional limitation of Hubbard et al. (2022) is that although dyadic BRI was linked to internalizing symptoms, externalizing symptoms were not assessed. Externalizing is an important dimension of psychopathology (Kotov et al., 2017), and it is important to determine whether dyadic effects for BRI and internalizing extend to externalizing.

Application of RRT to Externalizing

Recent research has found large and significant dyadic effects on externalizing symptoms among predominantly White students (Quick & Lakey, 2017). Using a one-with-many design, participants completed a broad array of externalizing measures when thinking about their mothers, and two most important peers. In Study 1, dyadic effects explained 22% of the variance in sensation seeking. Negative urgency explained 49% and permissive sexual attitudes explained 34% of the variance. Dyadic effects explained between 31% and 35% in beliefs in norms supporting problem drinking. Study 2 of Quick & Lakey (2017) replicated these findings, and additionally documented dyadic effects on substance use problems, (26%) and drinking motivations (30%).

As described previously, RRT research typically attempts to describe the psychological features of providers who evoke constructs in recipients. For example, it is well established that when a provider evokes low levels of internalizing symptoms in a recipient, the recipient sees the provider as supportive (Lakey & Scoboria, 2005; Lakey & Orehek, 2011). However, Quick & Lakey (2017) did not find low perceived social support to be an indicator of providers who evoked externalizing symptoms in recipients. Consequently, if perceived social support is not a

strong indicator of providers who evoke externalizing, what might be? Racial socialization (RS) is a possible candidate.

Racial Socialization

Racial socialization (RS) is a process by which parental caregivers socialize children about the meaning and significance of being Black, along with how to prepare for racialized oppression (Hughes & Johnson, 2001). This socialization is hypothesized to be a precursor to BRI and occurs through explicit and implicit messaging about self-worth, racial barriers, promotion of mistrust, racial pride, egalitarian beliefs, negative racial stereotypes, and silence about race (Jones & Neblett, 2017; Neblett et al., 2012). Self-worth messages involve cultivation of individual worth. Racial barrier messages inform children about the discrimination they may experience and how to cope with this stressor. Promotion of mistrust are prescriptions for how to interact with White people generally. Racial pride messages uplift one's sense of racial belonging and pride. Negative racial stereotypes emphasize the unfavorable qualities associated with one's racial identity. Egalitarian messages emphasize individual traits rather than collective identification with one's racial group. This may also include messages regard unity and equality across racial groups. Silence about race denotes an absence of discussion about race and racism related topics.

There are a few reasons to hypothesize that providers who evoke low externalizing and adaptive BRI may be seen by recipients as providing high adaptive RS messages. First, RS and BRI are highly linked (Neblett et al., 2009; Stevenson & Arrington, 2009), suggesting that RS might be a precursor to BRI. Second, both BRI and RS have been linked to fewer externalizing symptoms (e.g., Belgrave et al., 2000a, 2000b; Davis et al., 2017; McMahon & Watts, 2002). For example, using path analysis, researchers found that adaptive RS messages were associated with

private regard, which in turn, was associated with fewer externalizing behaviors (Davis et al., 2017). Other research has suggested similar findings (Elmore & Gaylord-Harden, 2013). For example, parents who reported higher adaptive RS practices, such as racial pride and promotion of mistrust, had children who reported fewer externalizing symptoms (Caughy et al., 2002).

The study of dyadic BRI on externalizing is an important inquiry as it seeks to explore the role important personal relationships play in evoking adaptive BRI and low externalizing, a major dimension of psychopathology. Dyadic BRI and externalizing have not been examined within the extant literature, leaving a gap in our knowledge of these important constructs. Additionally, regulation of externalizing as a function of whom one is with or thinking about (Quick & Lakey, 2017), has been done within predominantly White samples, though empirical research has not studied this within Black emerging adults. Research on dyadic externalizing would need to have replicable findings amongst diverse populations to demonstrate whether this psychological phenomenon is generalizable to Black people.

Statement of the Problem

The field of BRI research appropriately boasts an impressive history of theoretical and empirical contributors to the study of BRI and mental health. However, much of the research on BRI and mental health treats these variables as individual differences variables (i.e., trait-like) which hinders our understanding of how BRI may be impacted by important social relationships. A recent study, Hubbard et al. (2022) has sought to fill this important gap through the study of dyadic BRI on internalizing symptoms. The findings of the study suggest the importance of specific personal relationships on BRI and internalizing symptoms and that those who evoke low internalizing are typically perceived as highly supportive. However, this study beckons for additional study of BRI and mental health. First, Hubbard et al. (2022) is in need of replication.

Second, this study conducted a limited assessment of BRI in that it did not examine other conceptualizations of BRI (e.g., Cross Ethnic Racial Identity Scale-Adult; Worrell, 2019). Additionally, though dyadic BRI has been linked to low internalizing symptomatology it has not been similarly studied with regard externalizing symptoms, a major dimension of psychopathology. Lastly, although Hubbard et al. (2022) found supportiveness to be a strong indicator of providers who elicit internalizing, it was not a strong indicator of externalizing in previous research (Quick & Lakey, 2017). The current study sought to test whether RS messaging proved to be a strong indicator for providers eliciting low externalizing among recipients.

The Present Study

The primary goal of the study was to examine the relationship between dyadic BRI and externalizing and whether RS was a strong indicator of providers who evoked low externalizing in recipients. This first required estimation of the extent to which various indices of BRI (e.g., private regard, public regard, centrality, and Cross racial identity attitudes), RS, and externalizing/internalizing were explained by the effects of dyads. The secondary aim was to correlate dyadic BRI indices with dyadic internalizing and externalizing symptoms. This permitted the testing of whether caregivers that evoked adaptive BRI also evoked fewer externalizing symptoms. Lastly, analyses were conducted to identify the extent to which caregivers who evoked low internalizing and externalizing symptoms in recipients were seen by recipients as providing adaptive racial socialization. The secondary aim was replication of BRI's link to internalizing.

Statement of Hypotheses

Hypothesis 1a: BRI, as assessed by MMRI dimensions (i.e., racial centrality and regard) and the Cross Ethnic Racial Identity Scale-Adult (Cross Ethnic Racial Identity Scale-Adult; Worrell, 2019) would reflect statistically significant dyadic and recipient trait effects.

Hypothesis 1b: Externalizing symptoms would reflect statistically significant dyadic and recipient trait effects.

Hypothesis 1c: RS would reflect statistically significant dyadic and recipient trait effects.

Hypothesis 1d: Internalizing symptoms would reflect statistically significant dyadic and recipient trait effects.

Hypothesis 2: Dyadic BRI components, specifically, private regard, public regard, racial centrality, ethnic centrality, racial salience, and multicultural inclusive would be highly correlated with low dyadic externalizing symptoms, and recipients would find providers who elicit low externalizing to be producers of high levels of RS messaging. Similarly, dyadic assimilation, miseducation, self-hatred, and antidominant would be highly correlated with high externalizing and recipients would find providers to elicit high externalizing to be producers of low RS.

Hypothesis 3: Dyadic BRI indices would be highly correlated with low dyadic internalizing symptoms, specifically for private regard, public regard, racial centrality, ethnic centrality, racial salience, and multicultural inclusive. Similarly, dyadic assimilation, miseducation, self-hatred, and antidominant would be correlated with high dyadic internalizing.

Method

Participants

At the completion of data collection, the study contained 371 responses. Participants who did not meet the study criteria, that is, they did not identify as Black or African American (n=1),

were excluded from the study. Participants that did not complete at least 75% of the entire questionnaire (n=64), contained at least one scale with 25% or more of missing responses (n=18), contained duplicate IP addresses indicative of multiple attempters (n=142), did not endorse three caregiver relationships to rate (n=3), and had a completion time that did not exceed 1.5 times the median (i.e., 30 minutes, n=23) were excluded from analyses. Additionally, if a participant had a zero-standard deviation for 2 or more caregivers, for 3 or more BRI dimensions, then they were removed from analyses (n=27). Subsequently, if a participant had a zero-standard deviation for 2 or more caregivers, for 3 or more non-BRI variables they were removed from analyses (n=8).

Thus, the final sample size consisted of 85 Black college students (mean=19.3, SD=3.43) from Virginia Commonwealth University during the Fall 2022 and Spring 2023 semesters. Most participants were female (81.2%), straight (75.3%), never married (91.8%), highest level of education completed was high school (50.5%), had a family early income of \$100,000 or more (22.4%) or did not know their family yearly income (37.6%). For extensive demographic information on participants, see Table 2.

Procedures

All participants were recruited through email to instructors, SONA systems, and participants received course credit for study completion. The study was described as one which explores how caregiver relationships influence mental health and identity of Black people. Students were instructed to email this author to confirm inclusion criteria and to confirm interest in the study if they were signing up outside of SONA systems. Participants who accessed the study through SONA systems registered through SONA and initiated the study at the time

scheduled. All participants read the online informed consent page and consenting, prior to beginning the study.

After informed consent was completed, participants were instructed to indicate a mother/maternal figure, father/paternal figure, and another adult caregiver who has strong influences on them, “for better or worse”. Participants rated their Black racial identity as well as internalizing symptoms, racial socialization, and externalizing symptoms when in the presence of or when thinking about each caregiver. Participants answered questionnaire items for caregiver one, caregiver two, and caregiver three in randomized order to control for order effects. This ensured that no two participants rate items or caregivers in the same order. Past research suggests that the amount of time required for study completion approximates 60 minutes (e.g., Hubbard et al., 2022).

Measures

A broad array of demographic information was gathered from the sample, including racial identity (the only exclusion criteria), gender identity, sexual orientation, socioeconomic status of participants or of their family of origin, age, relationship status, and highest level of education completed in years. Additionally, information regarding the caregivers was gathered. In particular, the frequency of contact between participants and caregivers, relationship length in years, and the specific type of relationship they had with the caregiver (e.g., mother, uncle, grandmother) was gathered. Within the one with many design, items must be modified to calculate effects of dyads and recipients. For example, as in Hubbard et al. (2022), items from established scales were modified to read “When with caregiver A, or when thinking about them, to what extent do you agree with the following statements?”. This prompt was immediately

followed by questionnaires measuring various constructs in relation to caregiver A, B, and C in randomized order until the participant completed all questions for all three caregivers.

