J Youth Adolescence (2015) 44:1301–1317
DOI 10.1007/s10964-014-0196-6

CrossMark

EMPIRICAL RESEARCH

Associations of Racial Discrimination and Parental Discrimination Coping Messages with African American Adolescent Racial Identity

Bridget L. Richardson · Tamarie A. Macon · Faheemah N. Mustafaa · Erin D. Bogan · Yasmin Cole-Lewis · Tabbye M. Chavous

Received: 27 June 2014 / Accepted: 29 September 2014 / Published online: 10 October 2014
© Springer Science+Business Media New York 2014

Abstract Research links racial identity to important developmental outcomes among African American adolescents, but less is known about the contextual experiences that shape youths' racial identity. In a sample of 491 African American adolescents (48 % female), associations of youth-reported experiences of racial discrimination and parental messages about preparation for racial bias with adolescents' later racial identity were examined. Cluster analysis resulted in four profiles of adolescents varying in reported frequency of racial discrimination from teachers and peers at school and frequency of parental racial discrimination coping messages during adolescents' 8th grade year. Boys were disproportionately over-represented in the cluster of youth experiencing more frequent discrimination but receiving fewer parental discrimination coping messages, relative to the overall sample. Also examined were clusters of adolescents' 11th grade racial identity attitudes about the importance of race (centrality), personal group affect (private regard), and perceptions of societal beliefs about African Americans (public regard). Girls and boys did not differ in their representation in racial identity clusters, but 8th grade discrimination/parent messages clusters were associated with 11th grade racial identity cluster membership, and these associations varied across gender groups. Boys experiencing more frequent discrimination but fewer parental coping messages were over-represented in the racial identity cluster characterized by low centrality, low private regard, and average public regard. The findings suggest that adolescents who experience racial discrimination but receive fewer parental supports for negotiating and coping with discrimination may be at heightened risk for internalizing stigmatizing experiences. Also, the findings suggest the need to consider the context of gender in adolescents' racial discrimination and parental racial socialization.

Keywords Racial discrimination · Parent racial socialization · Racial identity · African American adolescents

B. L. Richardson
Department of Psychology, Personality and Social Contexts, University of Michigan, Ann Arbor, MI, USA
e-mail: bridgetr@umich.edu

T. A. Macon · F. N. Mustafaa · E. D. Bogan · T. M. Chavous (✉)
Combined Program in Education and Psychology, University of Michigan, Ann Arbor, MI, USA
e-mail: tchavous@umich.edu

T. A. Macon
e-mail: tamacon@umich.edu

F. N. Mustafaa
e-mail: faheemah@umich.edu

E. D. Bogan
e-mail: eebogan@umich.edu

Y. Cole-Lewis
Clinical Psychology, University of Michigan, Ann Arbor, MI, USA
e-mail: ycolelew@umich.edu

Introduction

Among racial minority adolescents, racial identity[1] has been linked to important life outcomes such as academic

[1] We use the term racial identity to refer to African American/Black identity. We acknowledge the terms "racial" and "ethnic" are defined and used in distinct ways as well as interchangeably in identity literatures. Because this paper is focused on youths' understandings of their identities as Black people in America, we deemed the term racial identity as most appropriate. In reviewing relevant literature, however, we use the terms "racial" or "ethnic" as used by respective study authors.

achievement, health, and well-being (e.g., Ashmore et al. 2004; Chavous et al. 2003, 2008; Sellers et al. 2006). Individuals' beliefs about the importance and meanings of their racial group membership can provide a lens through which they appraise and interpret life experiences, and how they respond to and cope with race-related challenges (Stevenson and Arrington 2009). For instance, racial identity has been shown to predict African Americans' experiences and perceptions of racial discrimination and also exacerbate or buffer against the negative psychological, social, and academic consequences associated with experiencing racial discrimination and racial hostility (e.g., Sellers et al. 2003; Wong et al. 2003). Yet, despite evidence that racial identity serves important developmental, social, and psychological functions for adolescents, there is a relative dearth of research examining antecedents of adolescents' racial identity.

In the current study, the Phenomenological Variant of Ecological Systems Theory (PVEST: Spencer et al. 1997; Spencer 2006) provided a conceptual framework for understanding ways in which racial identity emerges in African American adolescents' lives. Spencer et al. (1997) theorized that an individual's ability to understand societal expectations, stereotypes, and biases shapes his or her developing identity. The PVEST framework spotlights the inequitable conditions that adolescents of color routinely encounter in their daily contexts (including structural and interpersonal racism)—conditions that until recently have been fairly invisible in social science and developmental literatures (Spencer 2006; Spencer et al. 2003). Furthermore, the framework explicitly considers the interaction between adolescents' contextual conditions and their developmental stage in describing identity development. That is, adolescents' understandings of themselves in relation to their identity groups and society are shaped by contextual experiences along with adolescents' emergent social-cognitive abilities around meaning making (e.g., awareness of others' views, perspective taking) (Spencer 2006; Umaña-Taylor et al. 2014). Thus, PVEST situates individual youth of color within larger micro- and macrosystems, revealing the impact of feedback from the environment, particularly related to individual differences of race and gender. The current study focused on how two types of environmental feedback may be associated with the content of African American adolescents' racial identity: racial discrimination experiences and parental socialization bias preparation (messages youth receive about coping with discrimination). As African American girls and boys experience different societal expectations, treatment, and social positioning due to their race and gender, e.g., gendered racial stereotypes (Spencer et al. 2003), the study also considered gender variation in the associations among discrimination, parental socialization, and racial identity.

