Predictors of reactive aggression among African American and European American children: the role of perceived discrimination, racial socialization, and negative affect

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PREDICTORS OF REACTIVE AGGRESSION AMONG AFRICAN AMERICAN AND EUROPEAN AMERICAN CHILDREN: THE ROLE OF PERCEIVED DISCRIMINATION, RACIAL SOCIALIZATION, AND NEGATIVE AFFECT

by

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PREDICTORS OF REACTIVE AGGRESSION AMONG AFRICAN AMERICAN AND EUROPEAN AMERICAN CHILDREN: THE ROLE OF PERCEIVED DISCRIMINATION, RACIAL SOCIALIZATION, AND NEGATIVE AFFECT

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Abstract

Drawing upon the ecological systems perspective of Bronfenbrenner (1986) and Spencer’s Phenomenological Variant of Ecological Systems Theory (PVEST; 1995, 2003), as well as a reformulation of the frustration hypothesis by Berkowitz (1989), the present study sought to examine a model positing that perceived discrimination acts as a risk factor for reactive aggression; that positive racial socialization messages would buffer against the impact of perceived discrimination on reactive aggression; and that negative affect mediates the relation between the interaction of discrimination and racial socialization and reactive aggression in a sample of 70 African American and European American children (9-13 years of age). In the present study, though racial socialization did not function as a protective factor against the direct relation between discrimination and aggression, there was a direct effect, suggesting that higher levels of positive racial socialization messages are associated with lower levels of negative affect. In addition, regression analyses revealed that the data are consistent with a model in which negative affect mediates the relation between perceived discrimination and reactive aggression. The results suggest that as children are exposed to greater levels of discrimination, there is likely to be an increase in negative affect, as well as an increase in aggressive behaviors. Such findings may aid in developing programs that raise awareness regarding the links between these factors and seek to reduce levels of discrimination, negative affect, and aggression among children, and increase levels of positive racial socialization messages.
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Introduction

Physical aggression has been identified as one of the best predictors of later deviant behavior (Tremblay, Masse, Pagani, & Vitaro, 1996). Oppositional, defiant, and antisocial behavior during early and middle childhood are linked to delinquency during adolescence (Eddy, Reid, & Fetrow, 2000), and may have powerful long-term effects on adult antisocial outcomes (Simonoff, Elander, Holmshaw, Pickels, Murray, & Rutter, 2004). In their 2000 report on children who commit crime, Loeber and Farrington posited that problem behavior develops from persistent disruptive behavior, which then leads to delinquency, often followed by serious and violent offending (Loeber & Farrington, 2000). It is estimated that 30% of children between grades six and ten report being involved in bullying; 36% of high school aged youth report being in a physical fight; and in 2004, over 780,000 violence related injuries were treated in emergency rooms in youth between age 10 and 24 (Centers for Disease Control, 2006). Youth violence is considered a public health problem; it is cited as the second leading cause of death among youth between the ages of 10 and 24 (Centers for Disease Control, 2006); and has been one of the leading causes of death for African Americans in this age group for over a decade (Dahlberg, 1998; Dahlberg & Potter, 2001). The economic cost to society associated with violence related illness, disability, and premature death is estimated to be in the billions of dollars each year (Dahlberg, 1998).

Childhood aggression is considered the best-known behavioral predictor of future social adjustment difficulties (Crick, 1996). Research indicates that childhood aggression and antisocial behavior are predictive of adolescent drug and alcohol use, cigarette smoking, poor school adjustment and school dropout, depression and other internalizing
disorders, and delinquency and externalizing disorders (see Coie, Terry, Lenox, & Lochman, 1996). Aggression has also been found to be a significant predictor of poor psychosocial health (e.g., Piko, Keresztes, Pluhar, 2006), school maladjustment (see Kupersmidt & Coie, 1990), teen pregnancy (e.g., Miller-Johnson, Winn, Coie, & Malone, & Lochman, 2004), and long-term unemployment in adulthood (see Kokko & Pulkkinen, 2000). Understanding the important antecedents and correlates of aggression in children is essential to informing preventive interventions directed at reducing the likelihood that such behaviors will continue in adolescence and adulthood.

Recently, researchers have become increasingly interested in examining differences in proactive and reactive aggression (Dodge, 1991; Dodge, Lochman, Harnish, Bates, & Pettit, 1997). The distinction is an important one, as the former occurs without provocation or anger and is committed to achieve a reward, and the latter occurs in response to perceived or actual threat (Brengden, Vitaro, Tremblay, & Lavoie, 2001). Proactive aggression has been linked to childhood conduct problems, juvenile delinquency, chronic criminal behavior in adulthood, and psychopathy; whereas reactive aggression has been linked to information processing and executive function deficits, attention deficit hyperactivity disorder, oppositional defiant disorder, and increased likelihood of developing personality disorders in adolescence and schizophrenia in adulthood (Kempes, Matthys, de Vries, & Van Engeland, 2005; Raine, Dodge, Loeber, Gatzke-Kopp, Lynam, Reynolds, Stouthamer-Loeber, & Liu, 2006). Youth may present with predominantly proactive, predominantly reactive, or co-occurring aggressive behaviors. Notably, the relation between predictors (e.g., parenting and peer factors) and each subtype differs (Fite, Colder, & Pelham, 2006; Fite & Colder, 2007).
Reactive aggression may result from social information processing deficits, such as the tendency to over-attribute hostility to others in ambiguous provocation situations (Crick & Dodge, 1996), and may involve angry outbursts in response to such provocation (Dodge, 1991). Children who are reactively aggressive tend to display problem-solving deficits in difficult social situations, and as a result are more likely to be rejected by peers (Dodge & Coie, 1987; Dodge et al., 1997). It is possible that peer rejection may be a future outcome of aggressive behaviors in response to perceived threat in ambiguous situations. In fact, Vitaro and colleagues (Vitaro, Gendreau, Tremblay, & Olligny, 1998) found that reactively aggressive boys did not exhibit delinquent behaviors in the future; however, these authors offered various explanations, including the idea that these boys may have been more isolated due to peer rejection, as well as more anxious and withdrawn. Kempes and colleagues’ (2005) review of studies on reactive and proactive aggression mentioned that reactive aggression often entails more overt acts of aggression. Though reactive aggression is often perceived as more socially acceptable than proactive aggression, it may be perceived as unacceptable if others perceive the aggressive response as an overreaction to instigation (Dodge, 1991; Pulkkinen, 1996).

African American youth, particularly those living in urban areas, are at disproportionate risk for exposure to psychosocial stressors, including poverty, chronic neighborhood disadvantage, stressful life events, and violence (Barbarin, 1993; Barbarin & Soler, 1993). Exposure to such factors render youth at heightened risk for developing a number of severe problems, including externalizing disorders and violent behaviors (Attar, Guerra, & Tolan, 1994; D’Imperio, Dubow, & Ippolito, 2000; Forehand, Biggar, & Kotchick, 1998; Guerra, Tolan, Huesmann, & Van Acker, & Eron, 1995; Paschall &
Hubbard, 1998). In comparison to their European American counterparts, African Americans have much higher rates of violence, and are disproportionately represented as perpetrators of violent crimes and physical fights (Dahlberg, 1998). Minority youth, particularly African American youth, are also overrepresented within the incarcerated juvenile population (Cohen et al., 1990).

While some research has shown that African American youth report greater exposure to racial discrimination events than their European American counterparts (see Dubois, Burk-Braxton, Swenson, Tevendale, & Hardesty, 2002; Taylor & Turner, 2002); other research indicates that there may not be mean differences between reports of exposure to events of racial discrimination between these groups (see Prelow, Danoff-Burg, Swenson, & Pugliano, 2004). Though African American youth in urban areas are at particular risk for aggression and related outcomes, and may report greater exposure to discrimination, European American youth are not exempt from similar experiences and outcomes. For example, in their study on development and risk behavior among 13,448 diverse youth ages 10 to 18 living in high poverty, inner-city neighborhoods, Bolland and colleagues (Bolland, Bryant, Lian, McCallum, Vazsonyi, & Barth, 2007) found that European American youth reported higher levels of risk behaviors (such as violence and substance abuse) than their African American counterparts. Discrimination has been associated with a number of negative outcomes, including externalizing behaviors among youth (Prelow, et al., 2004; Vega, Khoury, Zimmerman, Gil, & Warheit, 1995; Whitbeck, Hoyt, McMorris, Xiaojin, & Stubben, 2001). As such, it is important to examine the predictors of aggression among African American and European American youth.
To create effective prevention and intervention programs targeting the reduction of aggressive behaviors among African American and European American youth, research is needed to gain understanding of the developmental processes underlying such behaviors. Researchers (e.g., Garcia Coll et al., 1996) question whether developmental processes are the same for all children regardless of ethnic or racial group. Garcia Coll and colleagues (1996) argued that issues germane to minority populations, including social class, culture, ethnicity, and race have not been included in the mainstream theoretical conceptualizations of child development, and therefore call into question the validity and generalizability of existing empirical research. Additionally, researchers suggest that these issues may also be important to the developmental processes of European American youth (Spencer, 2006). Research has indeed shown that both African American and European American populations experience discrimination, and that discrimination has been associated with poor mental health outcomes (Brown, Tanner-Smith, Lesane-Brown, & Ezell, 2007; Coker, Elliott, Kanouse, Grunbaum, Schwebel, et al., 2009; Prelow et al., 2007; Prelow et al., 2004). There is a paucity of research examining the impact of discrimination on a variety of outcomes among African American populations; there is similarly little to no research examining such concerns among European American populations. Thus, it is important that researchers do not assume that models of development, which include factors commonly associated with ethnic minority groups, are not salient among ethnic majority populations without empirical support. It is essential that empirical examination of factors having both positive and negative impacts on the development of all forms of aggression among both African American and European American children takes place.
Drawing upon the theoretical perspectives of Bronfenbrenner (1986), Spencer (1995, 2003), and Berkowitz (1989), this study will attempt to examine such factors. Bronfenbrenner’s (1986) ecological model, also described as a hierarchy of nested systems, explains that multiple influences may affect a multitude of behaviors across development, including antisocial behavior. Spencer’s Phenomenological Variant of Ecological Systems Theory (PVEST) adds to Bronfenbrenner’s model by jointly considering perception and context. PVEST makes the case that factors such as risk contributors (e.g., discrimination), net stress engagement, reactive coping methods, emergent identities, and life-stage specific coping outcomes be included among the multiple influences often examined from an ecological perspective (Spencer, 1995). Illustratively, Spencer and colleagues highlighted the importance of factors such as cultural socialization, which has been positively associated with psychological well being (Spencer, Fegley, & Harpalani, 2003) and negatively associated with physical fighting (Stevenson, Herrero-Taylor, Cameron, & Davis, 2002). Additionally, a reformulation of the frustration hypothesis (Berkowitz, 1989) states that stressful events may prime the initiation of escape and attack behaviors. Collectively, these models support the need to consider contextual variables from multiple domains to examine development, and as such will be utilized to study the processes involved in the development of aggression among African American and European American children. Thus, using such models as guides, it will be possible to examine the processes leading to reactive aggression in salient ecological contexts – specifically, examining the development of a microsystem outcome (child reactive aggression) utilizing microsystem (negative affect), mesosystem
(racial socialization messages communicated by caregivers) and meso- and exosystem (discrimination) variables.