Subscales of the Multidimensional Inventory of Black Identity (MIBI; Sellers et al., 1998) were used to measure BRI. The 8-item centrality subscale assessed the extent to which people normatively define themselves by race and example items are, “In general, being Black is an important part of my self-image” and “I have a strong attachment to other Black people”. The 6-item private regard subscale assesses the degree to which people appraise their racial group favorably and examples of the private regard subscale are, “I feel good about Black people” and “I often regret that I am Black” (reverse scored). The 6-item public regard subscale measures the degree to which people perceive that out-group members have favorable perceptions of Black people and example items are, “Blacks are not respected by the broader society” (reverse scored) and “In general, other groups view Blacks in a positive manner”. Participants rated responses on a ranged of 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). The most recent psychometric evaluation of the MIBI (Vandiver, Worrell, & Delgado-Romero, 2009) indicated an $\alpha = .80$ for centrality, and $\alpha = .62$ for private regard, and $\alpha = .77$ for public regard.

The 29-item Cross Ethnic-Racial Identity Scale-Adult (CERIS-A; Worrell et al., 2019) was used to measure Black racial identity attitude orientations. The most recent validation study contained six of the original nine identities from the Cross Racial Identity Scales in addition to an Ethnic-Racial Salience subscale. These are six identity attitudes: assimilation, miseducation, self-hatred, anti-dominant, ethnic centrality, and multiculturalist inclusive. An example of assimilation is “I think of myself primarily as an American and seldom as a member of a racial group”. An example of miseducation is “Blacks place more emphasis on having a good time than on hard work”. Similarly, an example of the self-hatred identity is “I sometimes have negative

feelings about being Black”. Examples of the anti-dominant attitudes are “I hate people from the dominant racial/ethnic group” and “My negative feelings toward the majority culture are very intense”. An example of the ethnic centrality identity is, “We will never be whole until we embrace our ethnic/racial heritage”. An example of the multicultural inclusive identity is, “It is important for multiculturalists to be connected to people from many different groups, such as Latino/as, Asian Americans, European Americans, Jews, gays and lesbians, Blacks, multiethnic, etc.)”. Lastly, an example of Ethnic-Racial Salience is, “During a typical week in my life, I think about ethnic and cultural issues many, many times”. Participants will rate responses on a ranged of 1 (*Strongly Disagree*) to 7 (*Strongly Agree*).

Racial socialization was assessed using 8-items from the racial pride and racial barrier subscales within the Racial Socialization Questionnaire-Teen Version (RSQ-T; Lesane-Brown et al., 2006) and 5-items from the Cultural Socialization Attitudes Measure (CSAM; Derlan et al., 2016). Using the RSQ-T, participants were asked to indicate how often they believed a particular type of racial socialization occurred when with a given caregiver by endorsing ratings on a 3-point scale: 1 “*never*”, 2 “*a few times*”, and 3 “*lots of times*”. Example items are, “How often has caregiver 1 told you learning about Black history is not that important?” and “How often has caregiver 2 told you that Blacks and Whites should try to understand each other so they can get along?”. A recent study among Black adolescents yielded internal consistency reliability values between $\alpha = .66$ and $\alpha = .80$ for the RSQ-T (Butler-Barnes et al., 2019). Regarding the CSAM, it was adapted in the current study to measure participants beliefs about the attitudes of their previous caregivers (e.g., mother, father, etc.) and specific cultural socialization received. An example item of the CSAM is, “Caregiver 1 felt it was important for me to feel a strong

attachment to my ethnic/cultural background”. Derlan et al. (2016) found internal consistency reliability findings between $\alpha = .88$ and $\alpha = .90$ for the CSAM.

The Antagonism, Disinhibition, and Negative Affectivity subscales of the Personality Inventory for DSM-5-Brief Form (PID-5-FBF; Maples et al., 2015) were used to assess for internalizing and externalizing psychopathology. The internalizing domain is captured by negative affectivity. The externalizing domain consists of two domains: antagonism and disinhibition. An example of the 12-item negative affectivity scale is, “I get emotional easily, often for very little reason”. An example of 12-item antagonism scale is, “I use people to get what I want” and 12-item disinhibition scale is, “Even though I know better, I can’t stop making rash decisions”. A recent psychometrics study found Cronbach’s alpha estimates of $\alpha = .70$ (negative affectivity), $\alpha = .75$ (disinhibition), and $\alpha = .68$ (antagonism) (Anderson, Sellbom, Salekin, 2018). Participants will rate the extent to which they agree with a given statement when with or thinking about a particular caregiver on a 0 (*Very False or Often False*) to 3 (*Very True or Often True*) point scale.

Analytic Plan

As is common in RRT/SRM research, analysis proceeded in two steps. First, this author estimated the strength of recipient trait and dyadic effects for each construct separately. Second, this author estimated correlations among constructs separately for recipient trait and dyadic components.

To estimate the strength of recipient trait and dyadic effects, the variance components routine with restricted maximum likelihood estimation with random effects in SPSS 29 was used. This was a Caregivers nested within Recipients x Items design with random factors, as depicted in Table 1. Each recipient served as a separate level of the between-subjects recipient factor.

Thus, there was 85 levels of the recipient factor. Each caregiver formed a separate level of the within-subjects provider factor, resulting in 255 levels of the caregivers factor (85 recipients x 3 caregivers). As depicted in Table 1, caregivers were nested within recipients as each recipient rated their own caregivers. Therefore, each caregiver was rated by one recipient. To reduce measurement error and simplify the design (Lakey & Scoboria, 2005), odd and even numbered items were averaged separately to form the two levels of the items factor. Thus, there were 510 observations in these analyses (85 recipients x 3 caregivers per recipient x 2 items). The design produced five effects: recipient trait effects, caregivers nested within recipients (dyadic effects), items, recipients by items, and caregivers nested within recipients by items, which served as the error term. Effects involving items reflect error and thus only recipient trait and dyadic effects are reported.

Estimation of correlations at the dyadic level of analysis required computing dyadic scores for each caregiver. Dyadic scores will be each caregiver's score, with the corresponding recipient's mean score across the three caregivers, subtracted from each caregiver's score (i.e., $DE_{ij} = X_{ij} - M_{Ri}$). Each dyadic score was the unit of observation for correlational analyses, and thus there were 510 scores for each construct. Dyadic scores are not independent, and thus 95% confidence intervals were estimated with percentile bootstrapping, with 1000 resamples, with recipients (N=85) as the units of resampling. Recipients are independent observations.

Correlations at the recipient level of analysis were based on each recipient's average ratings across the three caregivers. Recipients are independent observations and so estimation of 95% confidence intervals using conventional parametric procedures were used. To my knowledge, power analyses are not available for one with many designs. Based on Hubbard et al. (2022) and other RRT/SRM related studies, parameter effects have been estimated with samples

as low as forty-three participants (Lakey & Scoboria, 2005; Study 1) and as high as two-hundred and ninety-two participants (Quick & Lakey, 2017, Study 2).

Results

Missing data

The current results are based on a sample size of 85 participants. Scale missing data was estimated by imputation of the mean to complete scale scores.

Descriptive Statistics

Table 2 contains all demographic information unique to study participants. All participants included in the study were Black or African American with a mean age of 19.3 years. Female identified participants consisted of 81.2% of the sample followed by 2.4% non-binary and 17% male participants. Participant sexual orientation representative within the same consists of 15.3% bisexual, 2.4% lesbian, 3.5% pansexual, 75.3% straight, 1.2% identified as queer, 1.2% “unsure”, and 1.2% did not respond. Divorced participants constituted of 1.2% of the sample, followed by 3.5% married, 91.8% never married, 2.4% separated, and 1.2% widowed. Participants who completed a high school degree reflected 50.5% of the sample, 21.2% completed one year of college, 11.8% completed two years of college, 8.2% completed three years of college, 7.1% completed four years of college, and 1.2% completed a bachelor’s degree. Regarding family yearly income, 9.5% of participants endorsed \$24,999 or less, 5.9% endorsed \$25,000 to \$44,999, 3.5% endorsed \$55,000 to \$64,999, 38.9% endorsed \$65,000 or higher. Participants whose yearly family income was unknown was 37.6% of the sample and 4.7% did not respond.

Tables 3a, 3b, and 3c, respectively, contain descriptive statistics regarding participants unique caregivers. Most participants were in contact with caregivers nearly every day for

caregiver 1 (74.1%), caregiver 2 (41.2%), and caregiver 3 (30.6%), respectively. Most participants have known their endorsed caregiver for six years or more, specifically for caregiver 1 (97.6%), caregiver 2 (97.6%), and caregiver 3 (81.2%). Most participants endorsed their mothers for caregiver 1 (88.2%), fathers for caregiver 2 (74.1%), and “sibling” for caregiver 3 (31.8%). Caregiver 1 was typically of African descent (98.8%), and likewise, caregiver 2 (95.3%) and caregiver 3 (90.6%). Caregiver 1 was typically female (91.8%), caregiver 2 was frequently male (81.2%), and caregiver 3 was typically female (58.8%). Table 4a, 4b, and 4c contain means, standard deviations, and ranges across all constructs.

Internal consistency reliability

Internal consistency reliability was calculated for dyadic and recipient-trait effects for all constructs. Dyadic reliability was calculated using the following formula, $\alpha_{\text{dyadic}} = \sigma^2_{\text{p nested within r}} / (\sigma^2_{\text{p nested within r}} + [\sigma^2_{(\text{p nested within r} \times i / n_i)])$, where r indicates recipients, i indicates items, n_i indicates number of items (i.e., 2, which reflects the average of the odd and even items across constructs, respectively), and p indicates providers. Recipient trait reliability was calculated using the following formula, $\alpha_{\text{trait}} = \sigma^2_r / [\sigma^2_r + (\sigma^2_{(r \times i / n_i)}]$, where r indicates recipients, i represents items, and n_i reflects number of items (i.e., 2, which reflects the average of the odd and even items across constructs, respectively). The alpha values for each variance component are thus calculated using the variance effects themselves as $\sigma^2_{\text{p nested within r}}$ and σ^2_r are the dyadic and recipient trait effects, respectively, and $\sigma^2_{(\text{p nested within r} \times i / n_i)}$ and $\sigma^2_{(r \times i)}$ are the dyadic and recipient trait error terms, respectively.