Racial Identity as Meaning Making

In a recent integrative review of ethnic and racial identity literatures, Rivas-Drake et al. (2014) highlighted the period of adolescence as particularly formative in the development of ethnic and racial identities within individuals' self-concepts. Furthermore, as a key task of adolescence is developing a secure sense of one's self and one's place in the world, the implications of ethnic and racial identity development are uniquely significant for adolescents' psychosocial adjustment. The current study used the Multidimensional Model of Racial Identity (MMRI, Sellers et al. 1998) as a framework for conceptualizing the significance and meaning of racial identity among African American adolescents. The MMRI defines racial identity as individuals' beliefs around the importance and qualitative meanings of their membership within the African American racial group (Sellers et al. 1998). Thus, the MMRI is complementary to the PVEST framework in that the MMRI represents racial identity as a meaning making process that affords individual members of historically oppressed racial groups an opportunity to define their own group membership. Individuals' identity definitions may be based in perceptions of inequality or stigmatizing experiences that challenge the value of their identity, as well as in affirming experiences, such as cultural socialization in the family or community context. As such, the MMRI allows for the possibility that African American adolescents can develop strong and positive connections to their racial group, despite experiences of individual and structural racism.

We focus on the MMRI dimensions of racial centrality (the importance of being Black to overall self-concept) and racial regard (private regard, individuals' personal affective feelings about being Black; and public regard, perceptions of societal evaluations of Blacks). As a multidimensional model, the MMRI emphasizes diversity within African Americans, assuming that group members within the same environmental contexts may simultaneously endorse varying racial beliefs and attitudes. Thus, the MMRI allows for a within-group examination of variation and patterns across identity dimensions, which can inform different belief systems youth construct about the importance and meaning of their racial group membership in society. Furthermore, the model does not define a particular racial identity as reflecting an optimal identity status. Instead, the model allows for documenting and describing ways that individuals' racial identities influence and are influenced by their proximal and distal environments. Of particular interest in

our study is how adolescents' race-related experiences relate to their racial identity.

Racial Discrimination and Racial Identity

Adolescence is associated with more frequent experiences of racial discrimination, especially among racial minority youth (Greene et al. 2006), and increasingly, researchers document that experiencing racial discrimination is not uncommon for African American adolescents in their daily academic and social environments (e.g., Neblett et al. 2006; Wong et al. 2003). Such stigmatizing experiences have implications for racial identity. Broadly popular and accepted are developmental racial/ethnic identity frameworks emphasizing—explicitly and implicitly—the roles of identity-based experiences (e.g., race-related encounters with others, cognitive and behavioral efforts to explore one's identity) in the development of individuals' racial/ethnic identity (e.g., Cross et al. 1998; Phinney 1992). Despite this, more prior research has examined how dimensions of racial identity (e.g., centrality) influence perceptions of discrimination experiences and subsequent adjustment (e.g., Sellers et al. 2003). Relatively little research examines how racial identity relates to earlier racial discrimination experiences.

Racial discrimination may relate to adolescents' racial identity in different ways. Consistent with social identity theory, repeated experiences of racial discrimination (e.g., in adolescents' daily school settings) can increase the normative salience of race such that race becomes highly central to adolescents' overall identity (high racial centrality) (e.g., Sellers et al. 1998). Experiencing racial discrimination also may function as an identity threat, and adolescents' efforts to negotiate this threat might include distancing themselves from their stigmatized group (lower racial centrality) (e.g., Ethier and Deaux 1994). Alternatively, adolescents might maintain a strong racial group connection (high centrality) in the face of identity threats through emphasizing positive group attributes (high private regard) (Tajfel and Turner 2004). Finally, racial discrimination experiences may signal societal devaluation of adolescents' racial group, which may relate to their development of low public regard attitudes.

A few recent studies of African American adolescents and other racial minority adolescents have begun to address these possibilities explicitly. In Rivas-Drake and colleagues' study of a multi-racial minority adolescent sample, the researchers found no significant associations between racial discrimination and racial centrality but a significant, negative association of peer racial discrimination with private regard (Rivas-Drake et al. 2009). Other research studies show that adolescents reporting more racial discrimination also reported higher ethnic identity affirmation and belonging (conceptually similar to private regard) among African American (Dotterer et al. 2009) and Latina/o adolescents (Umaña-Taylor and Guimond 2012). Finally, studies examining associations of adolescents' racial discrimination with public regard indicate negative associations of racial discrimination with public regard among African American adolescents (Stevenson and Arrington 2009) and in a multi-racial sample of racial minority adolescents (Rivas-Drake et al. 2009). Taken together, a small, but growing body of research indicates that racial discrimination experiences have important implications for racial minority adolescents' beliefs about both the importance and meanings of their racial group identity.