By examining this mediated-moderation model, a number of gaps in the literature may be addressed. First, this study will address the paucity of research on reactive aggression among young African American and European American children in grades four to six. Second, this study will examine the relation between discrimination and racial socialization, seeking to further the understanding of these variables as they relate to one another, as well as to the outcome of aggressive behaviors. Third, this study will examine processes associated with the development of aggression, in that negative affect will be tested as a mediator of the relation between perceived discrimination, as well as the interaction of discrimination and positive racial socialization messages, and aggression. The elucidation of modifiable processes associated with aggression may be helpful in the development of prevention and intervention programs designed to reduce aggressive behaviors in African American and European American youth.

**Discrimination and Youth Outcomes**

Discrimination has been defined as “(1) differential treatment on the basis of race that disadvantages a racial group and (2) treatment on the basis of inadequately justified factors other than race that disadvantages a racial group” (Blank, Dabady, & Citro, 2004, p. 39). Recently, researchers have begun to study the link between discrimination and negative outcomes among youth. Unfortunately, such studies are limited among younger children. This may be due to the belief held by some researchers that children do not tend to possess a mature understanding of race (e.g., racial constancy) until they are 8 or 9 years of age (Aboud, 1988). More recently, Gibbons and colleagues examined the
relation between perceived racial discrimination and substance use among 684 African American youth and their parents over time, beginning when the children were age 10 (Gibbons, Gerrard, Cleveland, Wills, & Brody, 2004). These researchers found that perceptions of race-based discrimination were common among both parents and children. They found that discrimination impacted affect, such that youth reporting higher levels of exposure to discrimination reported more depression and anxiety at the same time point as well as at follow-up (about 20 months later). Additionally, child’s perceived discrimination also had a direct effect on the affect of the parent at the same time point. The authors concluded that when parents experience discrimination, this exacerbates their negative affect, which contributes to distress among the youth. Increased distress in the child was then related to the parents’ personal substance use. Additionally, the authors posited that discriminatory experiences also result in distress for the adolescent, which leads directly to more youth substance use – likely as a coping mechanism (Gibbons et al., 2004). Though this study examined a variety of important outcomes, including internalizing behaviors and substance use, aggressive behaviors were not addressed.

In an examination of the impact of cumulative ecological risk on psychological adjustment among urban African American and European American adolescents, Prelow and colleagues (Prelow et al., 2004) found that for African American youth who perceived high levels of discrimination compared to those who perceived low levels of discrimination, the link between ecological risk and delinquent activity was stronger. Perceived discrimination acted as a vulnerability factor for the 141 African American youth and as a risk factor for the 119 European American youth. Prelow and colleagues (2004) suggested that African American youth may consider experiences of racism as
more harmful than their European American counterparts; or perhaps the combination of higher ecological risk exposure observed among African Americans and perceived discrimination predisposed these youth to be more vulnerable to engaging in delinquent behavior. Among the European American youth in this study, though the level of perceived discrimination did not change the strength of the relationship, the negative impact of ecological risk was positively associated with delinquent behavior. Prelow and colleagues (2004) addressed the relation between discrimination and delinquency; however, the sample was comprised of teenage youth (ages 15 to 19).

In yet another study on the deleterious effects of discrimination, Nyborg and Curry (2003) found that personal experiences with racism, as well as perceptions of the effects of institutional racism, were related to self-reported externalizing symptoms and internalizing symptoms in a sample of 84 African American boys ages 10-15. These authors emphasized the importance of considering the fact that experiencing racism is negatively associated with psychological well-being among African American boys (Nyborg & Curry, 2003). This study focused on the impact of racism on maladaptive symptomatology among African American boys; as such, results may not be generalizable to African American females or European American youth in general.

In 2009, Coker and colleagues examined the prevalence and mental health correlates of perceived discrimination among 5,147 African American, Hispanic, European American, and other fifth-grade students. They examined the relationship between discrimination and symptoms of depression, attention deficit hyperactivity disorder, oppositional defiant disorder, and conduct disorder. These researchers found an association between perceived discrimination and depressive symptoms among ethnic
minority populations, but not among European American children. Notably, lower income European American youth in this study reported higher levels of perceived discrimination, and perceived racial/ethnic discrimination was associated with symptoms of externalizing disorders (Coker et al., 2009).

Racial discrimination has been consistently linked to higher levels of externalizing behaviors in the literature. More recently, researchers are also finding this link between discrimination and aggression, specifically. For instance, Caldwell and colleagues (Caldwell, Koh-Wood, Schmeelk-Cone, Chavous, & Zimmerman, 2004) examined the impact of racial discrimination on engagement in violent behaviors among 325 urban African American young adults. Their data were drawn from a larger longitudinal study, and contained five waves of data. At wave one, participants were in the ninth grade; in wave 5, they were transitioning from high school into young adulthood. The researchers found that among the following potential risk factors (violent behaviors at wave 1, ninth grade GPA, and racial discrimination), racial discrimination was the strongest predictor of young adult violent behavior six years later at wave 5 (Caldwell et al., 2004). Similar results have been found among younger children. In their 2004 study on the correlates of aggression among 25 African American and 52 Puerto Rican children (ages 6 to 12), Brook, Rosenberg, Brook, Balka, and Meade (2004) found that exposure to prejudice or discrimination was linked to poor mental health in terms of depressive mood, difficulties controlling emotion, and problem behaviors. These authors found that the mother-child relationship and the child’s personality attributes mediated the relation between a measure combining discrimination and low ethnic identity and
aggression. Notably, these researchers aggregated their data, combining ethnic groups and genders to achieve greater power.

Though racial discrimination has been linked to higher levels of externalizing problems, not all children exposed to this risk develop problem behaviors. One factor that may be important to the successful development of youth exposed to racial discrimination is a supportive relationship with parents. For example, Simons and colleagues (Simons, Simons, Burt, Drummund, Stewart, Brody, Gibbons, & Cutrona, 2006) examined the extent to which supportive parenting buffers youth from the negative impact of discrimination in a sample of 332 African American adolescent males (ages 10 to 12 at wave 1) and their caregivers. These authors found that supportive parenting practices acted as a protective factor against discrimination for aggression and a hostile view of relationships. Simons and colleagues (2006) suggested that supportive parenting may act as a buffer by decreasing the chances that discrimination will lead to anger and a hostile view of relationships. These authors also assert that supportive parenting lowers the risk that anger or a hostile view of relationships, when they develop, will result in violence (Simons et al., 2006). This study only focused on African American boys, and as such, the findings may not generalize to their female counterparts or youth of other ethnic groups.

Discrimination may act as a threat to which individuals may respond aggressively. According to Baumeister, Smart, and Boden (1996) “when favorable views about oneself are questioned, contradicted, impugned, mocked, challenged, or otherwise put in jeopardy, people may aggress” (p. 8). Though these authors were speaking in terms of high levels of self-esteem, the general idea can be related to one’s general self-concept.
As such, discrimination can be viewed as a threat to individual’s ideas about themselves, particularly for children among whom self-concept is not yet stable.

**Racial Socialization and Youth Outcomes**

Racial socialization has been defined as “the transmission of parents’ world views about race and ethnicity to children by way of subtle, overt, deliberate and unintended mechanisms” (Hughes, 2003; p. 15). According to Thornton and colleagues (1990), “racial socialization includes specific messages and practices that are relevant to and provide information concerning the nature of race status as it relates to: (1) personal and group identity, (2) intergroup and interindividual relationships, and (3) position in the social hierarchy. The forms of racial socialization include specific verbal behaviors (i.e., direct statements regarding race), modeling of behaviors, and exposure to specific objects, contexts, and environments” (Thornton, Chatters, Taylor, & Allen, 1990; p. 401-402). The preponderance of research dealing with racial socialization and related concepts (e.g., ethnic identity, cultural/ethnic socialization) has been conducted among minority adolescents and young adults. However, literature on racial socialization among pre-teen populations is growing (Caughy et al., 2006). Researchers have studied a variety of sub-components of racial socialization, including cultural socialization, preparation for bias, promotion of mistrust, racial pride messages, racial barrier messages, egalitarian messages, self-worth messages, negative messages, and behavioral socialization (see Stevenson et al., 2002; Hughes, 2003; Lesane-Brown et al, unpublished manuscript).

In a unique study examining child, parent, and situational correlates of ethnic and racial socialization among a racially diverse array of families, Brown and colleagues (2007) utilized a nationally representative sample of 17,372 African American, European
American, Latino, Asian, Native Hawaiian/Pacific Islander, American Indian, and multiracial kindergarten students and their families who answered questions about the transmission of racial socialization messages. These researchers found that one in ten families had discussions with their children about their ethnic/racial heritage several times a week or more. Though findings indicated that European American families were less likely to socialize their children regarding ethnicity and race, this population was more likely to engage in familial discussions regarding these topics if the kindergartner was in a diverse environment, or an environment in which they were not the majority. In fact, the percentage of minority children was a positive predictor for increased frequency of ethnic/racial socialization among European American kindergarteners (Brown et al., 2007). This research supports the concept that racial socialization should be considered a “normative developmental process among all children” (Brown et al., 2007; p. 23).