Racial centrality internal consistency reliability was estimated at $\alpha=.20$ for dyadic and $\alpha=.86$ for recipient trait effects. Private regard internal consistency reliability was estimated at $\alpha=.30$ for dyadic and $\alpha=.78$ for recipient trait effects. Public regard internal consistency

reliability could not be estimated as the dyadic variance component approached zero, however, reliability was estimated at $\alpha=.73$ for recipient trait effects. Assimilation had dyadic effects that were estimated at $\alpha=.39$ and recipient trait effects were estimated at $\alpha=1$, likely an overestimate due to the recipient-by-items variance component being zero (see above equation for computing trait internal consistency reliability). Miseducation had dyadic and recipient trait effects estimated at $\alpha=.31$ and $\alpha=.89$, respectively. Self-hatred had dyadic and recipient trait effects estimated at $\alpha=.56$ and $\alpha=.97$, respectively. Multicultural inclusive had dyadic and recipient trait effects estimated at $\alpha=.41$ and $\alpha=.98$, respectively. Anti-dominant had dyadic and recipient trait effects estimated at $\alpha=.45$ and $\alpha=.99$, respectively. Racial salience had dyadic and recipient trait effects estimated at $\alpha=.42$ and $\alpha=.70$, respectively. Ethnic centrality had dyadic and recipient trait effects estimated at $\alpha=.28$ and $\alpha=.81$, respectively. Cultural socialization had dyadic and recipient trait effects estimated at $\alpha=.82$ and $\alpha=.97$, respectively. Racial barrier had dyadic and recipient trait effects estimated at $\alpha=.68$ and $\alpha=.78$, respectively. Racial pride had dyadic and recipient trait effects estimated at $\alpha=.50$ and $\alpha=.83$, respectively. Negative affectivity had dyadic and recipient trait effects estimated at $\alpha=.67$ and $\alpha=.97$, respectively. Antagonism had dyadic and recipient trait effects estimated at $\alpha=.34$ and $\alpha=.97$, respectively. Lastly, disinhibition had dyadic and recipient trait effects estimated at $\alpha=.56$ and $\alpha=.99$, respectively.

Hypothesis 1a

To estimate dyadic and trait variance for all BRI constructs, which includes several subscales of the MIBI (Sellers et al., 1998) and CERIS-A (Worrell et al., 2019), restricted maximum likelihood estimation with random effects in SPSS 29 were used. Table 5 contains dyadic and trait variance, standard errors, confidence intervals, and proportion of variance explained across all constructs in this study. Specifically, for the MIBI subscales, 30% of the

variance in racial centrality reflected recipient trait effects whereas dyadic effects were non-significant, reflecting 6% of the variance in racial centrality. Racial private regard reflected 14% recipient trait effects, whereas dyadic effects explained 4% of the variance. Racial public regard reflected 22% recipient trait effects and dyadic effects were small, such that they approached zero.

Regarding the CERIS-A, 61% of the variance in assimilation was explained by recipient trait effects and 9% of the variance was explained by dyadic effects. 46% of the variance in miseducation was explained by recipient trait effects and 7% of the variance was explained by dyadic effects. Self-hatred was largely trait-like, whereby 43% for the variance was recipient trait variance and 21% of the variance reflected dyadic effects. 51% of the variance in multicultural inclusive reflected recipient trait effects and 12% of the variance was dyadic. Furthermore, 55% of the variance in antidominant reflected recipient trait effects and 12% reflected dyadic effects. Racial salience consisted of 27% recipient trait variance whereas dyadic variance constituted 11% of the total variance. Lastly, ethnic centrality reflected 28% recipient trait variance and 8% of the variance reflected dyadic effects.

Hypothesis 1b

Externalizing symptoms, specifically, antagonism and disinhibition reflected significant recipient trait and dyadic variance. Antagonism was comprised of 70% recipient trait variance and 5% dyadic variance. Similarly, 70% of the variance in disinhibition reflected recipient trait effects and 11% reflected dyadic effects.

Hypothesis 1c

Racial socialization and cultural socialization attitudes reflected significant recipient trait and dyadic effects, respectively. Cultural socialization attitudes reflected 48% recipient trait

effects and 33% dyadic effects. Racial barrier socialization reflected 24% recipient trait effects and 28% dyadic effects. Racial pride socialization reflected 23% recipient trait effects and dyadic effects reflected 16% of the total variance.

Hypothesis 1d

Internalizing symptoms reflected statistically significant recipient trait and dyadic variance. Specifically, negative affectivity was largely trait-like, reflecting 65% of the variance as recipient trait variance and 14% dyadic variance.

Hypothesis 2 and 3

Dyadic bivariate correlations were calculated in SPSS 29 to assess for correlational relationships between BRI, racial and cultural socialization, internalizing, and externalizing symptoms. Significance testing was computed with STATA with 1000 resamples with recipients as the unit of resampling as recipients are independent observations. Table 6 contains all dyadic correlation results across constructs. Caregivers who evoked high racial private regard also provided high racial barrier ($r = .293, P < .05$), racial pride ($r = .32, P < .05$), and were perceived as having high cultural socialization attitudes ($r = .285, P < .05$). However, these caregivers did not significantly evoke negative affectivity ($r = .027, ns$), antagonism ($r = .01, ns$), or disinhibition ($r = -.232, ns$). As racial centrality and public regard did not contain significant dyadic effects, these correlations are not reported but are included in table 6.

Caregivers who evoked assimilationist BRI provided low racial barrier socialization ($r = -.212, P < .05$) and were perceived as having low cultural socialization attitudes ($r = -.224, P < .05$). These caregivers did not significantly evoke antagonism ($r = -.008, ns$), disinhibition ($r = .089, ns$), negative affectivity ($r = -.000, ns$), and did not provide significant racial pride socialization ($r = -.135, ns$). Caregivers who evoked self-hatred BRI did not significantly provide racial barrier

socialization ($r = -.06$, *ns*), racial pride socialization ($r = -.116$, *ns*), and were not perceived as having significantly low cultural socialization attitudes ($r = -.072$, *ns*). These caregivers did not significantly evoke negative affectivity ($r = .201$, *ns*), antagonism ($r = .024$, *ns*) or disinhibition ($r = .041$, *ns*). Caregivers who evoked multicultural inclusivity did not significantly provide racial barrier ($r = .008$, *ns*), racial pride ($r = .063$, *ns*), and were not perceived as having high cultural socialization attitudes ($r = .048$, *ns*). These caregivers did not significantly evoke negative affectivity ($r = .033$, *ns*), antagonism ($r = -.034$, *ns*), or disinhibition ($r = -.059$, *ns*). Caregivers who evoked antidominant BRI did not significantly provide racial barrier ($r = .015$, *ns*), racial pride ($r = .000$, *ns*), and were not perceived as having high cultural socialization attitudes ($r = .082$, *ns*). Additionally, these caregivers did not significantly evoke negative affectivity ($r = .03$, *ns*) and antagonism ($r = .045$, *ns*), however, they did significantly evoke disinhibition ($r = .165$, $P < .05$) in participants. Caregivers who evoked racial salience provided racial pride socialization ($r = .293$, $P < .05$), racial barrier socialization ($r = .307$, $P < .05$), and were perceived as having high cultural socialization attitudes ($r = .343$, $P < .05$). These caregivers did not significantly evoke antagonism ($r = -.104$, *ns*) and disinhibition ($r = .087$, *ns*), however, they did evoke negative affectivity ($r = .201$, $P < .05$) in participants. Lastly, caregivers who evoked ethnic centrality provided racial barrier socialization ($r = .235$, $P < .05$), racial pride socialization ($r = .148$, $P < .05$), and were perceived as having high cultural socialization attitudes ($r = .261$, $P < .05$). However, these caregivers did not significantly evoke negative affectivity ($r = .041$, *ns*), antagonism ($r = .032$, *ns*), or disinhibition ($r = -.018$, $P < .05$) in participants.

Additional findings

Although hypotheses for correlations among dyadic racial socialization, BRI, and externalizing/internalizing were not considered prior to data collection, it would be a mistake not

to report them. Additionally, as dyadic effects are the main aim of this study, hypothesis for trait correlations were not proposed thus these findings are not reviewed here but are reported in Table 7 in Appendix A. Caregivers who provided high racial pride socialization also provided racial barrier socialization ($r = .562, P < .05$) and were perceived as having high cultural socialization attitudes ($r = .466, P < .05$). These caregivers also evoked high private regard ($r = .32, P < .05$), ethnic centrality ($r = .148, P < .05$), and racial salience ($r = .293, P < .05$), but did not evoke negative affectivity ($r = .115, ns$), antagonism ($r = .025, ns$) or disinhibition ($r = -.001, ns$). Caregivers who provided high racial barrier socialization also provided racial pride socialization ($r = .562, P < .05$) and were perceived as having high cultural socialization attitudes ($r = .433, P < .05$). These caregivers also evoked high private regard ($r = .293, P < .05$), low assimilation ($r = -.212, P < .05$), racial salience ($r = .307, P < .05$), and ethnic centrality ($r = .235, P < .05$), however, they did not evoke negative affectivity ($r = .126, ns$), antagonism ($r = .008, ns$), or disinhibition ($r = -.097, ns$).

Lastly, caregivers who were perceived as having high cultural socialization attitudes also provided racial barrier socialization ($r = .433, P < .05$) and racial pride socialization ($r = .466, P < .05$). These caregivers also evoked high private regard ($r = .285, P < .05$), racial salience ($r = .343, P < .05$), ethnic centrality ($r = .261, P < .05$) and evoked low assimilation attitudes ($r = -.224, P < .05$). These caregivers did not significantly evoke negative affectivity ($r = .144, ns$), antagonism ($r = .104, ns$) or disinhibition ($r = .003, ns$) in participants. Dyadic racial socialization measures, specifically racial barrier, pride, and cultural socialization attitudes were not significantly linked to dyadic self-hatred, multicultural inclusive, or antidominant racial identity attitudes.

Discussion

The first aim of this study was to examine the extent participants' BRI remained constant regardless of which caregiver they were with or where thinking about (i.e., recipient trait effects) as well as whether BRI varied as a function of which caregiver they were with or were thinking about (i.e., dyadic effects). The second aim was to explore whether caregivers who positively evoked BRI (i.e., Private regard, public regard, racial centrality, and multicultural inclusive) also evoked low externalizing (i.e., antagonism and disinhibition) and would be seen by recipients as providing high racial socialization (i.e., racial barrier, racial pride, and cultural socialization attitudes). It was similarly predicted that caregivers who evoked high assimilation, self-hatred, miseducation, and antidominant racial identity attitudes would evoke high externalizing and would be seen by recipients as providing low racial socialization. The third aim of the study was to replicate previous research demonstrating positive associations between dyadic BRI (as measured by the MIBI; Sellers et al., 1998) and dyadic internalizing symptoms and to test whether these findings were consistent with other BRI measures (i.e., Multicultural inclusive BRI; Worrell et al., 2019). As research has long conceptualized BRI as trait-like (e.g., Cross, 1971; Helms, 1990; Sellers et al., 1998), research has not adequately assessed the role of specific personal relationships, a unique class of situation, on BRI. To this author's knowledge, Hubbard et al. (2022) was the first to estimate dyadic and recipient trait effects on BRI and to estimate links between dyadic BRI and dyadic internalizing. However, assessment of BRI was done with only subscales of the MIBI (Sellers et al., 1998) and did not estimate correlational links for dyadic externalizing, an important dimension of psychopathology. Subsequently, Hubbard et al. (2022) could not explore which characteristics of relationship partners predicted which relationship partners would evoke externalizing and which would not evoke externalizing. This

study sought to expand assessment of dyadic BRI with additional measures, estimate links between dyadic BRI and dyadic externalizing, identify characteristics of caregivers that might predict externalizing in recipients, and replicate key Hubbard et al. (2022) links between dyadic BRI and internalizing.