Parental Socialization About Coping with Racial Discrimination

Considering adolescents' racial discrimination experiences and the supports they receive for understanding and coping with discrimination, such as parental racial socialization, may further contribute to an understanding of adolescent racial identity. Parental racial socialization involves "the transmission of parents' world views about race and ethnicity to children" (Hughes 2003, p. 15), and parents may convey a range of messages about race (e.g., about racial/cultural pride, self-worth affirmation, racial bias) (Hughes et al. 2006). As such, parental racial socialization is an important context in which adolescents' attitudes and understandings of the importance and meanings of their racial group membership may be shaped (Hughes et al. 2009). We focus on messages that adolescents receive from parents about preparation for experiencing racial bias and, specifically, on strategies for coping with racial discrimination. Preparation for bias messages are distinct from other types of racial socialization messages in that they are most likely to draw youths' attention to social inequality, unfair treatment of Blacks, and personal discrimination (Hughes et al. 2006). Scholars suggest that emphasizing racial barriers through bias preparation can function in varying ways; it can result in the promotion of group solidarity/connectedness and pride (high centrality and private regard, respectively) and/or make salient Blacks' negative status in ways that lead to youths' endorsement of low public regard (e.g., Stevenson and Arrington 2009).

Many African American parents, understanding that their children may experience discrimination due to their racial background, provide racial bias preparation messages to enable their children to meet the demands of their daily contexts. These preparation messages may help adolescents understand how to interpret and cope with discriminatory practices and negative interracial interactions they might experience (Hughes and Chen 1999).

Parents may proactively emphasize preparation for bias messages to help their adolescents imagine and work through scenarios involving discrimination in a non-threatening space before they actually experience it, or they may provide messages in reaction to adolescents' reports of discrimination experiences. In both cases, the goal is to provide youth with tools for effective coping and to promote resilience against the potential negative effects of racial discrimination on youths' self-concept (Hughes et al. 2006). The underlying logic is that, without a framework with which to understand and counter such stigmatizing experiences, youth may be at increased risk for internalizing those experiences as they develop a sense of their personal and racial identity. For example, it is possible that adolescents who experience frequent racial discrimination and do not receive sufficient supports and tools that help them understand, discount, and/or respond to the discrimination may respond to those experiences by minimizing the importance of their racial group to their overall identity (resulting in low centrality) in order to maintain a positive self-concept (e.g., Ethier and Deaux 1994), or by affectively disengaging with their racial group (in the form of low private regard and public regard). Little research, however, has tested such contentions by examining both racial discrimination experiences and parental racial socialization messages about preparing for racial bias in relationship to adolescents' racial identity.

Gender Considerations

Considerations of racial discrimination and parental racial socialization processes among African American adolescents also raise important questions related to gender. There is evidence that African American boys and girls experience variation in expectations, treatments, and social roles in their proximal and distal contexts, based in unique societal racial stereotypes and images of African American males and females (DuBois et al. 2002; Hill 2002; Swanson et al. 2003). Consequently, the experience of racial discrimination among African American adolescents might be understood as a gendered phenomenon (Harnois and Ifatunji 2011). Prior research reports gender variation in African American adolescents' racial discrimination, with boys reporting experiencing personal racial discrimination more frequently than do girls (e.g., Cogburn et al. 2011; Dotterer et al. 2009; Harnois and Ifatunji 2011). Research also indicates gender differences in how experiences of discrimination impact racial identity among adolescents of color. Umaña-Taylor and Guimond (2012) report that, among Latino adolescents, perceiving racial/ethnic discrimination significantly decreased ethnic identity affirmation over time, but this decrease did not occur for Latina adolescents experiencing discrimination. The authors speculated that male and female adolescents differ in the meanings that they attach to discriminatory experiences and, thus, these experiences have a differential impact on their ethnic identity development. Similarly, Chavous et al. (2008) report a stronger, deleterious impact of racial discrimination on self-concept outcomes among African American boys compared to girls (Chavous et al. 2008). The authors of both studies theorized that the elevated rates of discrimination that male adolescents experience compared to female adolescents may prompt males' self and identity formation processes more strongly than for females. Together, the study findings suggest that racial minority girls and boys differ in their experiences of racial devaluation and stigma, and in their responses to these experiences.

The gendered nature of racial discrimination may also relate to gender differences in parental racial socialization of African American youth (Hughes et al. 2009). Researchers suggest that African American girls receive more extensive messages concerning race and race-related matters from parents overall, relative to boys (Phinney 1990; Sanders Thompson 1994), but boys receive more parental messages about racial bias and barriers and alertness to discrimination than do girls (Coard et al. 2004). Scholars have speculated that gender differences in racial socialization may be a function of gender roles in many African American communities, such that girls are viewed as more relational and carriers of the culture, history, and traditions (Phinney 1990). As such, their socialization may emphasize a variety of messages—about cultural knowledge and pride and history, as well as preparation for bias. In contrast, parents' approaches to socializing their boys about race may be heavily influenced by parents' recognition of societal views of Black males. Although parents may convey a range of socialization messages to their boys, they may also heavily emphasize preparation for bias, in anticipation that their boys may be likely to experience forms of racial discrimination that place them in physical and psychological jeopardy (Hughes et al. 2009).