Hughes (2003) noted that racial socialization appears to be a salient feature of parenting across multiple ethnic minority groups. As such, it would be expected that many parents provide their children with racial socialization messages on a regular basis. In her study on the frequency and correlates of cultural socialization and preparation for bias among African American, Puerto Rican, and Dominican parents, Hughes (2003) found that parents tended to engage in more cultural socialization than preparation for bias, and that race-related phenomenon (e.g., parents’ ethnic identity, perceived group disadvantage, and discrimination experiences) accounted for more variance in both subcomponents of racial socialization among parents reporting on their behaviors with children ages 10–17, compared to parents reporting on their behaviors with children ages 6–9. Thus, a variety of racial socialization messages may be transmitted to pre-
adolescent children, regardless of the presence of specific, race-related occurrences. In addition, these various sub-components of racial socialization may impact child outcome in different ways.

Much of the recent research regarding racial socialization supports the idea that parental racial socialization practices promote academic achievement and emotional well-being among African American youth (McKernan McKay, Atkins, Hawkins, Brown, & Lynn, 2003). Moreover, racial socialization processes have been described as “integral to youth adjustment” (Davis & Stevenson, 2006; p. 303-304). The provision of racial socialization messages may indeed be beneficial for adaptive development, even in the absence of race-related events. Several studies have provided evidence of the effects of racial socialization on the psychological adjustment of children (Caughy, Nettles, O’Campo, & Lohrfink, 2006; Caughy, O’Campo, Randolph, & Nickerson, 2002; Davis & Stevenson, 2006; Neblett, Philip, Cogburn, & Sellers, 2006; Stevenson, Herrero-Taylor, Cameron, & Davis, 2002). For example, Neblett, Philip, Cogburn, and Sellers (2006) found that parent racial socialization was positively related (i.e., main effect) to academic curiosity, persistence, and performance in a sample of 548 African American youth (grades 7-10). However, the buffering effect that had been hypothesized was not supported. In addition to academic outcomes, racial socialization has also been found to be associated with psychological adjustment. For instance, Davis and Stevenson (2006) found that cultural pride socialization was negatively related to reports of lethargy and low self-esteem while alertness to discrimination socialization was positively related to instrumental helplessness. Additionally, racial socialization added significant predictability of depression over and above the impact of gender, neighborhood risk, and
resources (Davis & Stevenson, 2006). Caughy and colleagues (2002) found that African American preschoolers who received certain racial socialization messages had better developed problem solving skills and fewer problem behaviors. In yet another study based on data from 241 African American first graders and their parents, Caughy and colleagues (2006) found that two sub-components of racial socialization (promotion of mistrust and preparation for bias) were positively related to child externalizing problems, while another sub-component (racial pride) was positively associated with fewer behavior problems. Stevenson and colleagues (2002) found that protective racial socialization strategies (which occur in response to specific race-related events) have been related to increases in anger expression, while proactive racial socialization experiences (which occur prior to the incidence of specific race-related events) have been related to lower levels of anger expression in both males and females. These findings provide support for the importance of parents discussing race with their children at an early age, particularly among youth who may be too young to fully experience, internalize, and/or completely understand race-related stressors such as direct or indirect discrimination.

**Racial Socialization as Supportive Parenting**

One of the most consistently supported predictors of child and adolescent psychosocial development is parenting (Fletcher, Steinberg, & Williams-Wheeler, 2004; Galambos, Barker, & Almeida, 2003; Griffin, Botvin, Scheier, Diaz, & Miller, 2000). Supportive parenting is considered among the numerous parenting behaviors examined as antecedents of various mental health outcomes, and has been examined in a variety of ways. Pettit and colleagues (1997) suggested that a number of parenting behaviors can be construed as supportive, including warmth, inductive discipline techniques, interest and
involvement in their children’s peer associations, and proactive teaching of social skills (see p. 909). Recently, researchers have begun to assert that culturally relevant parenting practices be included among the positive parenting practices commonly discussed as effective in the prevention of and intervention for negative youth outcomes.

Coard and colleagues (2004) presented a rationale for including culture-based parenting practices in the design and implementation of empirically based intervention programs with African American families. These authors noted that many empirically supported interventions, much like the theories upon which they have been based, were developed and evaluated among predominantly European American populations. Furthermore, little has been done to include relevant racial, ethnic, and cultural issues that may enhance program efficacy. As such, Coard and colleagues (2004) stated that “the teaching of racial socialization as part of an evidence based parenting program could potentially have several beneficial effects for African American parents and their children. Such benefits may include an increase in parents’ participation in parenting programs, improved parenting practices, and improved behavioral and emotional outcomes in children” (p. 280). Their qualitative study of 15 economically disadvantaged inner-city African American mothers with children ages five and six found that all mothers engaged in racial socialization practices, including racism preparation (93%), racial equality (86%), racial pride (73%), and racial achievement (67%) via oral communication, modeling, role playing, and exposure.

In spite of the small sample size in the study by Coard and colleagues (2004), the prevalence of racial socialization messages (specifically racial pride messages) found is consistent with or higher than that of other researchers, such as the 90% frequency of
such messages reported by Caughy and colleagues (2002) and the two thirds frequency reported by Thornton and colleagues (1990). Research by Hughes and Chen (1997) suggested that racial pride messages are common among parents of younger children, compared to messages concerning preparation for bias and promotion of mistrust; however, the study by Coard and colleagues (2004) showed that the majority of their sample engaged in socialization practices focusing on racism preparation. The latter finding is also consistent with results found by Caughy and colleagues (2002), whose sample was comprised of urban African American families with preschoolers. Hence, it is possible that many types of racial socialization messages are transmitted to young children, particularly those living in urban and inner-city settings in which African American families’ awareness of racial injustices may be heightened (Sigelman & Welch, 1991; Thornton, 1997). To date, little research has examined the potential impact of racial socialization messages on European American children living in similar areas.

**Racial Socialization as a Potential Protective Factor**

Though there has been comparatively little research on racial socialization, the information obtained highlights the salience of this construct among youth. The aforementioned research suggests that the provision of racial socialization messages is a beneficial parenting practice that can be considered under the rubric of supportive parenting. A review by Neblett, Terzian, and Harriott (2010) discussed the potential of racial socialization as a protective factor that could buffer against the negative impact of perceived discrimination on the development of substance abuse. These authors concluded, “racial socialization holds promise as a resilience factor for a broad range of youth mental health issues” (Neblett et al., 2010; p. 134). The frequent finding that
certain racial socialization messages are positively related to adaptive outcome and negatively related to negative outcome among children, adolescents, and young adults lends further support to the concept that racial socialization should be considered at least as important as such factors as parental warmth, involvement, and instruction – not only among ethnic minority populations, but also among other ethnic groups, including European American youth.

Some research has indeed found that racial socialization acts as a protective factor among youth. Bannon and colleagues (2009) examined parental endorsement of cultural pride reinforcement messages as a potential buffer against the negative impact of risk exposure on child anxiety among 72 African American parents and elementary school children, ages 9-15. Higher levels of these cultural pride messages predicted less anxiety, and in the presence of high exposure to risk, children of parents who endorsed high levels of these messages had lower anxiety scores when compared to children of parents who endorsed less of these messages. In 2007, Harris-Britt, Valrie, & Kurtz-Costes examined racial socialization as a protective factor against the negative effects of perceived racial discrimination on self-esteem in 128 African American eighth graders. Two types of racial socialization examined, messages about racial pride and preparation for bias, moderated the relationship between discrimination and self-esteem. The negative relationship between perceived discrimination and self-esteem was mitigated for youth who reported more messages about racial pride and a moderate amount of preparation for bias from their parents. In contrast, low racial pride socialization and both high and low preparation for bias were associated with a negative relationship between perceived discrimination and self-esteem (Harris-Britt et al., 2007). These findings support the idea
that racial socialization messages may buffer against the impact of risk factors on the
development of negative outcome.

**Negative Affect and Aggression**

Berkowitz (1983, 1989, 1990) has posited that the basic source of anger and angry
aggression is negative affect. In his 1989 reformulation of the frustration hypothesis,
Berkowitz hypothesized that stressful events may prime the initiation of escape and
attack behaviors. According to this theory, negative affect may result in aggressive
behavior because both are connected to a common associative network involving
adaptive mobilization for defensive action (Berkowitz, 1989; Verona & Kilmer, 2007).

Much of the literature examining Berkowitz’s theory has been experimental in
nature, examining the impact of time limited stressors (e.g., changes in temperature,
aversive odors, air blasts, etc.) on negative affect and aggressive behaviors (see Bell &
Baron, 1978; Verona & Kilmer, 2007; Verona, Patrick, & Lang, 2002). These studies
showed that stress leads to negative affect which often leads to aggression. Bell and
Baron (1978) found that male participants who were given negative evaluations by
confederates *and* who were placed in uncomfortably hot temperatures (resulting in
negative affect) were more aggressive to the confederates (via delivery of an electric
shock) in comparison to other participants who were given positive evaluations and were
in comfortably cool temperatures. These authors found that aggression increased as
negative affect increased to a certain point at which the linear relation between the two
variables leveled off. In other words, increments in negative affect led to the inhibition
blasts as an acute stressor in attempts to determine how this would impact affective
responding (as measured by startle reflex as well as pre- and post-study self-report assessment of affect) and subsequently aggression (measured by the delivery and intensity of shocks given to a confederate). These authors found that though men and women did not differ in their startle response, women under high stress responded with less aggression than women under low stress, while the converse was true for their male counterparts. Startle responses predicted increased levels of aggression in males and decreased levels of aggression in women. Verona, Patrick, and Lang (2002) examined affective priming of aggression in groups who were low and high in trait negative emotionality. Similar to the study discussed above, air blasts were used to induce negative affect in intervals (considered the “threat” condition) or not (considered the “safe” condition), and subsequent aggression was measured using the intensity, duration, and rapidity of shocks given to confederates. The authors found that phasic increases in negative affect increased aggression-related behavior as measured by shock latency, suggesting that “within the context of a provoking or frustrating situation, stress is likely to facilitate actions that are aggressive or retaliatory in nature” (Verona et al., 2002, p. 256). To explain why the intensity and duration of shocks did not increase as a function of phasic negative affect, the authors examined their correlates. They found that shock intensity and duration was related to startle sensitization (as measured by tonic negative affect) and participants’ post hoc ratings of their motives for delivering the shock. This was particularly true for those high in trait negative emotionality. Verona and colleagues (2002) suggest that shock intensity and duration may be influenced by factors such as cognitive biases, rumination, and perceptions of the situational context rather than emotional reactions to a specific stressor. However, they note that this was not examined
directly in their research. Still, such studies show that, on an experimental level, stress, negative affect and aggression are associated.