The first hypothesis was partially confirmed in that the MIBI (Sellers et al., 1998) subscales, specifically, racial centrality, private regard, and public regard consisted of statistically significant recipient trait effects at 30%, 14%, and 22%, respectively. However, only private regard had statistically significant dyadic effects (4% of total variance) while racial centrality had a non-significant 6% of the variance explained by dyadic effects. Similarly, public regard had dyadic effects so small that variance approached zero. These findings contrast that of Hubbard et al. (2022) which estimated dyadic effects for racial centrality, public regard, and private regard to be 20%, 12%, and 14%, respectively. Additionally, other than racial centrality, whose trait effects were estimated at 29% of total variance in Hubbard et al. (2022), private regard and public regard contained higher trait variance in Hubbard et al. (2022) than in the current study (i.e., 68% and 54%, respectively). Differences in these findings may be attributed to two distinct differences in study design between the current study and Hubbard et al. (2022). This study specified that participants rate caregivers whereas Hubbard et al. (2022) permitted participants to rate anyone in their social network. Second, the questionnaire which contained the study, had caregivers randomized and items randomized as a precaution against order effects. The first difference in study design most likely cannot explain for these differences in findings as Hubbard et al. (2022) participants rated mothers, fathers, and friends more frequently than any other relationship type, thus the type of providers rated were similar between the two studies.

Consequently, the second difference in study design likely explains some of the variation in findings. Given the randomization of caregivers and items, a participant could have completed, for example, racial private regard item 1 for caregiver 1, disinhibition item 12 for caregiver 3, and cultural socialization item 2 for caregiver 2 as their first set of questions in the study. This pattern of randomization could have increased participant burden in that participants would have to switch between types of items and relationship partners which is more cognitively taxing than in Hubbard et al. (2022) whereby relationship partners and items were presented in consecutive order. An example of possible consecutive order as in Hubbard et al. (2022) would be racial centrality item 1 caregiver 1, racial centrality item 1 caregiver 2, racial centrality item 1 caregiver 3, racial centrality item 2 caregiver 1, racial centrality item 2 caregiver 2, racial centrality item 2 caregiver 3, and so on. The randomization of caregivers and items may have evoked the urge to minimize cognitive demands of the study by 1) responding to items while not attending to the caregiver prompts which inflates recipient trait effects at the expense of dyadic effects, 2) by responding randomly to items which inflates error variance, and 3) by giving identical responses to all items in a given scale for one, two, or three caregivers which inflates recipient trait variance and error variance. The third pattern is feasible to detect and an example of this third pattern of responding would be a participant endorsing “disagree somewhat” for racial centrality items 1 through 8 for caregiver 1, 2, or 3, respectively. This would result in a standard deviation of zero for racial centrality for caregivers 1, 2, or 3 respectively. In fact, this pattern of responding, was identified within the current sample. To control for the effects of this pattern of responding while also maximizing statistical power, 35 participants were removed from analyses due to having a zero-standard deviation for 2 or more caregivers, for 3 or more BRI dimensions and subsequently a zero-standard deviation for 2 or more caregivers, for 3 or

more non-BRI variables, as mentioned elsewhere. Despite this, roughly 79% of the sample had one zero-standard deviation for one caregiver, for at least one scale. This means that 79% of the sample endorsed an identical response across all items in a single scale for at least one scale, for at least one caregiver. Of the three proposed patterns of responding, this pattern of responding (i.e., straight-lining) was most feasible to control for as one cannot reliably identify patterns 1 and 2. Thus, these three patterns of responding could explain these marked differences in findings between Hubbard et al. (2022) and the current study, albeit only the straight-lining patterns could be reliably detected. These three patterns of responding undermine reliable assessment of dyadic effects and inflates error and recipient trait effects across all constructs in the study. Despite this, statistically significant dyadic effects were found for most scales, except public regard and racial centrality.

Moreover, to this author's knowledge, assessment of dyadic BRI as measured by the CERIS-A subscales (Worrell et al., 2019) has yet to be done and the current study expands the assessment of dyadic BRI beyond the MIBI subscales (Sellers et al., 1998). Furthermore, assimilation BRI was largely trait-like, reflecting 61% of the variance, however, dyadic effects reflected a significant 9% of the variance. In fact, miseducation, self-hatred, multicultural inclusive, and antidominant had similar findings in that recipient trait variance and dyadic variance ranged between 43-55% and 7-21%, respectively for these constructs. Ethnic centrality and racial salience had similar patterns of findings in that recipient trait and dyadic variance ranged between 27-28% and 8-11%, respectively. Like Hubbard et al. (2022), the current study found consistent patterns of recipient trait effects for BRI constructs so much so that in both studies BRI was found to be primarily trait-like as others have theorized (e.g., Cross, 1971; Sellers et al., 1998; Phinney, 1992; Cross & Vandiver, 2001; Worrell et al., 2001). However, in

both studies BRI had statistically significant dyadic effects in keeping with theory suggesting BRI is situationally influenced (i.e., Sellers et al., 1998).

Research has yet to estimate recipient trait and dyadic variance for racial socialization. In the current study, this author estimated dyadic effects for cultural socialization attitudes, racial barrier, and racial pride socialization. Cultural socialization attitudes was primarily trait-like, reflecting 48% of the variance, and yet, there was a substantial 33% of the variance which reflected dyadic effects. Similarly, racial barrier reflected 24% recipient trait and 28% dyadic effects, respectively, indicated racial barrier messaging was primarily dyadic. This suggests that racial barrier messaging was provided consistently regardless of caregivers and yet provision of racial barrier messaging varied substantially depending on which caregiver one was with or was thinking about. Racial pride also reflected recipient trait effects (23%) and dyadic effects (16%). Past research has suggested that provision of racial socialization is strongly linked to development of BRI and researchers have observed different findings on whether provision of racial socialization varies depending on characteristics of youth and caregivers (Hughes et al., 2006; Huguley et al., 2019). For example, Thomas and Speight (1999) found variations in racial socialization messaging provided for boys and girls, whereas other researchers have not found similar results (e.g., Caughy et al., 2002; Frabutt et al., 2002; Hughes & Chen, 1997). These mixed results might be explained by variations in recipient trait and dyadic effects within these respective samples. As many constructs reflect a blend of recipient trait and dyadic variance (e.g., Hubbard et al., 2022, Williamson et al., 2019), variation in these effect sizes may result in some samples having statistically significant differences in racial socialization by gender and others finding non-significant differences between these groups. As racial and cultural socialization variables reflected substantial dyadic variance within the current study, this

suggests that there is substantial variation in racial socialization as a function of caregivers. Thus, in studies where mean differences are being tested to assess for variation in racial socialization between groups, researchers may choose to consider assessing for the size of recipient trait and dyadic effects within their sample as a potential explanation of their findings.

Internalizing and externalizing symptoms were also estimated for recipient trait and dyadic effects. Negative affectivity reflected significant trait effects (65%) whereas dyadic effects reflected (14%) of the total variance. This contrasts findings from other researchers who have estimated internalizing symptoms for recipient trait and dyadic effects and found internalizing symptoms to be less trait-like and more dyadic compared to current results. For example, Woods et al. (2016) found that negative affect was primarily dyadic, reflecting 52% of the variance. Others estimated negative affect to be primarily dyadic (49%, Lakey & Rhodes, 2015; 45%, Quick & Lakey, 2017; 48%, Lakey et al., 2010). Hubbard et al. (2022) found depression and anxiety, both distinct measures of internalizing, to be 28% and 40% of the dyadic variance, respectively. As substantial research suggests negative affectivity, a major dimension of psychopathology, to be higher in dyadic variance, it may be that dyadic negative affectivity is suppressed in the current sample. As discussed previously, participants likely experienced high participant burden due to the randomization of caregivers and items throughout the study. Participants likely responded in such a way as to reduce participant burden, thus inflating recipient trait effects at the expense of dyadic effects. Nevertheless, this finding is replicated in that negative affectivity reflects significant recipient trait and dyadic effects.

Regarding the externalizing dimension, antagonism and disinhibition both reflected significant dyadic and recipient trait effects. For antagonism, recipient trait effects reflected 70% of the variance and dyadic 5% of the variance. Disinhibition reflected 70% of the variance as

trait-like whereas dyadic variance reflected 11% of the total variance. To this author's knowledge no published research has estimated recipient trait and dyadic effects with externalizing scales within the PID-5-FBF (Maples et al., 2015), thus comparing current findings with previous research on externalizing may have limitations. For example, Quick & Lakey (2017) estimated externalizing symptoms for sensation seeking, negative urgency, permissive sexual attitudes, and severe drinking norms however, these scales differ greatly from the PID-5-FBF (Maples et al., 2015). Dyadic effects for externalizing across these constructs ranged from 22% to 49% of the total variance, which is substantially higher than in the current study. It may be that different externalizing behaviors and attitudes have differing amounts of dyadic variance. Additionally, due to possible attempts to reduce cognitive load by participants, antagonism and disinhibition are likely inflated with recipient trait effects and suppressed in regards dyadic effects as discussed previously. Nevertheless, antagonism and disinhibition reflected dyadic and trait variance which suggests regulation of externalizing varies depending on whom someone is with or thinking about. Clinically, these findings suggest that behavioral issues and externalizing symptoms may be treated by targeting participants social network, specifically caregivers in this study, not simply the participant in question.

Hypotheses 2 and 3 were partially supported in the current study. Specifically, caregivers who evoked high private regard in participants were seen by participants as providing high racial barrier and pride socialization and were perceived as having high cultural socialization attitudes. These findings replicate existing research linking racial socialization constructs and BRI (e.g., Hughes et al., 2006) and this was done through assessment of this relationship on the dyadic level of analysis, which to this author's knowledge, has yet to be done. This is important as the findings give insight into characteristics of caregivers who elicit high private regard in

participants, specifically that these caregivers provide higher racial socialization in participants than they provide in others and that participants perceived these caregivers as having higher cultural socialization attitudes than others. Future research estimating relationships with racial socialization and other constructs may find differing results depending on the level of analysis (i.e., recipient trait or dyadic level). However, these caregivers who evoked high private regard did not evoke statistically significant low antagonism and low disinhibition, contrary to hypotheses. They also did not significantly evoke low negative affectivity whereas Hubbard et al. (2022) found significant links between low dyadic negative affectivity (i.e., depression and anxiety), racial centrality, and racial private regard. This is likely due to under-estimations of dyadic variance across all constructs as discussed previously. The inflation of recipient trait effects and error variance at the expense of dyadic effects likely reduces incidents of statistically significant dyadic correlations across the sample which suppressed findings on dyadic BRI and dyadic internalizing/externalizing.