A few studies have considered gender in examining linkages between parents' racial socialization and racial identity, finding that racial minority adolescent boys reporting more racial barrier messages from parents also report lower racial centrality and lower private regard (Hughes et al. 2009; Neblett et al. 2009). The research, however, did not consider associations among girls. Furthermore, the studies did not examine both racial discrimination and racial socialization. Thus, it is less clear how girls and boys vary in experiences of racial discrimination and parental messages about effectively dealing with discrimination. It also is unclear whether this variation is systematically related to their subsequent racial identity. Spencer et al. (2003) highlight unique experiences of

societal risk among boys of color—including discrimination—and the accompanying need to provide contextual supports to boys to promote their resilience in the face of these risks. It is possible, then, that African American boys experiencing racial discrimination, particularly absent of supportive parental messages for negotiating those experiences, would be more likely to construct racial identities characterized by weaker, more negative racial identity connections (e.g., low centrality, low private regard, and low public regard).

The Current Study

We sought to examine associations of African American adolescents' racial discrimination and parental bias preparation messages with their racial identity. Racial socialization literatures characterize parents' socialization messages as occurring in preparation for racial discrimination, and also in response to youth discrimination experiences, to help youth make sense of their experiences. However, little research explicitly examines both discrimination and socialization messages experienced by adolescents. We used cluster analysis to identify profiles of adolescents' reported racial discrimination and socialization messages from parents about coping with discrimination. Cluster analysis extracts heterogeneous groups of individuals with similar patterns across variables of interest, and the approach allowed us to examine unique properties (i.e., classes) of different experiences (Magnusson 1998). As such, cluster analysis is a person-centered approach that provides rich and descriptive information about individuals because it allows for examination of the simultaneous influence of multiple experiences an individual may have, rather than examining the associations among single variables alone (a variable-centered approach). Person-centered and variable-centered approaches are not oppositional, but rather complementary and provide different types of information (Masyn 2013). Instead of examining the relationships between individual variables of racial discrimination, parental messages, and racial identity, a person-centered approach captures more information about smaller subgroups of our sample with shared sets of experiences. In the current study, cluster analysis provided a context of the frequency of racial discrimination in which parental socialization messages were experienced.

Recent studies have employed cluster analysis to examine patterns across multiple racial socialization messages among African American adolescents (e.g., Neblett et al. 2008, 2009). These studies yielded cluster groups reflecting variation in adolescents' reported frequency of parental messages about race and variation in the positive content of parental messages, with some youth reporting a higher frequency of positive messages than others (High Positive, Moderate Positive), while other youth reported receiving few messages of any type (Low Frequency). Furthermore, these parental racial socialization clusters were related to adolescents' racial identity one year later (Neblett et al. 2009). Our current study extends this work by examining patterns of racial discrimination and parental racial socialization together. Furthermore, we can examine how youths' earlier patterns of both discrimination and parental messages are associated with their later racial identity.

Similarly, we took a person-oriented approach in examining adolescents' racial identity as an outcome, using cluster analysis to distinguish profiles along three racial identity variables: racial centrality, private regard, and public regard. Researchers often examine associations of a single racial identity dimension with psychosocial outcomes, sometimes controlling for the influence of other racial identity dimensions, or they examine predictors of individual racial identity dimensions. However, few studies examine racial identity as it functions in daily life, with individuals endorsing beliefs across identity dimensions simultaneously and varying in patterns of beliefs across dimensions or identity statuses (Sellers et al. 1998; Schwartz et al. 2014). Recent studies employed cluster analysis to examine racial identity dimensions and implications for psychosocial outcomes (e.g., Chavous et al. 2003; Seaton 2009). These studies illuminated varying patterns of beliefs suggesting, for instance, that many youth develop belief systems that allow them to be conscious/aware of racial bias against Blacks and—at the same time—hold a connected and affirmed sense of racial identity (low public regard, high centrality, and high private regard). In contrast, other youth perceive societal racial stigma and internalize those beliefs such that they devalue and disconnect from their racial group (low public regard, low private regard, and low centrality). Thus, a person-centered approach to examining racial identity is well-suited for our examination of racial discrimination and parental messages for coping with discrimination in relationship to youths' racial identity.

A primary research question was how adolescents' earlier racial discrimination and parental bias preparation messages (messages about coping with discrimination) related to their later racial identity. First, although, we did not have specific hypotheses of the number of discrimination/parent messages clusters, we expected cluster groups reflecting variation in youths' patterns of reported racial discrimination and parental discrimination coping messages in 8th grade. This approach allowed us to examine the context of parental racial socialization messages, e.g., distinguishing youth who may be receiving