Though the connection between stress, negative affect, and aggression has been found in experimental research, primarily among college students, fewer studies examine these links in the clinical literature. Negative affect is more often associated with depression, anxiety, and other negative outcomes (e.g., Laurent, Catanzaro, Joiner, Rudolph, Potter, Lambert, Osborne, & Gathright, 1999; Chassin, Curran, Hussong, & Colder, 1996; Stice, 2001). For example, in his examination of the dual pathway model of bulimic pathology among 231 adolescent girls, Stice (2001) found that negative affect mediated the relation between body dissatisfaction and bulimic symptoms. The author suggested that “body dissatisfaction contributes to negative affect because appearance is one of the most important evaluative dimensions for females in our culture” (Stice, 2001, p. 130). In addition, Stice (2001) proposed that individuals binge to distract themselves from emotional distress, or in an attempt to comfort themselves. He also postulated that negative affect disinhibits dietary restriction, resulting in binge eating, and suggested that the role of affect be examined in the etiology of bulimic pathology (Stice, 2001). Chassin and colleagues (1996) examined the impact of parent alcoholism on substance abuse among 316 adolescents over time. Negative affect was among a number of possible mediators of this relation. The authors discussed the idea that parent alcoholism is associated with environmental stress, which produces negative affect, which can lead to adolescent substance use in various ways, including the utilization of substances to regulate negative affect. Chassin and colleagues (1996) indeed found that paternal alcoholism was associated with elevations in stress, which were associated with
heightened levels of affect, which, through association with drug using peers, predicted increases in substance use over time. These studies show that in the presence of stressors, negative affect mediates the relation between the stressor and subsequent behaviors.

Few studies have examined the link between a stressor, negative affect, and subsequent aggression. However, there is research supporting these links. In 2004, Dill and colleagues examined predictors of negative affect among 296 children in grades 3 through 6 (Dill, Vernberg, Fonagy, Twemlow, & Gamm, 2004). These authors hypothesized that certain characteristics of the child would predict their negative affect in the future. These characteristics included being shy and socially withdrawn, rejected and victimized by peers, and believing that aggression is a legitimate and warranted practice. Dill and colleagues (2004) found that children who reported these characteristics at time one reported elevated levels of negative affect at time two, one year later. Victimization continued to have a significant effect on the development of negative affect when other hypothesized mediators were taken into account (Dill et al., 2004), suggesting that this stressor accounts for significant variance in negative affect. Mammen, Kolko, and Pilkonis (2002) studied the role of parental negative affect on parent-to-child aggression among 49 parents reported to Child Protective Services for physical abuse. The results showed that even after controlling for the effects of parental attributions (e.g., hostile attribution bias, low perceived control) and contextual variables (e.g., family cohesion, conflict behaviors), negative affect predicted minor physical violence, but not severe physical violence. The authors note that their findings were both novel and contrary to past research, and suggest that the link between negative affect and aggressive behaviors be studied more frequently (Mammen et al., 2002).
In their longitudinal study of 718 African American children (ages 10 to 12 at time one), Simons and colleagues (Simons, Chen, Stewart, & Brody, 2003) examined the relationship between racial discrimination and delinquency, hypothesizing that negative emotion would mediate this link. These researchers found that discrimination predicted delinquent behavior after controlling for quality of parenting, affiliation with deviant peers, and prior conduct problems in both males and females in their sample. Negative emotions, including anger and depression, were found to mediate the relation between discrimination and delinquency, though findings differed across gender. Among males, the link between discrimination and delinquency was mediated by negative emotion, such that discrimination no longer had a direct effect on delinquency once the negative emotions were included in the model. Among females, negative emotion mediated part of the effect discrimination had on delinquency, such that the direct effect of discrimination was small, but significant. Citing Agnew’s strain theory of crime and delinquency, authors surmised that the strain of experiencing discrimination leads to negative emotion, which then leads to delinquent behavior (Simons et al., 2003). Simons and colleagues (2003) concluded by suggesting that, “in addition to investigating the emotional and cognitive factors that link these two phenomena, researchers might focus on racial socialization practices within African American families…” (p. 851). It stands to reason that these factors also be examined among a variety of racial/ethnic groups, including European American youth.

**Gender Differences**

In research on poor child outcomes, it is commonly accepted that males tend to engage in overt acts that are aggressive and oppositional, while females tend to exhibit
internalized behaviors such as anxiety and withdrawal (Kann & Hanna, 2000). However, this may be an ill informed assumption. Loeber and Hay (1997) note that females may use physical aggression against their peers but hide these behaviors from adults; as such, teacher and parent reports may underreport female aggression. Indeed, conduct disorder is the second most common diagnosis found in girls, but there are few studies on females in the literature (Kann & Hanna, 2000). This gap is unfortunate, particularly since females with oppositional defiant disorder and conduct disorder are at higher risk of facing arrest, failure to finish high school, substance abuse, teenage pregnancy, and early and violent death, compared to their undiagnosed female peers (Kann & Hanna, 2000).

In spite of gender differences in displays of overt aggression, there is research supporting the idea that such differences may not be substantial, particularly in certain environments. In 2006, Shahim examined overt and relational aggression in a group of elementary school students (grades 1-5), and found that though mean scores in overt and relational aggression were significantly higher among males, there was no significant difference in the proportion of relationally aggressive males and females once classified as severely aggressive. Harachi and colleagues (2006) followed elementary school children into middle school to determine gender differences in the trajectory of aggressive behaviors. There were gender differences in predictors of membership among higher aggression groups. For males, attention problems, family conflict, low school commitment and low parental education acted as predictors of high aggression group membership; among females, depression, low-income status, and having a single parent predicted high aggression group membership (Harachi et al., 2006).
Farrel and colleagues (2000) found that males and females in their urban sample, in comparison to their rural sample, were more similar in their reported rates of problem behaviors. In addition, multiple group analyses of their model of problem behavior suggest that both the internal structure of problem behaviors (e.g., drug use, delinquency, and aggression) and their relations to other constructs (e.g., peer pressure for drug use, favorable attitudes toward aggression, and suppression of aggression) are consistent across gender (Farrel, Kung, White, & Valois, 2000). Additionally, in a longitudinal examination of stability and change in problem behavior among middle-class adolescents, Dekovic, Buist, and Reitz (2004) found that adolescent gender and the quality of the parent-adolescent relationship predicted initial levels of externalizing and internalizing problems. However, there were no gender differences in the relationship between the quality of interpersonal relations on the level and rate of change in problem behaviors (Dekovic et al., 2004). According to researchers, these findings suggest that the etiology of problem behaviors may be similar for boys and girls in spite of gender differences in prevalence (Dekovic et al., 2004). Conversely, Benda (2002) tested three competing models of delinquency among adolescents from five inner city public high schools and found that caregiver attachment was the strongest predictor of crime among females, yet this relationship was absent among males. In males, delinquent peer group association and caregiver monitoring were among the most salient predictors of delinquent behaviors (Benda, 2002).

Simons and colleagues (2003) found that, with few exceptions, patterns in a model examining the relations between discrimination, negative emotion, and delinquency did not differ across gender. Caldwell and colleagues (2004) found that
experience with racial discrimination was a predictor of violent behavior among African American young adults, regardless of their gender. In their 2006 examination of perceived discrimination and subsequent conduct problems among African American adolescents, Brody and colleagues found that the association was stronger for boys than for girls. In their comprehensive review of research on ethnic-racial socialization, Hughes and colleagues (2006) note that males and females have different experiences related to their ethnicity and race. These authors cite literature yielding mixed results, with some researchers finding that boys are more likely to receive messages regarding racial barriers while girls are more likely to receive messages regarding racial pride, and others finding no significant gender differences in ethnic-racial socialization. Hughes and colleagues (2006) concluded “these findings do not appear to vary according to method of assessment, source of information, parents’ ethnicity, or child’s age” (p. 759).

The Present Study

The experience of discrimination is detrimental to youth development (see Nyborg & Curry, 2003; Gibbons et al., 2004; Prelow et al., 2004; Coker et al., 2009); while racial socialization has been found to positively impact adaptive outcomes (see Harris-Britt et al. 2007; Bannon et al., 2009; Neblett et al. 2010). However, the manner in which these variables relate, to one another as well as to these various outcomes, is understudied and the nature of the relationships is inconsistent across studies. Specifically, the relation between perceived discrimination, racial socialization, negative affect and aggression has not been studied extensively. Additionally, much of the research on discrimination and racial socialization has been conducted among adolescent and emerging adult populations. To achieve a better understanding of the impact of
discrimination and racial socialization on the development of aggressive behaviors, research must address these topics among younger age groups.