Multicultural inclusive attitudes had similar pattern of findings as private regard. Specifically, caregivers who evoked multicultural inclusive attitudes in participants did not significantly evoke disinhibition, antagonism, or negative affectivity in participants. These caregivers did not provide high racial barrier or pride socialization nor were they perceived as having high cultural socialization attitudes. However, caregivers who evoked racial salience, did provide high racial pride and barrier socialization, and were perceived as having high cultural socialization attitudes. These caregivers also evoked negative affect in participants, and in fact, dyadic racial salience is the only BRI scale linked to dyadic negative affectivity. It is likely that for many participants, the very act of a caregiver evoking racial salience, perhaps through the facilitation of education about the history of racism, systemic oppression, or from discussing

recent police shootings of unarmed Black people necessarily evokes negative affectivity given that these ongoing legacies of racism are inherently devastating. Similarly, caregivers who evoked ethnic centrality provided racial barrier and pride socialization and were perceived as having high cultural socialization, however, they did not significantly evoke low internalizing or externalizing.

Besides racial salience and ethnic centrality, assimilation was the only other subscale within the CERIS-A (Worrell et al., 2019) that contained statistically significant dyadic links to racial socialization. Specifically, dyadic assimilation attitudes were negatively linked to racial barrier socialization and cultural socialization attitudes suggesting that caregivers who evoked assimilation attitudes in participants also provided low racial barrier and cultural socialization attitudes. This underscores the importance of dyadic racial socialization in cultivating adaptive dyadic BRI. Dyadic assimilation was not significantly linked to dyadic externalizing symptoms or dyadic negative affectivity. Consistent with hypotheses, dyadic antidominant attitudes was significantly linked to dyadic disinhibition, however modest the size of the effect. Contrary to hypotheses dyadic antidominant was not linked to dyadic internalizing, racial barrier, racial pride, or cultural socialization attitudes. For participants whose antidominant attitudes are evoked, this could manifest in common externalizing symptoms such as distractibility, impulsivity, or irritability as was found in this study with use of the disinhibition scale. Lastly, self-hatred attitudes were not significantly linked to racial socialization, cultural socialization attitudes, internalizing, or externalizing, contrary to hypotheses. As stated previously, null findings could be explained by the study being underpowered and/or reliable assessment of dyadic effects being undermined by participants efforts to minimize study burden.

Interestingly, for the study of dyadic effects, the CERIS-A presented advantages over the MIBI subscales in that all subscales reflected statistically significant dyadic effects whereas this was not the case for the MIBI subscales as racial centrality and racial public regard did not have statistically significant dyadic effects. As a result, readers should interpret dyadic racial centrality correlations with much caution and public regard did not have significant correlational findings with racial socialization, cultural socialization attitudes, or internalizing/externalizing on the dyadic level. Hubbard et al. (2022) found similar findings in that dyadic depression and dyadic anxiety were not significantly correlated with dyadic racial public regard. Thus, caregivers who did evoke public regard, did not also evoke varying levels of depression or anxiety symptoms. These findings highlight possible advantages to using the CERIS-A for studying dyadic effects given limited demonstrations of links between dyadic public regard and other constructs, in this study and in Hubbard et al. (2022). However, the MIBI racial ideology subscales have yet to be assessed for dyadic effects thus links between dyadic racial ideology and dyadic internalizing/externalizing is unknown.

The current study joined social support theoretical perspectives with BRI theories to explore dyadic BRI and its links to externalizing/ internalizing, two major dimensions of psychopathology. The role of racial socialization as a psychological characteristic of caregivers who evoke externalizing was also explored. Unfortunately, due to error inflation and suppression of dyadic variance across scales, a thorough testing of study hypotheses was not possible. This most likely can be explained by methodological differences between Hubbard et al. (2022) and this study whereby caregivers and items were randomized, presenting undue participant burden thus influencing reporting. Nonetheless, these findings support the integrative claims of RRT (Lakey & Orehek, 2011) and the MMRI (Sellers et al., 1998) which suggest that BRI has

significant recipient trait and dyadic effects, and that estimation of these effects may currently illuminate inconsistencies within the literature and pave the way for new research on BRI, racial socialization, and internalizing/externalizing. These findings further underscore the role of important personal relationships in regulating BRI (as measured by some BRI constructs) and mental health. Similarly, these findings suggest the need for further study on whether racial socialization quality may be a characteristic of caregivers who successfully regulate internalizing and externalizing in Black participants.

Limitations

This study was novel and extended the research on BRI, externalizing/ internalizing, and racial socialization, yet it had limitations. First, within the literature review of this manuscript, a distinction was made between relational effects, recipient trait effects, provider trait effects, and dyadic effects. As a one-with many design estimates dyadic effects, which are the combination of relational and provider trait effects, one is not able to statistically distinguish between relational and provider trait effects for the current sample using a one-with many design. More research is needed to distinguish these variance components for BRI, externalizing, and racial socialization.

A second limitation within the current study is regarding methodology. As stated elsewhere, a key difference in methodology between Hubbard et al. (2022) and the current study is that the study randomized all caregivers and items, such that no two participants completed the same order of questions or received the same order of caregivers to rate. Doing this most likely increased cognitive demands of the task, thus increasing the likelihood for participants to explore ways of reducing cognitive demand. In step with this hypothesis, an identified pattern was found within the data, whereby roughly 79% of participants had at least one instance of a zero-standard

deviation for one scale for at least one caregiver. An example of this is a participant answering “sometimes or somewhat true” for all 12-items on the disinhibition subscale for caregiver 1, 2, or 3. This pattern of responding significantly suppressed dyadic effects, significantly inflated dyadic effects, and significantly increase error variance across constructs. Additionally, participants who attenuated burden through responding randomly to items or responding to items without considering the caregiver specific prompts would also increase recipient trait effects at the expense of dyadic effects, while also increasing error effects. Future research should consider how to reduce cognitive burden to deter these patterns of item endorsement.

For some readers, the absence of statistical control over social desirability is a significant limitation, given participants are rating caregivers. Although this may be a limitation, there are reasons to not weigh this limitation heavily. If participants were to rate a caregiver favorably to increase self-image, they would likely do this for all three caregivers. If this were the case, this would be captured as recipient trait effects on social desirability as rating consistently regardless of whom one is with or thinking about is the definition of recipient trait effects. If there were variations in social desirability endorsement across caregivers this would denote dyadic effects on social desirability. As the current study aims to examine dyadic effects, studying dyadic social desirability would be redundant as dyadic effects capture the influence of social relationships on participants’ endorsement of scale items.

An additional limitation was that of the sample itself. This study was relatively small and was a convenience sample of undergraduate students who were largely female, straight, middle class, and first year students. The strong similarities between participants in the sample could pose speculations as to the generalizability of these findings to other Black people who do not self-identify similarly to those within this sample. Additionally, generalization of findings to

parental caregivers is limited in that some participants endorsed caregivers who may or may not have played caregiver roles (e.g., sibling, friend, romantic partner). Future research should be done to narrow caregivers to parental caregivers to generalize findings more clearly to this unique relationship type. Despite these limitations, this author believes that the current study encourages other BRI researchers to explore new methodologies on dyadic influences so that they can construct their research questions with a lens towards identifying the role of dyadic and trait effects. Through isolating dyadic effects on BRI, internalizing, externalizing, and racial socialization, the current study demonstrated that caregivers who evoke BRI may also evoke externalizing symptoms as well as internalizing symptoms (racial salience and antidominant, respectively for the current study). The study also demonstrated that caregivers who evoke dyadic BRI may often provide high racial socialization and may be perceived as having high cultural socialization attitudes.

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Appendix A

Table 1

Providers Nested within Recipients x Items Design with Random Factors

| | Prov ₁ | Prov ₁ | Prov ₂ | Prov ₂ | Prov ₃ | Prov ₃ | Prov ₄ | Prov ₄ | Prov ₅ | Prov ₅ | Prov ₆ | Prov ₆ |
|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | I ₁ | I ₂ | I ₁ | I ₂ | I ₁ | I ₂ | I ₁ | I ₂ | I ₁ | I ₂ | I ₁ | I ₂ |
| Rec ₁ | 3.7 | 4.4 | 2.0 | 3.5 | 4.8 | 2.6 | | | | | | |
| Rec ₂ | | | | | | | 4.2 | 4.6 | 3.8 | 1.6 | 3.7 | 3.9 |

Note. Above contains a theoretical depiction of a providers nested within recipients x items design with random factors. This illustrates how each recipient rates different providers and that constructs used in ratings are repeated for each providers. Rec = recipient, Prov = provider, I = item.

Table 2*Descriptive Statistics of Participants*

| Variables | n | % |
|-------------------------------|----|------|
| Racial Identity | | |
| Black or African American | 85 | 100 |
| Gender Identity | | |
| Female | 69 | 81.2 |
| Gender non-binary | 2 | 2.4 |
| Male | 14 | 17 |
| Sexual Orientation | | |
| Asexual | 0 | 0 |
| Bisexual | 13 | 15.3 |
| Gay | 0 | 0 |
| Lesbian | 2 | 2.4 |
| Pansexual | 3 | 3.5 |
| Straight or heterosexual | 64 | 75.3 |
| Self-identify: "Queer" | 1 | 1.2 |
| Self-identify: "Unsure" | 1 | 1.2 |
| Did not respond | 1 | 1.2 |
| Relationship status | | |
| Divorced | 1 | 1.2 |
| Married | 3 | 3.5 |
| Never Married | 78 | 91.8 |
| Separated | 2 | 2.4 |
| Widowed | 1 | 1.2 |
| Education in years | | |
| 12 years | 43 | 50.5 |
| 13 years | 18 | 21.2 |
| 14 years | 10 | 11.8 |
| 15 years | 7 | 8.2 |
| 16 years | 6 | 7.1 |
| Completed a bachelor's degree | 1 | 1.2 |

Note. $N=85$. Participants were on average 19.3 years old ($SD=3.43$, Range=18-48).

Table 2 continued.*Descriptive Statistics of Participants*

| Variables | n | % |
|----------------------|----|------|
| Family yearly income | | |
| Under \$5,000 | 2 | 2.4 |
| \$14,000-\$15,999 | 1 | 1.2 |
| \$18,000-\$19,999 | 2 | 2.4 |
| \$20,000-\$24,999 | 3 | 3.5 |
| \$25,000-\$34,999 | 2 | 2.4 |
| \$35,000-\$44,999 | 3 | 3.5 |
| \$55,000-\$64,999 | 3 | 3.5 |
| \$65,000-\$74,999 | 8 | 9.4 |
| \$75,000-\$99,999 | 6 | 7.1 |
| \$100,000 or more | 19 | 22.4 |
| Did not know | 32 | 37.6 |
| Declined to respond | 4 | 4.7 |

Note. N=85. Participants were on average 19.3 years old (SD=3.43, Range=18-48).