more proactive socialization messages (low discrimination, high parental messages) from youth reporting both frequent discrimination and frequent parental messages, from youth experiencing frequent discrimination but report receiving few discrimination preparation messages, from youth who experience neither. With regard to later racial identity (11th grade), we also expected cluster variation in patterns of youth-reported significance of race (racial centrality), affective views about African Americans (private regard), and perceptions of society's views of their group (public regard), similar to patterns identified in prior research (Chavous et al. 2003; Seaton 2009). In research with African American adolescents in urban settings, Chavous et al. (2003) and Seaton (2009) identified three common clusters of youth. One cluster had high centrality, high private regard, and high public regard relative to sample peers (Idealized), a second cluster had high centrality and private regard, but lower public regard (Buffering/Defensive), and a third cluster was low on all three variables, relative to sample peers (Alienated). We hypothesized that youth reporting both frequent discrimination and frequent parental messages about discrimination coping in 8th grade would be represented more in 11th grade racial identity clusters reflecting higher racial centrality, higher private regard, and lower public regard, relative to other youth (Buffering/Defensive). Similarly, we expected that youth who experienced more proactive racial socialization (reporting little discrimination but more frequent parental messages) to be more represented in the Buffering/Defensive cluster. In contrast, adolescents reporting frequent discrimination and fewer parental messages about discrimination coping in 8th grade would be more represented in 11th grade racial identity clusters reflecting disengagement with their racial group (e.g., lower centrality, lower private regard, and lower public regard, or Alienated), relative to other youth. Finally, we hypothesized that youth reporting less discrimination in 8th grade—especially those also receiving fewer parental discrimination coping messages—would be represented in 11th grade racial identity clusters characterized by higher centrality, private regard, and public regard relative to sample peers (Idealized).

With regard to gender, we expected that boys would report more frequent racial discrimination experiences overall, based on noted prior research documenting gender variation in racial discrimination. In addition, research suggests that African American boys receive more preparation for racial bias messages than do girls; as such, we hypothesized that boys would report more frequent parental racial socialization about coping with racial discrimination, compared to girls, regardless of their reported frequency of racial discrimination. Finally, we expected gender variation in associations of racial discrimination and parental discrimination coping messages with racial identity. Researchers have noted stronger, negative association of racial discrimination with self and identity outcomes for racial minority boys relative to their female counterparts (Chavous et al. 2008; Umaña-Taylor and Guimond 2012) and assert the importance of contextual supports for boys of color in relationship to risks related to their race and gender status experienced in their proximal environments (e.g., Spencer et al. 2003). As such, we might expect gender to moderate the associations of racial discrimination and parental discrimination coping messages with racial identity, such that boys reporting more racial discrimination and reporting fewer parental messages would be particularly likely to be represented in the Alienated racial identity cluster. Our study provided an explicit test of this possibility.

Method

Participants

Participants were 491 adolescents (48 % female) from a large public school district participating in the Maryland Adolescent Development in Context Study (MADICS). MADICS is a longitudinal survey of adolescents and families conducted from 1991 to 2000, with a primary objective of examining social context influences on youth behavior and successful developmental trajectories through adolescence. All entering 7th grade students in the school district were invited to participate in the initial study in a county near metropolitan Washington D.C., selected due to variation in socioeconomic status among African American families. From the initial sample of approximately 5,000 adolescents, 1,480 families participated in the first wave of MADICS from 23 junior high schools. Families were invited to participate in MADICS based on a stratified sampling design so that families were proportionally represented from each school. We examined the second and third waves of study data (in youths' 8th and 11th grade school years). Of the initial sample of 7th graders, 76 % were retained in the next wave of data collection when students were in 8th grade, and retention was excellent between the two time points used in the present study (97 %). On average, participants were about 14 years old at the end of grade 8 and 17 years old at the beginning of grade 11. As reported on initial parent questionnaires, 1993 family income ranged from $5,000 to $75,000, a majority falling in the $44,000 to $49,000. Average parental income, educational attainment level, and employment status were the same across the two waves, as well as compared to the original sample who participated at the first time point (more information can be found at http://www.rcgd.isr.umich.edu/pgc/home.htm).

Procedure

Participant recruitment letters were sent to the homes of students. Youth in the study were asked to fill out a 30-minute self-administered questionnaire beginning during grade 7, continuing at intervals of one to three years thereafter until three years after high school (total of six waves of data collection). The questionnaires covered a range of topics including school achievement, family relationships, and well-being. In addition, 50-minute face-to-face interviews were conducted with the target student, parent(s), and/or siblings at irregular intervals throughout the longitudinal study. The current study used the self-administered youth survey data from the participants' 8th and 11th grade years. The MADICS project was approved by university ethics committees and was therefore conducted in accordance with ethical standards laid down in the 1964 Declaration of Helsinki and its later amendments. All persons gave their informed consent prior to their participation in the study.

Measures

Racial Discrimination

Youth reported how often they experienced school-based discrimination from teachers (Classroom/Teacher discrimination) and peers (Peer discrimination). The Classroom/Teacher and Peer discrimination scale was developed by the MADICS project team, and subscales included five and three items, respectively, with response scales of 1 (*never*) to 5 (*everyday*). Items were preceded by: "At school, how often do you feel…" Sample Classroom/Teacher subscale items included: "teachers call on you less often than they call on other kids because of your race" and "teachers punish you more harshly than other kids because of your race." Peer items included: "you get in fights with some kids because of your race" and "kids do not want to hang out with you because of your race." For primary analyses, we combined items from the two subscales to create a single school-based racial discrimination scale ($M = 1.60$, $SD = 0.78$). The study measure has been used in prior research with African American adolescents (Chavous et al. 2008; Wong et al. 2003).