The present study seeks to add to the existing literature by using a model based on the ecological theory of development (Bronfenbrenner, 1986), as well as other supporting theories (see Spencer et al., 1995, 2001; Berkowitz, 1989) to examine a mediated-moderation model (see Figure 1). The hypothesized model posits that child engagement in reactive aggression varies as a positive function of the level of negative affect, which will vary as a positive function of perceived discrimination. It is expected that as children are exposed to greater levels of discrimination, there will be an increase in negative affect, as well as an increase in aggressive behaviors. In addition, the model hypothesizes that discrimination and positive racial socialization will interact in the prediction of negative affect and reactive aggression, such that at high levels of racial socialization, the strength of the relation between discrimination and both negative affect and aggression will lessen. The relation between discrimination and racial socialization, as represented by their interaction, and aggression will be at least partially mediated by negative affect in a sample of African American and European American elementary school (grades 4-6) youth. The hypothesized model additionally posits mediated-moderation (Kenny, 2003) where the interaction between discrimination and racial socialization is expected to indirectly relate to reactive aggression through the youth’s negative affect. In other words, racial socialization is expected to buffer against the deleterious effects of discrimination on aggression, and this relation will be less significant once negative affect is taken into account. The results of such data, gathered
from African American and European American youth in grades 4 to 6, have yet to be published, particularly with aggression as the outcome of interest.
Method

Participants

Participants in the study were recruited from local elementary schools in a northeastern city in the United States. While the ethnic/racial composition of the city was predominately (70%) European American, the ethnic/racial composition of public schools in the district (at the initiation of this study) was as follows: 66.2% African American, 21.6% European American, 10% Latino, and 3.2% other (NYS Education Department, 2006). By completion of the present study, the ethnic/racial composition of the city was 78% European American; in contrast, that of the public schools in the district was as follows: 59% African American, 21% European American, 12% Latino, 7% Asian or Native Hawaiian/Other Pacific Islander, and 1% multiracial (NYS Education Department, 2012). The entire sample consisted of 132 ethnically diverse participants. Interestingly, during data collection, researchers noted that a number of students were confused by the question regarding racial/ethnic status, and were uncertain of the option to choose. For example, some children indicated that they were mixed or bi-racial because their families were from Italy and Scotland, or because a great-great grandparent was Native American. It is believed that 21.7% of the sample self-identified as mixed or bi-racial due to participants’ interpretation of the question.

Analyses in the present study were limited to 29 African American (69% female) and 41 European American (57% female) children who completed the constructs of interest. The sample ranged in age from 9 to 13 years with a mean age of 10.30 years, $(SD = 1.03)$. About fifty-eight (57.7%) of the youth lived with their mother and father, 26.8% lived with their mothers in single parent homes, 1.4% lived with their fathers in
single parent homes, 9.9% lived with a parent and another adult, and 2.8% lived with an adult relative. About thirty-one percent (31.4%) of the youth participated in the subsidized lunch program.

**Procedure**

Approval was obtained from the Institutional Review Board at the University at Albany, State University of New York to conduct the study. Next, approval to conduct the study was obtained from the superintendent of the school district and the principals of elementary schools interested in participating in the project. Of the twenty schools contacted, four participated in the research project. Teachers distributed letters describing the overall study, which was a general examination of predictors and correlates of various mental health outcomes among youth, to students in their classrooms. Students were instructed to have their parents read and return the consent forms. A raffle for a twenty dollar gift certificate to a local mall was utilized as incentive for return of consent forms, regardless of parents’ decision to allow their child to participate or not. In addition to parental active consent for participation, child written assent was required in order for students to participate in the study. A raffle for an iPod Shuffle was utilized as an incentive for participation. The survey was administered in class-sized groups of students for the duration of two class periods. Trained research assistants read the survey aloud to maintain compliance and to control for varying levels of reading comprehension. All participants were treated in accordance with the American Psychological Association’s ethical guidelines (American Psychological Association Ethics Committee, 1992).
Measures

**Discrimination.** Perceived discrimination was measured with the 6-item perceived discrimination subscale from the Multicultural Events Scale for Adolescents (MESA; Gonzales, Gunnoe, Sanamiego, & Jackson, 1995; Gonzales, Tein, Sandler, & Friedman, 2001). The perceived discrimination subscale from the MESA assesses the occurrence of events involving discrimination in the past 3 months, including, “You were unfairly accused of something because of your race or ethnicity,” “You heard other people making jokes about your ethnic or racial group,” and “You were called a racial name that was a putdown.” Response categories are ‘1=Yes, it happened,’ and ‘0=No, it didn’t happen.’ Higher scores represent higher frequency of exposure to discriminatory events. The MESA perceived discrimination subscale has been shown to be significantly correlated with conduct problems ($r = .46$) and depression ($r=.15$) among African American youth (Gonzales et al., 1995).

**Racial Socialization.** A modified version of the 24-item Racial Socialization Questionnaire-Teen (RSQ-t; Lesane-Brown, Scottham, Nguyên, & Sellers, *unpublished manuscript*) was used to measure perceptions of the frequency with which participants received racial socialization messages and engaged in racial socialization activities with their parents. Subscales include questions regarding racial pride, racial barriers, egalitarian, self worth, negative, and behavioral racial socialization messages. A composite of the racial pride, racial barriers, egalitarian, self worth, and behavioral subscales was utilized as a measure of positive racial socialization messages. Thus, participants’ responses to a total of 19 items were utilized for analyses. While the original measure was created to be specific to African American youth, the items were modified
to be inclusive of all racial/ethnic groups. The original measure, preceded by the phrase ‘How often have your parents…’ includes items such as ‘Told you that some people tried to keep Blacks from being successful’; ‘Told you that you should try to have friends from all different races’; Told you to be proud of who you are’; and ‘Bought you games or toys that included Black characters.’ Each item was rephrased to make the measure applicable to members of all racial/ethnic groups. For example, the items mentioned above were changed to: ‘Told you that some people tried to keep people of your race from being successful’; ‘Told you that you should try to have friends from all different races’; Told you to be proud of who you are’; and ‘Bought you games or toys that included characters of your race.’ Each item remained as close to the original as possible, simply changing the word “Black” to “your race” and reordering words to make the items grammatically correct. Response options were ‘0=Never’; ‘1=Once or twice’; or ‘2=More than twice’. Higher scores represent more frequent socialization. The racial pride messages subscale ($\alpha = .71$), racial barrier messages subscale ($\alpha = .70$), egalitarian messages subscale ($\alpha = .66$), self-worth messages subscale ($\alpha = .73$), and the behavioral subscale ($\alpha = .74$) all displayed adequate internal consistency among the sample of 505 African American youth ages 10 to 19 (Lesane-Brown et al., unpublished manuscript). Lesane-Brown and colleagues (unpublished manuscript) conducted confirmatory factor analyses, which revealed that the goodness of fit indices yielded adequate fit to the data for the model ($\chi^2=436.62; \text{RMSEA}=.04; \text{NNFI}=.97; \text{CFI}=.97$). A composite was created to examine the impact of all positive racial socialization messages. This composite was created by calculating the sums of the aforementioned subscales. The composite created in the present study had adequate consistency ($\alpha=.89$).
**Negative Affect.** The 15-item negative affect subscale of the Positive and Negative Affect Schedule for Children (PANAS-C; Laurent et al., 1999) was utilized to assess levels of negative affect. The items ask children to indicate how often they felt specific emotions (e.g., sad, nervous, mad) during the past few weeks on a 5-point Likert-type scale (‘1=Very slightly or not at all’ to ‘5=Extremely’). Responses were summed, with higher scores indicating higher levels of negative affect. Reliability has been demonstrated among children in grades 4 to 8, with studies showing reliability for the PANAS-C Negative Affect subscale ranging from .92 to .94 (Laurent, Catanzaro, Joiner, Rudolph, Potter, et al., 1999). The PANAS-C has been shown to have adequate validity in samples of ethnically diverse pre-adolescent children (Kiernan, Laurent, Joiner, Catanzaro, & MacLachlan, 2001; Laurent et al., 1999). In the present study, this measure proved to be reliable, with an alpha of .89.

**Reactive Aggression.** A subscale of the 23-item Reactive-Proactive Aggression Questionnaire (RPQ; Raine et al., 2006) was utilized to assess levels of reactively aggressive behaviors. This 11-item subscale asks about the frequency (‘0=Not at all,’ ‘1=Sometimes,” ‘3=Often’) of provoked aggressive acts, including ‘Reacted angrily when provoked by others,” and ‘Hit others to defend yourself.’ Responses were summed, with higher scores indicating higher levels of reactive aggression. Raine and colleagues (2006) found that among 334 boys at the age of 16, the alpha internal consistency of the reactive aggression subscale was .81 and .86 for their two replication samples. These authors additionally examined construct, convergent, divergent, and criterion validity, utilizing measures such as the Child Behavior Checklist, and found the subscale to be acceptable for youth with a reading age of 8 years (Raine et al., 2006). In the present
study, the reliability of reactive aggression indicated adequate internal consistency, with an alpha of .88.
Results

Descriptive Statistics

Correlations and descriptive statistics for the main study variables and age, with racial/ethnic groups combined and then separated by racial/ethnic group, are presented in Tables 1 and 2. Perceived discrimination had positive and significant correlations with all other study variables when racial/ethnic groups were combined. Negative affect had a positive and significant correlation with the outcome of reactive aggression. Notably, the relationships between all study variables were significant in the expected direction. The only exception was the results for positive racial socialization, which was only significantly related to perceived discrimination.

When examining racial/ethnic groups separately, the correlations differed. Among African American participants, perceived discrimination was significantly related to positive racial socialization (a positive correlation); positive racial socialization was significantly related both to age (a positive correlation); and negative affect was significantly related to age (a negative correlation) and reactive aggression (a positive correlation). No other variables were significantly correlated among these 27 African American children. Among the 39 European American participants, perceived discrimination had a significant positive correlation to positive racial socialization. Negative affect had a significant positive correlation to both reactive aggression and perceived discrimination.

Combining the data was the optimal choice for improving statistical power; however, assessing for true differences among the populations studied was necessary. Thus, tests for mean differences were conducted. With regard to racial/ethnic groups,
tests indicate that there were no significant differences between reports of perceived racism ($t(66) = -1.76, p = .08$), negative affect ($t(68) = .41, p = .69$), and reactive aggression ($t(65) = -1.84, p = .07$) among African American and European American youth. However, significant mean differences were evidenced when examining positive racial socialization, with African American youth reporting higher levels thereof ($t(65) = -2.28, p < .05$). With regard to gender, tests indicate that there were no significant differences between reports of perceived racism ($t(66) = -0.52, p = .60$), positive racial socialization ($t(65) = -1.22, p = .23$), negative affect ($t(68) = .05, p = .96$), and reactive aggression ($t(65) = 1.13, p = .27$) among males and females. An analysis of Box’s M (Box, 1949), a test for homogeneity of variance and covariance matrices, was also conducted to determine whether there were racial/ethnic or gender differences in the variance and covariance matrices among the study variables. Box’s M was nonsignificant ($p = .955$ and $p = .517$, respectively), which supported the decision to test the hypothesized model by combining racial/ethnic groups and gender.