Table 3a*Descriptive Statistics of Caregiver 1*

| Variables | n | % |
|--------------------------------------|----|------|
| Frequency of contact for caregiver 1 | | |
| Nearly every day | 63 | 74.1 |
| Several times per week | 16 | 18.8 |
| Several times per month | 2 | 2 |
| Once or less per month | 4 | 4.7 |
| Relationship length for caregiver 1 | | |
| 3-6 months | 0 | 0.0 |
| 6-12 months | 1 | 1.2 |
| 1-2 years | 1 | 1.2 |
| 3-5 years | 0 | 0.0 |
| 6 or more years | 83 | 97.6 |
| Relationship type for caregiver 1 | | |
| Mother | 75 | 88.2 |
| Father | 4 | 4.7 |
| Sibling | 2 | 2.4 |
| Peer | 1 | 1.2 |
| Grandmother | 2 | 2.4 |
| Other | 1 | 1.2 |
| Racial identity for caregiver 1 | | |
| African descent | 84 | 98.8 |
| East Asian descent | 1 | 1.2 |
| Gender identity for caregiver 1 | | |
| Female | 78 | 91.8 |
| Male | 6 | 7.1 |

Note. Participant rates three different caregivers respectively. Caregivers endorsed as "peer" may indicate older age peer caregivers (e.g., sitters). Additionally, short relationship length may indicate temporary caregivers (e.g., sitters, foster parents).

Table 3b*Descriptive Statistics of Caregiver 2*

| Variables | n | % |
|--------------------------------------|----|------|
| Frequency of contact for caregiver 2 | | |
| Nearly every day | 35 | 41.2 |
| Several times per week | 25 | 29.4 |
| Several times per month | 14 | 17 |
| Once or less per month | 11 | 12.9 |
| Relationship length for caregiver 2 | | |
| 3-6 months | 1 | 1.2 |
| 6-12 months | 0 | 0.0 |
| 1-2 years | 1 | 1.2 |
| 3-5 years | 0 | 0 |
| 6 or more years | 83 | 97.6 |
| Relationship type for caregiver 2 | | |
| Mother | 5 | 5.9 |
| Father | 63 | 74.1 |
| Sibling | 7 | 8.2 |
| Friend | 1 | 1.2 |
| Peer | 0 | 0 |
| Aunt | 3 | 3.6 |
| Grandmother | 3 | 3.6 |
| Stepmother | 1 | 1.2 |
| Uncle | 1 | 1.2 |
| Other | 1 | 1.2 |
| Racial identity for caregiver 2 | | |
| African descent | 81 | 95.3 |
| East Asian descent | 1 | 1.2 |
| Latin American descent | 1 | 2.4 |
| Middle Eastern descent | 1 | 1.2 |
| Gender identity for caregiver 2 | | |
| Female | 15 | 17.6 |
| Male | 69 | 81.2 |
| Self-identify: "Transgender" | 1 | 1.2 |

Note. Participant rates three different caregivers respectively. Caregivers endorsed as "peer" may indicate older age peer caregivers (e.g., sitters). Additionally, short relationship length may indicate temporary caregivers (e.g., sitters, foster parents).

Table 3c*Descriptive Statistics of Caregiver 3*

| Variables | n | % |
|--------------------------------------|----|------|
| Frequency of contact for caregiver 3 | | |
| Nearly every day | 26 | 30.6 |
| Several times per week | 21 | 24.7 |
| Several times per month | 22 | 26 |
| Once or less per month | 16 | 18.8 |
| Relationship length for caregiver 3 | | |
| 3-6 months | 2 | 2.4 |
| 6-12 months | 0 | 0.0 |
| 1-2 years | 6 | 7.1 |
| 3-5 years | 8 | 9.4 |
| 6 or more years | 69 | 81.2 |
| Relationship type for caregiver 3 | | |
| Father | 9 | 10.6 |
| Sibling | 27 | 31.8 |
| Friend | 5 | 5.9 |
| Romantic partner | 9 | 10.6 |
| Peer | 2 | 2.4 |
| Aunt | 7 | 8.2 |
| Cousin | 1 | 1.2 |
| Uncle | 1 | 1.2 |
| God-father | 1 | 1.2 |
| Grand-mother | 17 | 20 |
| Grand-father | 1 | 1.2 |
| Grand-parent | 1 | 1.2 |
| Step-father | 2 | 2.4 |
| Step-mother | 1 | 1.2 |
| Step-parent | 1 | 1.2 |

Note. Participant rates three different caregivers respectively.

Caregivers endorsed as "peer" may indicate older age peer caregivers (e.g., sitters). Additionally, short relationship length may indicate temporary caregivers (e.g., sitters, foster parents).

Table 3c continued*Descriptive Statistics of Caregiver 3*

| Variables | n | % |
|---------------------------------|----|------|
| Racial identity for caregiver 3 | | |
| African descent | 77 | 90.6 |
| European descent | 3 | 3.5 |
| East Asian descent | 1 | 1.2 |
| Latin American descent | 3 | 3.5 |
| Middle Eastern descent | 1 | 1.2 |
| Gender identity for caregiver 3 | | |
| Female | 50 | 58.8 |
| Male | 33 | 38.8 |
| Gender non-binary | 2 | 2.4 |

Note. Participant rates three different caregivers respectively. Caregivers endorsed as "peer" may indicate older age peer caregivers (e.g., sitters). Additionally, short relationship length may indicate temporary caregivers (e.g., sitters, foster parents).

Table 4a

Means, standard deviations, and ranges for MIBI, CERIS-A, CSA, RSQ-T, and PID-5-BF.

| Scales | Mean (SD) | Range |
|--------------------------------------|--------------|-------|
| Caregiver 1 | | |
| Racial Centrality ^a | 37.07 (5.47) | 23-49 |
| Racial Private Regard ^a | 32.66 (3.97) | 19-41 |
| Racial Public Regard ^a | 27.93 (3.78) | 20-36 |
| Assimilation ^b | 11.36 (5.14) | 4-24 |
| Miseducation ^b | 15.22 (5.04) | 4-25 |
| Self Hatred ^b | 11.07 (5.49) | 4-25 |
| Multicultural Inclusive ^b | 20.54 (4.32) | 10-28 |
| Antidominant ^b | 10.64 (4.77) | 4-20 |
| Racial Salience ^b | 17.28 (3.95) | 6-26 |
| Ethnic Centrality ^b | 17.04 (3.67) | 7-26 |
| Cultural Socialization ^c | 20.38 (4.10) | 10-25 |
| Racial Barrier ^d | 9.60 (1.90) | 4-12 |
| Racial Pride ^d | 8.48 (1.77) | 4-12 |
| Negative Affectivity ^c | 27.94 (8.04) | 13-43 |
| Antagonism ^c | 22.01 (6.68) | 12-39 |

Note. Each participant completed the given scales pertaining to three caregivers from their own social network. Superscripts ^a indicates MIBI subscales, ^b indicates CERIS-A subscales, ^c indicates the CSA measure, and ^d indicates PID-5-BF subscales.

Table 4b

Means, standard deviations, and ranges for MIBI, CERIS-A, CSA, RSQ-T, and PID-5-BF.

| Scales | Mean (SD) | Range |
|--------------------------------------|--------------|-------|
| Caregiver 2 | | |
| Racial Centrality ^a | 36.27 (5.79) | 18-49 |
| Racial Private Regard ^a | 30.95 (4.48) | 19-36 |
| Racial Public Regard ^a | 27.68 (4.50) | 13-37 |
| Assimilation ^b | 11.49 (5.47) | 4-25 |
| Miseducation ^b | 14.67 (4.69) | 4-24 |
| Self Hatred ^b | 10.47 (5.25) | 4-28 |
| Multicultural Inclusive ^b | 20.07 (4.18) | 8-28 |
| Antidominant ^b | 10.74 (5.18) | 4-25 |
| Racial Salience ^b | 16.71 (4.34) | 5-27 |
| Ethnic Centrality ^b | 16.93 (3.91) | 7-27 |
| Cultural Socialization ^c | 20.12 (3.94) | 9-25 |
| Racial Barrier ^d | 9.34 (2.23) | 4-12 |
| Racial Pride ^d | 8.02 (1.87) | 4-12 |
| Negative Affectivity ^e | 26.51 (7.88) | 12-42 |
| Antagonism ^e | 22.04 (6.32) | 12-37 |
| Disinhibition ^e | 23.65 (7.92) | 12-41 |

Note. Each participant completed the given scales pertaining to three caregivers from their own social network. Superscripts ^a indicates MIBI subscales, ^b indicates CERIS-A subscales, ^c indicates the CSA measure, and ^e indicates PID-5-BF subscales.

Table 4c

Means, standard deviations, and ranges for MIBI, CERIS-A, CSA, RSQ-T, and PID-5-BF.

| Scales | Mean (SD) | Range |
|--------------------------------------|--------------|-------|
| Caregiver 3 | | |
| Racial Centrality ^a | 36.33 (5.70) | 21-52 |
| Racial Private Regard ^a | 31.04 (4.52) | 17-37 |
| Racial Public Regard ^a | 27.66 (3.85) | 19-36 |
| Assimilation ^b | 11.45 (5.65) | 4-26 |
| Miseducation ^b | 14.81 (4.64) | 4-25 |
| Self Hatred ^b | 10.67 (5.17) | 4-24 |
| Multicultural Inclusive ^b | 21.4 (4.36) | 7-28 |
| Antidominant ^b | 11.41 (5.41) | 4-27 |
| Racial Salience ^b | 17 (5.41) | 4-27 |
| Ethnic Centrality ^b | 17.09 (4.05) | 7-26 |
| Cultural Socialization ^c | 19.62 (3.72) | 10-25 |
| Racial Barrier ^d | 8.95 (2.29) | 4-12 |
| Racial Pride ^d | 7.76 (1.81) | 4-12 |
| Negative Affectivity ^e | 25.95 (8.28) | 12-42 |
| Antagonism ^e | 22.07 (7.30) | 12-45 |
| Disinhibition ^e | 23.61 (7.49) | 12-43 |

Note. Each participant completed the given scales pertaining to three caregivers from their own social network. Superscripts ^a indicates MIBI subscales, ^b indicates CERIS-A subscales, ^c indicates the CSA measure, and ^e indicates PID-5-BF subscales.