Parental Bias Preparation Messages

The youth survey included a 6-item Proactive Responses to Discrimination Scale developed by the MADICS researchers (Eccles 1993), assessing how often students received messages from parents about coping with racial discrimination ($M = 3.22$, $SD = 0.91$). Responses ranged from 1 (*never*) to 6 (*everyday*). The six items were preceded by the following: "Sometimes parents make suggestions to their kids about how to avoid discrimination or deal with discrimination. How often do your parent(s) suggest that good ways to deal with racial discrimination are to are to:" Following were the items "have faith in God," "do your best and be a good person," "stand up and demand your rights," "do better than everyone else in school," "not blame yourself when you experience racial discrimination," and "try hard to get along with people." The scale has been used with other studies of African American adolescents (e.g., Frabutt et al. 2002).

Racial Identity

Based on content validity, subsets of items from the racial centrality, public regard, and private regard subscales of the Multidimensional Inventory of Black Identity, MIBI (Sellers et al. 1997) were selected by MADICS researchers. Participants indicated the extent they agreed with items on a 5-point Likert-type scale, from 1 (*really agree*) to 5 (*really disagree*). Scales were recoded such that higher scores indicated stronger agreement. The 3-item centrality subscale assessed the importance of race to individuals' overall sense of self (e.g., "Being Black is an important part of my self-image") ($\alpha = .72$). The 5-item private regard subscale measured positive feelings toward Blacks (e.g., "I am proud to be Black") ($\alpha = .76$). The 4-item public regard subscale assessed perceptions of societal views of Blacks (e.g., "In general, other groups view Blacks in a positive manner") ($\alpha = .56$).

Results

Racial Discrimination and Parental Discrimination Coping Messages in 8th Grade

Means, standard deviations, and correlations stratified by gender for the study variables are presented in Table 1. We conducted independent samples t-tests to examine gender differences in racial discrimination. There were significant gender variation in reports of both peer [t (487) = 3.18, $p < .01$] and teacher [t (489) = 3.01, $p < .01$] discrimination during 8th grade. On average, boys reported negative teacher treatment due to their race more frequently than did girls ($M = 1.81$, $SD = 0.92$; $M = 1.57$, $SD = 0.84$, respectively). Likewise, boys reported more frequent negative peer treatment because of race than did girls ($M = 1.54$, $SD = 0.84$; $M = 1.32$, $SD = 0.68$, respectively). For the parental discrimination coping messages scale, mean scores were significantly different across girls and boys [t (489) = −2.04, $p < .05$]. Girls reported receiving more discrimination coping messages than did

Table 1 Means, standard deviations, and correlations by gender for primary study variables ($N = 491$)

Variable	Range	Females Mean (SD)	Males Mean (SD)	1	2	3	4	5
1. Racial discrimination	1–5	1.48 (0.72)	1.71 (0.81)	–	.17**	.07	−.13*	−.10
2. Parent messages	1–6	3.30 (0.94)	3.13 (0.88)	.03	–	.26**	.09	−.03
3. Centrality	1–5	3.65 (0.81)	3.78 (0.79)	−.09	.11	–	.47**	−.03
4. Private regard	1–5	4.21 (0.55)	4.19 (0.61)	−.28**	.10	.59**	–	.05
5. Public regard	1–5	3.01 (0.61)	3.02 (0.65)	−.14*	.07	−.07	.09	–

Correlations for females are above the diagonal; those for males are below the diagonal

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

boys ($M = 3.30$, $SD = 0.94$; $M = 3.13$, $SD = 0.88$, respectively). In addition, there were significant gender differences in three out of the six items in the racial discrimination coping messages scale. Girls reported significantly higher frequencies than did boys of receiving messages from parents to: "do your best and be a good person," "don't blame yourself," and "try hard to get along with people" when experiencing racial discrimination. Girls and boys were similar in reports of parents suggesting that they "do better than everyone else in school," "have faith in God," and "stand up and demand your rights." Analysis of Variance (ANOVA) indicated no significant gender variation in racial centrality, private regard, and public regard.

Cluster Profiles of 8th Grade Racial Discrimination and Parental Coping Messages

Latent class analysis (LCA) implemented by the Latent GOLD program (Vermunt and Magidson 2005) was used to determine racial discrimination/parent messages clusters within our adolescent sample. LCA is a model-based multivariate technique in which latent constructs are created from indicator variables and used to create clusters (Magidson and Vermunt 2004). Magidson and Vermunt (2002) reported that LCA has several advantages over traditional clustering techniques like K-means. For instance, model-based techniques such as LCA make specific distributional assumptions about the indicator variables, provide estimates of model parameters, and provide several diagnostics that can be helpful in selecting cluster solutions. First, model fits and comparisons are assessed using the likelihood ratio Chi squared statistic (L^2), an index of the association between the variables that remains unexplained. Lower values indicate a better fit to the data. Typically L^2 is compared to the Chi squared distribution (producing a significance level that serves as a second diagnostic tool). However, since L^2 is not well-approximated when the number of indicators or the number of categories of these indicators is large, the alternative bootstrap p value is recommended (Langeheine et al. 1996). A non-significant bootstrap p value (>.05) indicates that the model is a better fit to the data than the other models. This information is used in conjunction with the Bayesian Information Criterion (BIC) which serves as an alternative indicator of overall goodness-of-fit. Lower BIC values indicate a better fit to the data. Lastly, the local dependence for each variable pair should also be examined. The Latent Gold program provides the bivariate residual (BVR) as a diagnostic statistic that assesses the bivariate relationships among indicators (Magidson and Vermunt 2004). A BVR that is larger than 3.84 suggests that the model falls somewhat short of explaining the association (Magidson and Vermunt 2004). When this is the case, direct effects can be made between the variables, allowing dependence among them and then models with better fit to the data can be estimated.