**Explanation of Analytic Procedures**

Mediation was tested using multiple regression analyses following procedures outlined by Baron and Kenny (1986). Mediation was said to exist if discrimination had at least a partial effect on the outcome variable, aggression, indirectly through the mediator variable, negative affect. To establish that partial mediation exists, a number of criteria must be met. First, the regression coefficient ($\tau$, borrowing notation from MacKinnon, 1994) from the predictor to the outcome variable must be statistically significant (see, for an exception, MacKinnon, 2000). This represents the total effect of the predictor on the outcome variable. If the previous criterion is supported, then the presence of a significant
regression coefficient ($\alpha$) for the path from the explanatory variable to the hypothesized mediator must exist. The next criterion to be met states that the predictor variables must influence the outcome variable both indirectly through the mediator that is specified in the model and directly or possibly through other mechanisms not specified in the model. The path ($\beta$) from the mediator to the outcome variable was therefore required to be significant while controlling for the predictor variable. The next criterion stipulates that the regression coefficient ($\tau'$) from the explanatory variable to the outcome variable must be smaller than ($\tau$). To ensure that mediation truly occurs, a test of the statistical significance of the mediated (i.e., indirect) effect was conducted. In the proposed study, the indirect effect was estimated by ($\alpha \beta$), which is equivalent to ($\tau - \tau'$). Using the Goodman I version of the Sobel formula for the standard error (see Preacher & Leonardelli, 2001), the ratio ($\alpha \beta / SE_{\alpha \beta}$) was tested using the standard normal distribution with $\alpha = .05$. Data was considered consistent with the existence of mediation if the direct effect estimate was reduced to non-significance, while the indirect effect was statistically significant.

Moderation analyses were tested using multiple regression following the procedures outlined by Jaccard (1990). Moderation exists when the influence of a predictor variable on the outcome variable varies as a function of the level of the proposed moderator variable. In statistical terms, moderation is present when there is a statistically significant interaction between two or more variables. To test for moderation, discrimination and racial socialization were mean centered in order to facilitate interpretation, and product terms were computed. If the interactions were nonsignificant, then the regression equations were reestimated without the interaction terms in the model.
In the presence of significant interactions, further analyses would be conducted to examine the simple regression slopes (i.e., conditional regression coefficients) of the outcome variable regressed on racial socialization and discrimination. Due to the lack of theoretical guidance to choose meaningful levels of racial socialization at which to explore the relations between discrimination and aggression, arbitrary levels were chosen at the mean and at 1 SD above and below the mean levels of racial socialization (Cohen, Cohen, West, & Aiken, 2003). Using the procedures specified by Aiken and West (1991), the magnitude, direction, and statistical significance of the conditional effects were examined.

The hypothesized model in the present study posits mediated moderation (Kenny, 2003; Muller, Judd, & Yzerbyt, 2005) where racial socialization is expected to buffer against the impact of perceived discrimination on aggression, indirectly through negative affect. The hypothetical model was examined by testing whether the interaction between discrimination and racial socialization had a direct or indirect influence on aggression using the combined aforementioned methods of mediation and moderation analyses. Due to the lack of significant interactions, the individual influences of discrimination and racial socialization were tested. Using the criteria described above, the hypothesized model was tested in the entire sample. Unstandardized and standardized regression coefficients, standard errors, t-values, and part correlations are detailed in Table 3. Findings are discussed in detail below.

**Hierarchical Regression Analyses**

The hypothesized model was tested (see Figure 2). The results of the regression analyses are detailed in Table 3. The first step in testing the hypothesized model involved
determining whether a relationship existed between perceived discrimination and negative affect, as well as between positive racial socialization and negative affect, while controlling for perceived discrimination. The next step involved determining whether a relationship existed between perceived discrimination and reactive aggression, as well as between positive racial socialization and reactive aggression, while controlling for perceived discrimination. Next, an interaction term was created to determine whether perceived discrimination by positive racial socialization related to the outcome of reactive aggression, as well as to the hypothesized mediator, negative affect. Finally, the relationship between negative affect and reactive aggression was examined.

Hierarchical regression was utilized to test the hypotheses. With negative affect set as the outcome variable, perceived discrimination was entered on the first block, perceived discrimination and positive racial socialization were entered on the second block, and perceived discrimination, positive racial socialization, and their interaction term were entered on the third block. Results indicated that the overall model was not significant: $R^2 = .16$, $F(1, 62) = 1.48$, $p = .23$. In the first step, perceived discrimination was significantly related to negative affect, $R^2 = .06$, $F(1, 64) = 4.19$, $p = .05$. In the second step, positive racial socialization (controlling for perceived discrimination) was significantly related to negative affect, $R^2 = .14$, $F(1, 63) = 5.50$, $p = .02$. Though an interaction between perceived discrimination and positive racial socialization did not exist, the main effects of each variable were significant when negative affect was the outcome.

When reactive aggression was set as the outcome variable, perceived discrimination was entered on the first block, perceived discrimination and positive racial
socialization were entered on the second block, and perceived discrimination, positive racial socialization, and their interaction term were entered on the third block. Results indicated that the overall model was not significant: $R^2 = .11, F(1, 62) = 1.17, p = .28$. In the first step, perceived discrimination was significantly related to reactive aggression, $R^2 = .08, F(1, 64) = 5.51, p = .02$. In the second step, positive racial socialization (controlling for perceived discrimination) was not significantly related to reactive aggression, $R^2 = .09, F(1, 63) = 0.91, p = .34$. Again, no perceived discrimination by positive racial socialization interaction was evidenced; however, the main effect of perceived discrimination was significant when reactive aggression was the outcome.

In the last set of hierarchical regression analyses, reactive aggression was again set as the outcome variable. Perceived discrimination was entered on the first block, perceived discrimination and positive racial socialization were entered on the second block. In the third block, perceived discrimination, positive racial socialization, and negative affect were entered. Results indicated that the overall model was significant: $R^2 = .22, F(1, 62) = 9.75, p = .00$. In the first step, perceived discrimination was significantly related to reactive aggression, $R^2 = .08, F(1, 64) = 5.51, p = .02$. In the second step, positive racial socialization (controlling for perceived discrimination) was not significantly related to reactive aggression, $R^2 = .09, F(1, 63) = 0.91, p = .34$. While controlling for perceived discrimination and positive racial socialization, negative affect was significantly related to reactive aggression.

**Mediated-Moderation Analyses**

Perceived discrimination was associated with higher levels of reactive aggression and higher levels of negative affect. Positive racial socialization did not significantly
relate to reactive aggression. Negative affect was significantly related to concurrent reactive aggression. Examining the total effects of discrimination, positive racial socialization, and the interaction term on aggression, it was found that no discrimination by positive racial socialization interaction existed \( [B = -.11, SE_B = .10, \beta = -.15, t(66) = -1.08, p = .28, ns] \). Removing the interaction term, the regression of negative affect on discrimination and positive racial socialization was examined. These results indicated that discrimination (controlling for positive racial socialization) was significantly related to negative affect \( [B = .25, SE_B = .08, \beta = .39, sr^2 = .12, t(66) = 2.97, p = .00] \). Although racial socialization was not related to negative affect in the zero order correlations, racial socialization (controlling for perceived discrimination) was significantly related to negative affect \( [B = -.51, SE_B = .22, \beta = -.31, sr^2 = .08, t(66) = -2.35, p = .02] \). However, the relationship between positive racial socialization and negative affect was non-significant once the relationship was examined without perceived discrimination in the model \( [B = -.20, SE_B = .20, \beta = -.12, sr^2 = -.12, t(66) = -1.02, p = .31] \). These findings suggest that perceived discrimination may be acting as a suppressor of the error variance in positive racial socialization, thereby increasing the relation between positive racial socialization and negative affect (see Cohen & Cohen, 1983; Conger, 1974; Howell, 2002).

Though positive racial socialization was significantly related to negative affect, examination of the possibility of mediation was not pursued, due to the fact that positive racial socialization was not significantly related to reactive aggression. However, based upon these results, it can be concluded that (a) higher levels of positive racial socialization is associated with lower levels of negative affect and (b) negative affect may
mediate the relation between perceived discrimination and reactive aggression among the youth in this study.

To further test the possibility of mediation, the relation between negative affect and reactive aggression, controlling for discrimination and positive racial socialization, was examined. The results indicated that this criterion for mediation was satisfied; greater negative affect was related to greater reactive aggression \( B = .23, SE_B = .07, \beta = .38, sr^2 = .12, t(62) = 3.12, p = .00 \). Controlling for positive racial socialization and negative affect, the relation between perceived discrimination and reactive aggression was examined as a final step to determine the existence of mediation. Results show that the direct relationship between perceived discrimination and reactive aggression was significant \( B = .13, SE_B = .05, \beta = .34, sr^2 = .09, t(64) = 2.52, p = .01 \). When negative affect was added to the regression model, the regression coefficient for discrimination decreased to non-significance \( B = .08, SE_B = .05, \beta = .19, sr^2 = .03, t(62) = 1.42, p = .16 \). The indirect relation was significant \( z = 2.15, p = .03 \). These results indicate that the indirect influence of perceived discrimination on reactive aggression was fully mediated by negative affect. The entire model was statistically significant, \( [F(1, 62) = 9.75, p = .003] \), accounting for 18% of the variance in reactive aggression.
Discussion

The present study sought to examine a model in which positive racial socialization messages were expected to moderate perceived discrimination, such that perceived discrimination would have a weaker positive relationship with reactive aggression at higher levels of racial socialization in youth in grades four through six. In addition, it was expected that negative affect would mediate the relationship between the interaction between perceived discrimination and positive racial socialization and reactive aggression. The model was tested in urban African American and European American youth. Findings from the present study provide partial support for certain portions of the hypothesized model.