Table 5. *Variance components, standard errors, confidence intervals, and proportion of variance explained*

| Source | Variance Component | Standard Error ^a | 95% Confidence Interval ^a | Proportion of Variance Explained ^b |
|-------------------------|--------------------|-----------------------------|--------------------------------------|---|
| Racial Centrality | | | | |
| Trait Effects | 0.23 | 0.05 | 0.12-0.34 | 0.30* |
| Dyadic Effects | 0.05 | 0.03 | -.01-.11 | 0.06 |
| Racial Private Regard | | | | |
| Trait Effects | 0.24 | 0.06 | 0.11-0.36 | 0.14* |
| Dyadic Effects | 0.07 | 0.03 | 0.01-0.13 | 0.04* |
| Racial Public Regard | | | | |
| Trait Effects | 0.18 | 0.05 | .07-.28 | 0.22* |
| Dyadic Effects | 0.00 | 0.00 | -- | 0.00 |
| Assimilation | | | | |
| Trait Effects | 1.31 | 0.23 | .85-1.76 | 0.61* |
| Dyadic Effects | 0.20 | 0.06 | 0.08-0.33 | 0.09* |
| Miseducation | | | | |
| Trait Effects | 0.89 | 0.18 | 0.53-1.25 | 0.46* |
| Dyadic Effects | 0.13 | 0.05 | 0.03-0.24 | 0.07* |
| Self-Hatred | | | | |
| Trait Effects | 0.93 | 0.19 | 0.55-1.31 | 0.43* |
| Dyadic Effects | 0.45 | 0.09 | 0.26-0.63 | 0.21* |
| Multicultural Inclusive | | | | |
| Trait Effects | 0.74 | 0.14 | 0.46-1.02 | 0.51* |
| Dyadic Effects | 0.18 | 0.05 | 0.07-0.28 | 0.12* |
| Antidominant | | | | |
| Trait Effects | 1.10 | 0.20 | 0.71-1.49 | 0.55* |
| Dyadic Effects | 0.24 | 0.06 | 0.12-0.37 | 0.12* |

Note. ^a Refers to variance components. ^b Proportion of variance explained was estimated by dividing variance components for a particular effect by total variance. Total variance is the sum of all five variance components (e.g., recipient trait effects, dyadic effects, items, recipients x items, and providers nested within recipients x items, which is the error term). Effects are significant* if 95% confidence interval does not include zero.

Table 5 continued. *Variance components, standard errors, confidence intervals, and proportion of variance explained*

| Source | Variance Component | Standard Error ^a | 95% Confidence Interval ^a | Proportion of Variance Explained ^b |
|------------------------|--------------------|-----------------------------|--------------------------------------|---|
| Racial Salience | | | | |
| Trait Effects | 0.49 | 0.14 | 0.21-0.77 | 0.27* |
| Dyadic Effects | 0.20 | 0.06 | 0.08-0.32 | 0.11* |
| Ethnic Centrality | | | | |
| Trait Effects | 0.42 | 0.10 | 0.21-0.62 | 0.28* |
| Dyadic Effects | 0.12 | 0.05 | 0.01-0.22 | 0.08* |
| Cultural Socialization | | | | |
| Trait Effects | 0.33 | 0.07 | 0.19-0.47 | 0.48* |
| Dyadic Effects | 0.23 | 0.03 | 0.16-0.29 | 0.33* |
| Racial Barrier | | | | |
| Trait Effects | 0.10 | 0.03 | 0.04-0.16 | 0.24* |
| Dyadic Effects | 0.11 | 0.00 | 0.11-0.11 | 0.28* |
| Racial Pride | | | | |
| Trait Effects | 0.08 | 0.00 | 0.08-0.08 | 0.23* |
| Dyadic Effects | 0.06 | 0.00 | 0.06-0.06 | 0.16* |
| Negative Affectivity | | | | |
| Trait Effects | 0.34 | 0.06 | 0.22-0.47 | 0.65* |
| Dyadic Effects | 0.07 | 0.00 | 0.07-0.07 | 0.14* |
| Antagonism | | | | |
| Trait Effects | 0.27 | 0.04 | 0.18-0.36 | 0.70* |
| Dyadic Effects | 0.02 | 0.01 | 0.00-0.03 | 0.05* |
| Disinhibition | | | | |
| Trait Effects | 0.32 | 0.05 | 0.21-0.43 | 0.70* |
| Dyadic Effects | 0.05 | 0.00 | 0.05-0.05 | 0.11* |

Note. ^a Refers to variance components. ^b Proportion of variance explained was estimated by dividing variance components for a particular effect by total variance. Total variance is the sum of all five variance components (i.e., recipient trait effects, dyadic effects, items, recipients x items, and providers nested within recipients x items, which is the error term). Effects are significant* is 95% confidence interval does not include zero.

Table 6. *Correlations among constructs for dyadic effects*

| | RacCen | PriReg | PubReg | Assim | Mised | Self-Hatred | MultInc | Antidom |
|-------------|--------|--------|--------|--------|--------|-------------|---------|---------|
| RacCen | 1 | .294* | .186* | -0.016 | 0.051 | -0.142 | 0.152 | -0.095 |
| PriReg | .294* | 1 | .257* | -0.094 | 0.064 | -0.185 | 0.182 | -0.068 |
| PubReg | .186* | .257* | 1 | 0.133 | 0.086* | -0.150 | .252* | -0.135 |
| Assim | -0.016 | -0.094 | 0.133 | 1 | 0.03 | -0.119 | 0.086 | -.137* |
| Mised | 0.051 | 0.064 | 0.086* | 0.03 | 1 | -0.068 | .346* | -0.001 |
| Self-Hatred | -0.142 | -0.185 | -0.150 | -0.119 | -0.068 | 1 | -.196* | .289* |
| MultInc | 0.152 | 0.182 | .252* | 0.086 | .346* | -.196* | 1 | -0.002 |
| Antidom | -0.095 | -0.068 | -0.135 | -.137* | -0.001 | .289* | -0.002 | 1 |
| Salience | 0.104 | .149* | -0.073 | -.260* | 0.024 | 0.234 | 0.072 | .195* |
| EthCen | .186* | 0.096 | 0.07 | -.241* | 0.016 | 0.001 | 0.042 | .215* |
| CultSoc | .246* | .285* | 0.081 | -.224* | 0.017 | -0.072 | 0.048 | 0.082 |
| RacBar | .163* | .293* | 0.097 | -.212* | 0.003 | -0.06 | 0.008 | 0.015 |
| RacPri | .259* | .320* | 0.065 | -0.135 | 0.021 | -0.116 | 0.063 | 0.000 |
| NegAff | -0.059 | 0.027 | 0.004 | 0.00 | 0.012 | 0.201 | 0.033 | 0.03 |
| Antag | 0.111 | 0.01 | 0.067 | -0.008 | -0.012 | 0.024 | -0.034 | 0.045 |
| Disin | -0.03 | -0.232 | -0.101 | 0.089 | -0.021 | 0.041 | -0.059 | .165* |

Note. Correlations for dyadic effects. Values above the diagonal are mirrored with those below the diagonal. *Indicates $p < .05$.

RacCen = Racial centrality; PriReg = Private regard; PubReg = Public regard; Assim = Assimilation; MultInc = Multicultural Inclusive; Antidom = Antidominant; Salience = Racial salience; EthCen = Ethnic centrality; CultSoc = Cultural socialization; RacBar = Racial Barrier; RacPri = Racial Pride; NegAff = Negative affectivity; Antag = Antagonism; Disin = Disinhibition.

Table 6 continued. *Correlations among constructs for dyadic effects*

| | Salience | EthCen | CultSoc | RacBar | RacPri | NegAff | Antag | Disin |
|-------------|----------|--------|---------|--------|--------|--------|--------|--------|
| RacCen | 0.104 | .186* | .246* | .163* | .259* | -0.059 | 0.111 | -0.03 |
| PriReg | .149* | 0.096 | .285* | .293* | .320* | 0.027 | 0.01 | -0.232 |
| PubReg | -0.073 | 0.07 | 0.081 | 0.097 | 0.065 | 0.004 | 0.067 | -0.101 |
| Assim | -.260* | -.241* | -.224* | -.212* | -0.135 | 0.000 | -0.008 | 0.089 |
| Mised | 0.024 | 0.016 | 0.017 | 0.003 | 0.021 | 0.012 | -0.012 | -0.021 |
| Self-Hatred | 0.234 | 0.001 | -0.072 | -0.06 | -0.116 | 0.201 | 0.024 | 0.041 |
| MultInc | 0.072 | 0.042 | 0.048 | 0.008 | 0.063 | 0.033 | -0.034 | -0.059 |
| Antidom | .195* | .215* | 0.082 | 0.015 | 0.000 | 0.03 | 0.045 | .165* |
| Salience | 1 | .210* | .343* | .307* | .293* | .201* | -0.104 | 0.087 |
| EthCen | .210* | 1 | .261* | .235* | .148* | 0.041 | 0.032 | -0.018 |
| CultSoc | .343* | .261* | 1 | .433* | .466* | 0.144 | 0.104 | 0.003 |
| RacBar | .307* | .235* | .433* | 1 | .562* | 0.126 | 0.008 | -0.097 |
| RacPri | .293* | .148* | .466* | .562* | 1 | 0.115 | 0.025 | -0.001 |
| NegAff | .201* | 0.041 | 0.144 | 0.126 | 0.115 | 1 | .275* | .402* |
| Antag | -0.104 | 0.032 | 0.104 | 0.008 | 0.025 | .275* | 1 | .404* |
| Disin | 0.087 | -0.018 | 0.003 | -0.097 | -0.001 | .402* | .404* | 1 |

Note. Correlations for dyadic effects. Values above the diagonal are mirrored with those below the diagonal. *Indicates $p < .05$.

RacCen = Racial centrality; PriReg = Private regard; PubReg = Public regard; Assim = Assimilation; MultInc = Multicultural Inclusive; Antidom = Antidominant; Salience = Racial salience; EthCen = Ethnic centrality; CultSoc = Cultural socialization; RacBar = Racial Barrier; RacPri = Racial Pride; NegAff = Negative affectivity; Antag = Antagonism; Disin = Disinhibition.