Five latent class models (ranging from 1 to 5 clusters) were estimated using the mean scores for each participant on the school-based racial discrimination scale and the 6-item Proactive Responses to Discrimination Scale as indicators. Summary statistics for these five models are displayed in Table 2. Model statistics were comparable across the 5 classes. Thus, there was not a cluster model that stood out as the best solution solely on the above-mentioned criteria for selecting the best fitting model. Instead, we chose our cluster solution based on our conceptual understanding of potential variations of patterns of discrimination and parental messages in conjunction with the diagnostic indices. The BIC was similar across the clusters and increased slightly as the number of classes increased (ranging from 2,716.21 in the 1-class model to 2,773.31 in the 5-class model). The 4-class model had a non-significant bootstrap p value (.52), as did the 3-class (.58) and 5-class models (.47). The 4-class model had reduction in L^2 (17.51 %), although the three-class model had greater % reduction in L^2 (74.07). A comparison of the 4-class model to the 3-class model (using a conditional bootstrap method) showed that the two models were not significantly different (.39). A comparison of the 5-class model to the 4-class model also showed that they were not significantly different (.44). Local dependence for each

Table 2 Model fit statistics for latent class analyses of racial discrimination/parent messages classes

Model	BIC(LL)	L^2	*df*	Bootstrap *p* value	% Reduction in L^2	Maximum BVR
No direct effects						
One-class	2,716.21	19.95	9	.02	0.00	1.28
Two-class	2,728.49	13.65	6	.06	31.58	1.15
Three-class	2,736.97	3.54	3	.58	74.07	0.02
Four-class	2,754.94	2.92	−0	.52	17.51	0.01
Five-class	2,773.31	2.70	−3	.47	7.53	0.01

BIC(LL), log-likelihood based Bayesian information criterion, L^2, likelihood ratio Chi square; BVR, bivariate residuals

variable pair was also examined and there were no substantially large BVR values in any class model. Consequently, no direct effects needed to be made. Given the criteria, a case could be made that the 3-class model is the best-fitting solution (i.e., it has lower BIC, greatest reduction in L^2, non-significant bootstrap *p* value, no high BVRs) and most parsimonious. However, when examining the distributions, there are a sizeable number of participants in the 3-class model who would form another, unique cluster group in the 4-class model. While the 3-class and 4-class model showed similar statistical characteristics, we feel that this additional cluster group provided more specificity in the diversity of patterns of discrimination and parental messages within our adolescent sample, based on theoretical considerations. Thus, the 4-class model was adopted as the final cluster solution and used in subsequent study analyses.

Note: Results from the latent class analysis converged substantially with the findings when we employed multiple nonparametric clustering techniques such as K-means and Ward's hierarchical method (guided by recommendation of McDermott 1998). Specifically, we determined that a similar 4-cluster racial discrimination/parent messages solution best fit our data with the different approaches. Cluster groups also were consistent with our conceptual expectations of possible combinations of higher and lower frequencies of racial discrimination and parental discrimination coping messages, with the exception of a cluster characterized by high frequency of both discrimination and parental coping messages, which did not emerge in our findings (Fig. 1).

The standardized means of discrimination and parental messages reports were used to describe the clusters (see Fig. 1). Standardized means were used so that comparisons between cluster profiles can be easily made. Table 3 displays both the raw and standardized means for the discrimination and parental messages variables by cluster group. The largest proportion (30 %, n = 145) of sample youth were in a cluster labeled High Discrimination/Average Parent Messages; this cluster reported more frequent racial discrimination and average parental discrimination coping messages, relative to the overall sample average. A little over a quarter of study youth (26 %, n = 126) reported about average racial discrimination and parental discrimination coping messages (Average Discrimination/Average Parent Messages cluster). Another group included 116 youth (24 %) reporting lower than average discrimination and lower than average parent coping messages (Low Discrimination/Low Parent Messages cluster). The smallest proportion of youth (21 %, n = 104), the Low Discrimination/High Parent Messages