An interesting finding was one that was not included in the hypothesis; namely, the fact that many youth did not seem fully aware of their racial/ethnic identity. A number of participants required explanation of the question, and made comments which indicated that their concept of race and ethnicity was not neatly packaged in the response options available. Children at this age may not self-identify as one race or ethnic group in particular, and may consider ancestry and within-group variation (e.g., categories of European American such as Italian and Scottish) as warranting a “mixed or bi-racial” classification. This may impact research with this age group and require that qualitative work be done to determine what racial/ethnic identification and classification means to children.

With regard to the relationship between variables of interest, there were interesting correlations, as well as differences in correlation patterns across racial/ethnic groups. Though analyses determined that these differences were not significant, the
patterns are of interest and worth discussion. When racial/ethnic groups were combined, positive racial socialization was correlated with perceived discrimination; unexpectedly in the positive direction. It is possible that parents’ provision of positive racial socialization messages may serve to heighten awareness of issues of race and ethnicity such that children may be more likely to recognize experiences of discrimination when compared to peers who do not receive racial socialization messages from their parents. Examining racial/ethnic groups separately showed that this correlation between perceived discrimination and racial socialization was consistent across groups. Another finding consistent across racial/ethnic groups was the fact that negative affect was significantly correlated with reactive aggression in the positive direction. However, among African American children in the present study, perceived discrimination was not correlated with negative affect or reactive aggression. African American children may interpret their experiences of discrimination in such a way that the impact may be lessened. It is possible that another, unstudied variable (e.g., expectation of discrimination) may be mediating a relationship that indeed exists. Also, age was positively correlated with positive racial socialization messages and negatively correlated with negative affect among African American participants. As African American children get older, their parents may increase the amount of racial socialization messages provided, and children may experience more negative emotions. Interestingly, these correlations between variables of interest and age were not evidenced among European American children in the present study. Additionally, perceived discrimination and negative affect were correlated among European American youth. It is possible that European American children do not expect to experience discrimination, and thus, when it occurs, may lead to
negative emotion. It is important to note that small sample size may impact these correlations, as there is likely less range in responses, which limits the ability to find significant differences. However, the patterns found indicate the need to examine these topics further among similar populations.

With regard to examination of the hypothesized model, it was expected that positive racial socialization messages would be inversely related to negative affect and reactive aggression, such that higher levels of racial socialization would be associated with lower levels of negative affect and lower levels of aggression. However, positive racial socialization messages were not significantly correlated with negative affect or reactive aggression. The present study also found that though positive racial socialization was not correlated with negative affect in the zero order correlations, regression analyses yielded different results, suggesting that children who reported receipt of more of these messages reported less negative affect when the impact of perceived discrimination was partialled out of the equation. It is possible that these findings are due to variations in the receipt of racial socialization messages across differing contexts. Brown and colleagues (2007) found that parents were more likely to impart racial socialization messages to their children if the target child was a minority in their environment. The present study took place in public schools in which African Americans make up over half of the total population, while European Americans make up 21% of the population (NYS Education Department, 2006; 2012). However, this study took place in four schools in which the ethnic/racial breakdown may have differed drastically depending on the environment considered (e.g., the school, classroom, neighborhood of origin, etc.). In addition to potential differences in the presence of these messages based on context, participants’
perceived meaning and interpretation of racial socialization messages could result in differing impact on negative affect and reactive aggression. Prelow and colleagues (2007) suggested that differences in findings among African American and European American youth could be due to the youth’s differing appraisals of their experiences. Indeed, there were mean differences across ethnic groups in their reported receipt of positive racial socialization messages. It stands to reason that there could also be differences in the meaning these messages have among these youth, and these differences could directly affect the impact of these messages on outcomes of interest. Future research to examine potential differences in the meanings of these messages across varying ethnic/racial groups is warranted.

The hypothesis that racial socialization would moderate the link between perceived discrimination and reactive aggression was not supported. In other words, racial socialization did not buffer against the negative impact of discrimination on aggression. In addition to the assertions detailed above, it is important to note that the present study examined this model in 70 African American and European American participants. It is possible that there was not enough power to obtain significant results in a diverse sample. Research that has found racial socialization as a moderator utilized ethnically homogenous samples of more than 70 participants (see Harris-Britt et al., 2007 and Bannon et al., 2009). However, other researchers with larger sample sizes have also failed to find support for the hypothesis that racial socialization acts as a moderator. In a study examining racial socialization and identity as potential protective factors against stress in relation to academic performance among 131 urban African American adolescents, Miller and MacIntosh (1999) found that the hypothesized
protective effect of racial socialization was not supported by the data. These authors note that despite the unexpected findings, racial socialization remains a viable factor and warrants further investigation as such (Miller & MacIntosh, 1999). Similarly, Neblett and colleagues (2006) hypothesized that racial socialization would moderate the relation between discrimination and academic achievement. Though that hypothesis was not supported, there were a number of significant relations between various types of racial socialization messages received and academic achievement outcomes. The authors cited the literature on resilience, specifically work by Garmezy and colleagues (1984), and posited, “it is indeed possible for some factors to compensate for the negative effects of discrimination but not modulate, buffer, or interact with experiences of discrimination. Although racial socialization did not appear to directly interact with experiences of discrimination, the possibility still remains that parental messages and behaviors concerning race may serve as protective factors for other outcomes…” (Neblett et al., 2006, p. 215). In the present study, when accounting for the impact of discrimination, there was a main effect of positive racial socialization messages on negative affect, such that children receiving more positive racial socialization messages reported less negative affect. Though such messages did not buffer against the deleterious effects of perceived discrimination, these messages may be helpful in reducing negative affect.

Negative affect fully mediated the positive relation between perceived discrimination and aggression. This is consistent with previous research examining negative emotion as a mediator of the link between discrimination and delinquency in African American youth (Simons et al., 2003). The findings in this present study suggest that African American and European American children who experience discrimination...
may be more likely to experience negative affect, and hence may engage in more reactively aggressive acts. This portion of the model accounted for a significant amount of variance in aggression, signifying the importance of the relationship between discrimination, negative affect, and aggression.

The findings among the children in this study provide additional support to Bronfenbrenner’s (1986) ecological model, Spencer’s Phenomenological Variant of Ecological Systems Theory (PVEST, 1995), as well as to Berkowitz’s (1989) frustration hypothesis. The former theories highlight the importance of the relationships between multiple contexts, while the latter specifies that stressors lead to negative emotion and aggressive outcome. The present study included the microsystem outcome of reactive aggression (the outcome) and examined the relations between microsystem (negative affect – a potential result of a stressor), mesosystem (racial socialization messages communicated by caregivers), and meso- and exosystem (discrimination – the stressor) variables. Though positive racial socialization messages did not function as a protective factor against the impact of discrimination, it may indeed be a promotive factor, meaning that the presence of such messages may serve to reduce engagement in aggressive behaviors. Findings that negative affect mediate the relation between discrimination and aggression point to the importance of addressing issues that deal with race, ethnicity, and culture, to gain a better understanding of child development.

The results of the present study should be interpreted with caution and viewed in light of their limitations. First, the data used to test the hypotheses were correlational, which limits the extent to which one can make causal inferences. The direction of the relationships between perceived discrimination, positive racial socialization messages,
negative affect, and reactive aggression cannot be determined from these analyses. For example, it is possible that children who are aggressive in reaction to thwarts develop negative affect, which then impacts their perception and experience of discrimination, rather than high levels of perceived discrimination and high levels of negative affect predicting reactive aggression. A longitudinal study would be needed to determine temporal ordering of the variables. Notably, longitudinal research by Simons and colleagues (2003) examining similar variables suggests that the theorized temporal ordering of the model hypothesized in this study is likely accurate. Second, though results provide preliminary support for the idea that positive racial socialization messages do not protect against the deleterious effects of perceived discrimination among African American and European American children, a larger sample would be necessary to add strength to, or refute, these findings. It is possible that lack of power due to small sample size limited the possibility of finding moderation in this population. Third, the present study was limited to African American and European American children from four schools that completed the measures examined. Therefore, these findings may not be generalizable to youth who (a) do not attend these schools in the area; (b) did not complete the survey; and (c) belong to other ethnic groups. Fourth, only self-report questionnaires were used to measure the constructs in this study, which could have resulted in biased reporting. Finally, it is possible that there are other important variables of interest that were not examined in this study.

Despite the limitations, the present study adds to the growing research that identifies the links between perceived discrimination, racial socialization, negative affect, and aggression in children. It is noteworthy that the results of the proposed model
yielded significant results combining African American and European American youth. These findings convey the importance of including a variety of racial and ethnic groups in the study of variables typically examined solely among ethnic minority populations. As noted by Spencer (2006) “children not belonging to an ethnic community of color also experience socially constructed cultural contexts” (p. 1149). A number of researchers have begun to study cultural variables in both ethnic minority and majority populations (see Brown et al., 2007; Tumaini et al., 2009 for examples). Though separating ethnic groups when analyzing hypothesized models has become increasingly accepted in the literature, particularly in research studies examining topics such as discrimination and racial socialization, it is imperative that researchers do not ignore or discredit the importance of these variables among all ethnic groups – including the ethnic majority.

The present findings have implications for the development of treatment and intervention programs. Specifically, parents of African American and European American children would benefit from knowledge that they may be able to enhance their effectiveness in the reduction of their children’s experience of negative affect. Sharing positive messages regarding race that (a) increase racial pride and self worth, (b) increase awareness of potential barriers that result from racial differences, (c) promote equality across races, and (d) encourage involvement in activities specific to one’s race, ethnicity, and culture may reduce negative thoughts and feelings in general. Also, understanding that higher levels of perceived discrimination is associated with higher levels of reactive aggression through negative affect could initiate and improve discussions about these topics, which, in turn, could lead to developing coping skills that could reduce the experience of and/or engagement in the aforementioned variables. Therapists treating
African American and European American families in which the focal child is between ages nine and thirteen may help aggressive clients by suggesting that topics such as racial socialization, discrimination, and negative affect be discussed. Reducing perceptions of, as well as providing appropriate methods of coping with exposure to, discrimination may effectively reduce the experience of negative affect as well as levels of reactive aggression among African American and European American children. These findings, if replicated, may also inform school and public policy in terms of dealing with aggressive youth. As the results show, the significant positive relation between perceived discrimination and aggression is no longer significant once negative affect is taken into account. These results provide support for the idea that interventions designed to change cognitions and improve emotional state would likely be helpful in reducing aggressive behaviors. As such, methods of disciplining aggressive youth should include therapeutic intervention that would reduce negative affect.