Table 7. *Correlations among constructs for recipient trait effects*

| | RacCen | PriReg | PubReg | Assim | Mised | Self-Hatred | MultInc | Antidom |
|-------------|--------|---------|--------|---------|--------|-------------|---------|---------|
| RacCen | 1 | .477** | .680** | 0.112 | 0.049 | -0.163 | 0.053 | -0.107 |
| PriReg | .477** | 1 | .464** | -0.192 | -.214* | -.494** | .314** | -.433** |
| PubReg | .680** | .464** | 1 | 0.055 | 0.002 | -0.182 | 0.1 | -0.13 |
| Assim | 0.112 | -0.192 | 0.055 | 1 | .234* | .473** | -.227* | .352** |
| Mised | 0.049 | -.214* | 0.002 | .234* | 1 | .502** | -0.03 | .309** |
| Self-Hatred | -0.163 | -.494** | -0.182 | .473** | .502** | 1 | -0.212 | .545** |
| MultInc | 0.053 | .314** | 0.1 | -.227* | -0.03 | -0.212 | 1 | -.356** |
| Antidom | -0.107 | -.433** | -0.13 | .352** | .309** | .545** | -.356** | 1 |
| Salience | .225* | 0.186 | 0.19 | 0.01 | -0.097 | 0.072 | 0.211 | 0.182 |
| EthCen | .269* | .263* | 0.184 | 0.017 | .235* | -0.02 | 0.212 | 0.148 |
| CultSoc | .314** | .495** | .324** | -.279** | -0.14 | -.371** | 0.06 | -0.094 |
| RacBar | .248* | .369** | .271* | -0.025 | -0.109 | -0.19 | 0.048 | 0.017 |
| RacPri | 0.183 | .232* | 0.123 | 0.154 | -0.078 | -0.044 | 0.014 | 0.039 |
| NegAff | -0.11 | -.232* | -0.212 | 0.151 | 0.081 | .408** | -0.129 | .283** |
| Antag | 0.017 | -.255* | -0.043 | .334** | .361** | .535** | -.294** | .503** |
| Disin | -0.107 | -.384** | -0.131 | .304** | .348** | .602** | -.226* | .519** |

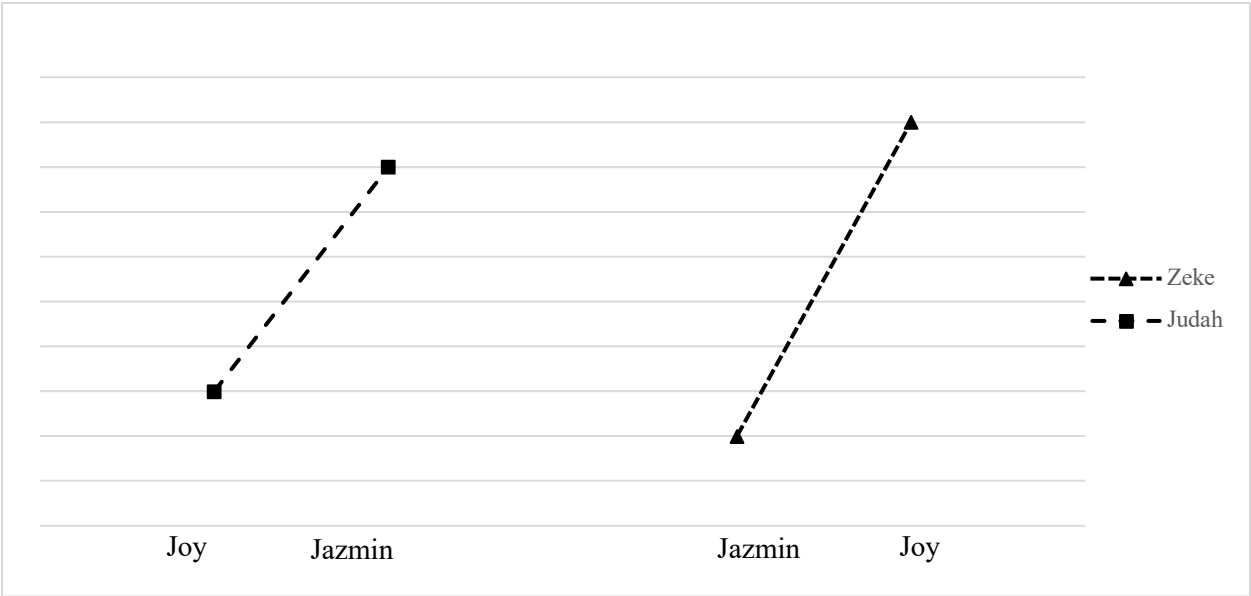
Note. Correlations for recipient trait effects. Values above the diagonal are mirrored with those below the diagonal. **Indicates $p < .01$ and * indicates $p < .05$. RacCen = Racial centrality; PriReg = Private regard; PubReg = Public regard; Assim = Assimilation; MultInc = Multicultural Inclusive; Antidom = Antidominant; Salience = Racial salience; EthCen = Ethnic centrality; CultSoc = Cultural socialization; RacBar = Racial Barrier; RacPri = Racial Pride; NegAff = Negative affectivity; Antag = Antagonism; Disin = Disinhibition.

Table 7 continued. *Correlations among constructs for recipient trait effects*

| | Salience | EthCen | CultSoc | RacBar | RacPri | NegAff | Antag | Disin |
|-------------|----------|--------|---------|--------|--------|--------|---------|---------|
| RacCen | .225* | .269* | .314** | .248* | 0.183 | -0.11 | 0.017 | -0.107 |
| PriReg | 0.186 | .263* | .495** | .369** | .232* | -.232* | -.255* | -.384** |
| PubReg | 0.19 | 0.184 | .324** | .271* | 0.123 | -0.212 | -0.043 | -0.131 |
| Assim | 0.01 | 0.017 | -.279** | -0.025 | 0.154 | 0.151 | .334** | .304** |
| Mised | -0.097 | .235* | -0.14 | -0.109 | -0.078 | 0.081 | .361** | .348** |
| Self-Hatred | 0.072 | -0.02 | -.371** | -0.19 | -0.044 | .408** | .535** | .602** |
| MultInc | 0.211 | 0.212 | 0.06 | 0.048 | 0.014 | -0.129 | -.294** | -.226* |
| Antidom | 0.182 | 0.148 | -0.094 | 0.017 | 0.039 | .283** | .503** | .519** |
| Salience | 1 | .561** | .289** | .234* | 0.163 | 0.186 | 0.078 | -0.034 |
| EthCen | .561** | 1 | 0.207 | 0.105 | 0.07 | 0.065 | 0.098 | 0.075 |
| CultSoc | .289** | 0.207 | 1 | .488** | .282** | -0.115 | -0.11 | -.227* |
| RacBar | .234* | 0.105 | .488** | 1 | .668** | -0.031 | -0.142 | -0.097 |
| RacPri | 0.163 | 0.07 | .282** | .668** | 1 | -0.104 | -0.104 | -0.092 |
| NegAff | 0.186 | 0.065 | -0.115 | -0.031 | -0.104 | 1 | .621** | .673** |
| Antag | 0.078 | 0.098 | -0.11 | -0.142 | -0.104 | .621** | 1 | .812** |
| Disin | -0.034 | 0.075 | -.227* | -0.097 | -0.092 | .673** | .812** | 1 |

Note. Correlations for recipient trait effects. Values above the diagonal are mirrored with those below the diagonal. **Indicates $p < .01$ and * indicates $p < .05$. RacCen = Racial centrality; PriReg = Private regard; PubReg = Public regard; Assim = Assimilation; MultInc = Multicultural Inclusive; Antidom = Antidominant; Salience = Racial salience; EthCen = Ethnic centrality; CultSoc = Cultural socialization; RacBar = Racial Barrier; RacPri = Racial Pride; NegAff = Negative affectivity; Antag = Antagonism; Disin = Disinhibition.

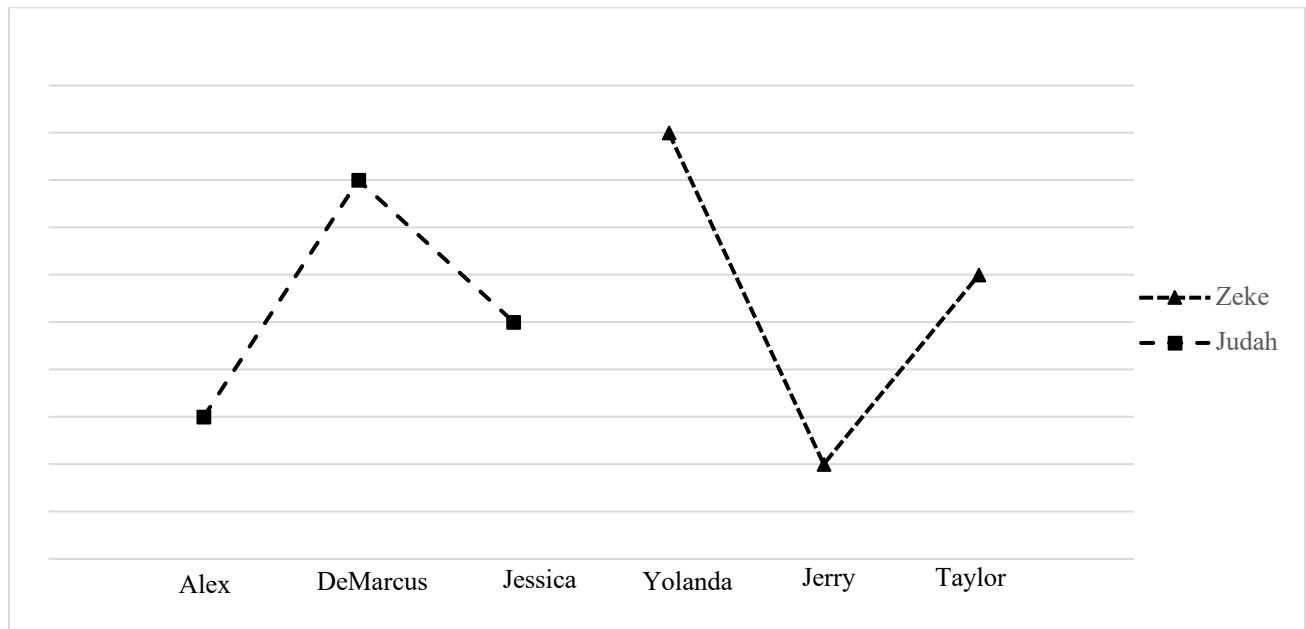
Figure 1
An illustration of relational effects



Note. An example of relational effects for two hypothetical recipients.

Figure 2

An illustration of recipient trait and dyadic effects



Note. An example of recipient trait and dyadic effects for two hypothetical recipients.

Vita

Sultan A. Hubbard was born in Pomona, California on February 10th, 1994 and graduated from Harrison High School in Farmington Hills, Michigan on June 2012. Upon graduating from Harrison, Sultan attended Grand Valley State University, in Grand Rapids, MI where he received a Bachelor of Science in Psychology and minor in African and African American Studies in April 2016. Thereafter, he visited Cape Coast, Ghana for a study abroad experience, and at its completion, returned to the United States to enroll in Virginia Commonwealth University's Counseling Psychology PhD program where he completed his Master's in May 2019. Sultan defends his doctoral dissertation in April 2023.