Future research should examine perceived discrimination, racial socialization, and negative affect, in a longitudinal study on reactive aggression so that temporal ordering of the variables can be determined. In addition, research on a number of different ethnic populations would produce a more complete view of how these predictors impact outcome across ethnic/racial groups. Similarly, separate analysis of various ethnic groups and gender, with a larger sample size, may reveal different findings. Future studies should also include youth at different developmental stages (e.g., childhood, early- and late-adolescence) in order to determine whether developmental stage plays a critical role in which factors are positively and negatively related to aggression. Finally, further studies are needed to identify the processes and mechanisms through which
negative child outcomes can be reduced, and positive outcomes enhanced, in youth of all racial and ethnic backgrounds.
References


http://www.unc.edu/~preacher/sobel/sobel.htm


   *Social Institutions and Social Change* (pp. 223-234). Hawthorne, NY: Aldine de
   Gruyter.


Smith Bynum, M., Burton, E.T., & Best, C. (2007). Racism experiences and
   psychological functioning in African American college freshman: Is racial

   phenomenological variant of ecological systems theory. In Raylor, R.L. (Ed.),
   *Black Youth: Perspectives on Their Status in the United States*. Praeger, Westport,
   CT, pp. 37-70.


   Vulnerability to violence: A contextually sensitive, developmental perspective on

   examination of identity as coping: Linking coping resources to the self processes


Appendix

Multicultural Events Scale for Adolescents Perceived Discrimination Subscale
*For the items listed below, indicate whether these situations happened to you in the past 3 months.*
0 No, it did not happen; 1 Yes, it happened

**In the past 3 months:**

- You were excluded from a group because of your race, ethnicity, or culture
- You were unfairly accused of something because of your race or ethnicity
- You saw a student who was treated badly or discriminated against
- You heard other people making jokes about your ethnic or racial group
- You were called a racial name that was a put down
- Someone put you down for practicing the traditions or customs of your race, ethnicity, culture or religion

Racial Socialization Questionnaire – Positive Composite

*We are interested in learning more about what your family has told you about race. For each item, please choose the response that best describes how often your family talked to you about race.*

0 Never; 1 Once or twice; 2 More than twice

*How often have your parents*

**Racial Pride**
- Talked to you about the history of your race
- Told you that you should be proud to be of your race
- Told you never to be ashamed of your physical features (e.g., hair texture, lip shape, skin color, etc.)

**Racial Barrier**
- Told you that some people think they are better than you because of their race
- Told you that people of your race have to work twice as hard as people of other races to get ahead
Racial Socialization Questionnaire – Positive Composite (continued)

Told you that some people may dislike you because of the color of your skin
Told you that some people tried to keep people of your race from being successful

Egalitarian
Told you that people of other races should try to understand each other so they can get along
Told you that because of opportunities today, hardworking people of your race have the same chance to succeed as anyone else
Told you that you should try to have friends from all different races
Told you that you can learn things from people of different races

Self-Worth
Told you that you are somebody special, no matter what anyone says
Told you to be proud of who you are
Told you that skin color does not define who you are

Behavioral
Gone with you to cultural events involving people of your race
Gone with you to cultural events involving other races and cultures (plays, movies, and concerts)
Gone with you to organization meetings that dealt with issues of people from your culture
Bought you books about people from your culture
Bought you games or toys that included characters of your race
Positive Affect-Negative Affect Schedule for Children – Negative Affect Subscale

This form is about how you feel. For each sentence that you read, circle the answer that best tells how true that sentence is about how you usually feel. Remember, there are no right or wrong answers, just circle what you think describes you best.

How much have you felt this way during the past few weeks?

1 Very slightly or not at all  2 A little  3 Moderately  4 Quite a bit  5 Extremely

Sad
Frightened
Ashamed
Upset
Nervous
Guilty
Scared
Miserable
Jittery
Afraid
Lonely
Mad
Disgusted
Blue
Gloomy
Proactive-Reactive Aggression Scale – Reactive Aggression Subscale

There are times when most of us feel angry, or have done things we should not have done. Rate each of the items below by choosing the answer that best describes what you have done. Do not spend a lot of time thinking about the items – just give your first response. Make sure you answer all the items.

0 Not at all; 1 Sometimes; 2 Often

Yelled at others when they have annoyed you
Reacted angrily when provoked by others
Gotten angry when frustrated
Had temper tantrums
Damaged things because you felt mad
Become angry or mad when you don’t get your way
Gotten angry or mad when you lost a game
Gotten angry when others threatened you
Felt better after hitting or yelling at someone
Hit others to defend yourself
Gotten angry or mad or hit others when teased
Table 1

Correlations, Means, and Standard Deviations for All Study Variables and Age

(n=66)

<table>
<thead>
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<tr>
<td>1. Perceived Discrimination</td>
<td>1.00</td>
<td>.47***</td>
<td>.25*</td>
<td>.31*</td>
<td>.16</td>
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<td>2. Positive Racial Socialization</td>
<td>.47***</td>
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<td>-.13</td>
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<td>3. Negative Affect</td>
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<td>-.13</td>
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<td>.42***</td>
<td>-.10</td>
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<td>4. Reactive Aggression</td>
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<td>.03</td>
<td>.42***</td>
<td>1.00</td>
<td>.08</td>
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<td>5. Age</td>
<td>.16</td>
<td>.17</td>
<td>-.10</td>
<td>.08</td>
<td>1.00</td>
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**Mean**

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<td>1.13</td>
<td>1.01</td>
<td>1.86</td>
<td>.62</td>
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**SD**

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<td>1.21</td>
<td>.46</td>
<td>.75</td>
<td>.47</td>
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*Note.* *p < .05.* **p < .01. ***p < .001
Table 2

Correlations, Means, and Standard Deviations for All Study Variables and Age for African American (n=27) and European American (n=39) Youth

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<th>4</th>
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<th>SD&lt;sub&gt;AA&lt;/sub&gt;</th>
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<tr>
<td>1. Perceived Discrimination</td>
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<td>.45*</td>
<td>.14</td>
<td>.27</td>
<td>.38</td>
<td>1.44</td>
<td>1.21</td>
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<tr>
<td>2. Positive Racial Socialization</td>
<td>.43**</td>
<td>1.00</td>
<td>-.26</td>
<td>-.08</td>
<td>.50**</td>
<td>1.16</td>
<td>.51</td>
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<tr>
<td>3. Negative Affect</td>
<td>.35*</td>
<td>.00</td>
<td>1.00</td>
<td>.48*</td>
<td>-.39*</td>
<td>1.82</td>
<td>.77</td>
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<tr>
<td>4. Reactive Aggression</td>
<td>.28</td>
<td>-.01</td>
<td>.43**</td>
<td>1.00</td>
<td>.04</td>
<td>.74</td>
<td>.41</td>
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<tr>
<td>5. Age</td>
<td>.04</td>
<td>-.06</td>
<td>.11</td>
<td>.11</td>
<td>1.00</td>
<td>10.40</td>
<td>.98</td>
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<td>Mean&lt;sub&gt;EA&lt;/sub&gt;</td>
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<td></td>
<td></td>
<td>1.17</td>
<td>.41</td>
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<tr>
<td>SD&lt;sub&gt;EA&lt;/sub&gt;</td>
<td></td>
<td>.41</td>
<td>.74</td>
<td>.50</td>
<td>1.08</td>
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*Note.* Scores above and below the main diagonal refer to African American and European American Youth, respectively. AA=African Americans; EA=European Americans

*p < .05. **p < .01. ***p < .001
Table 3

Unstandardized and Standardized Regression Coefficients, Standard Errors, t-values, and Part Correlations (n=66)

<table>
<thead>
<tr>
<th>Path</th>
<th>Estimate</th>
<th>SE</th>
<th>β</th>
<th>t</th>
<th>sr²</th>
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<td>PD → Reactive Aggression</td>
<td>0.109*</td>
<td>0.046</td>
<td>0.282</td>
<td>2.347</td>
<td>0.282</td>
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<tr>
<td>PRS → Reactive Aggression</td>
<td>-0.129</td>
<td>0.135</td>
<td>-0.130</td>
<td>-0.956</td>
<td>-0.115</td>
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<tr>
<td>PD x PRS → Reactive Aggression</td>
<td>-0.112</td>
<td>0.103</td>
<td>-0.151</td>
<td>-1.083</td>
<td>-0.013</td>
</tr>
<tr>
<td>NA → Reactive Aggression</td>
<td>0.231**</td>
<td>0.074</td>
<td>0.378</td>
<td>3.122</td>
<td>0.351</td>
</tr>
<tr>
<td>PD → Negative Affect</td>
<td>0.157*</td>
<td>0.077</td>
<td>0.248</td>
<td>2.046</td>
<td>0.248</td>
</tr>
<tr>
<td>PRS → Negative Affect</td>
<td>-0.505*</td>
<td>0.215</td>
<td>-0.311</td>
<td>-0.562</td>
<td>-0.275</td>
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<tr>
<td>PD x PRS → Negative Affect</td>
<td>-0.200</td>
<td>0.164</td>
<td>-0.165</td>
<td>-1.217</td>
<td>-0.142</td>
</tr>
</tbody>
</table>

*Note.* PD = Perceived Discrimination; PRS = Positive Racial Socialization, NA = Negative Affect; PD x PRS = the abbreviation for “perceived discrimination by positive racial socialization interaction”. The bars in the first column indicate that the effects of the variables following the bars have been partialled out. Regression coefficients, their standard errors, beta weights, and sr² are reported in the table.

*p<.05. **p<.01. ***p<.001.
Figure 1. Hypothetical model of the relation between perceived discrimination, racial socialization, negative affect, and reactive aggression among African American and European American children.
Figure 2. Mediated moderation model of the relation between perceived discrimination, positive racial socialization, negative affect and reactive aggression. Unstandardized regression coefficients are reported; standard errors are in parentheses. *p < .05. **p < .01. ***p < .001.