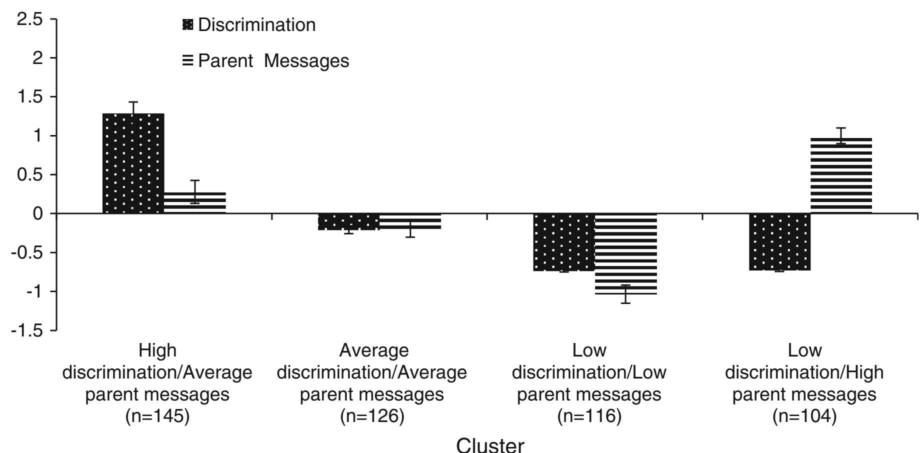

Fig. 1 Cluster profiles of 8th grade racial discrimination and parent messages using standardized means

cluster, reported less frequent racial discrimination experiences and more frequent parental coping messages, relative to the sample mean. We examined differences in discrimination and parental messages among the clusters. Analysis of Variance (ANOVA) indicate significant between cluster differences in discrimination [F (3, 487) = 460.22, $p < .001$] and in parental coping messages [F (3, 487) = 160.59, $p < .001$]. Between cluster differences from the Bonferroni post hoc criterion for significance test are presented in Table 3.

Next, we examined whether gender was related to racial discrimination/parental messages cluster group membership. Chi square results indicate that girls and boys were statistically over- or under-represented in particular discrimination/parent coping messages profiles relative to what would be expected by chance [χ^2 (3) = 12.73, $p < .01$]. Boys were overrepresented in the High Discrimination/Average Parent Messages cluster and girls were underrepresented (36 % of boys and 23 % of girls). Girls and boys were disproportionately represented in the Low Discrimination/High Parent Messages cluster (26 % and 17 %, respectively). In contrast, similar proportions of girls and boys were represented in the Average Discrimination/Average Parent Messages cluster and the Low Discrimination/Low Parent Messages cluster.

Racial Identity Profiles

Five latent class models (ranging from 1 to 5 clusters) were estimated in the Latent Gold program using the mean scores for each participant on the racial identity scales as indicators. Fifteen adolescents were missing data for the racial identity variables; thus data from 476 adolescents were used to create the racial identity cluster profiles. Summary statistics for these five models are displayed in Table 4. Of the five models estimated, the 3-class model had the lowest BIC (3,832.59) and all class models had significant bootstrap p values. The 3-class model had substantial reduction in L^2 (26.99 %). A comparison of the 4-class model to the 3-class model (using a conditional bootstrap method) showed that they were significantly different (.01). There were no class models with substantially large BVR values, except the 1-class model. Given the indices, our conceptual understanding, and findings from previous literature, the 3-class model was adopted as the final cluster solution and used in the study analyses.

Table 3 Raw means, standardized means, and (standard deviations) of racial discrimination, parental messages, and racial identity variables by racial discrimination/parental discrimination coping messages cluster group

Variable	High discrimination/ average parent messages (n = 145)	Average discrimination/ average parent messages (n = 126)	Low discrimination/ low parent messages (n = 116)	Low discrimination/ high parent messages (n = 104)
Raw means				
Racial discrimination	$2.60\ (0.70)_a$	$1.44\ (0.23)_b$	$1.03\ (0.07)_c$	$1.03\ (0.08)_c$
Parent messages	$3.47\ (0.83)_a$	$3.04\ (0.59)_b$	$2.27\ (0.59)_c$	$4.13\ (0.48)_d$
Racial centrality	$3.73\ (0.75)_a$	$3.80\ (0.81)_a$	$3.54\ (0.82)_b$	$3.84\ (0.80)_a$
Private regard	$4.01\ (0.67)_a$	$4.28\ (0.54)_{b,c}$	$4.18\ (0.55)_b$	$4.37\ (0.45)_c$
Public regard	$2.92\ (0.63)_a$	$3.04\ (0.64)_{a,b}$	$3.04\ (0.57)_{a,b}$	$3.11\ (0.67)_b$
Standardized means				
Racial discrimination	$1.29\ (0.89)_a$	$-0.21\ (0.29)_b$	$-0.73\ (0.08)_c$	$-0.72\ (0.10)_c$
Parent messages	$0.28\ (0.91)_a$	$-0.19\ (0.64)_b$	$-1.03\ (0.65)_c$	$1.00\ (0.53)_d$
Racial centrality	$0.01\ (0.94)_a$	$0.10\ (1.01)_a$	$-0.25\ (1.03)_b$	$0.15\ (1.00)_a$
Private regard	$-0.31\ (1.16)_a$	$0.15\ (0.93)_{b,c}$	$-0.03\ (0.94)_b$	$0.30\ (0.77)_c$
Public regard	$-0.16\ (0.99)_a$	$0.03\ (1.02)_{a,b}$	$0.04\ (0.90)_{a,b}$	$0.15\ (1.07)_b$

Significant differences at the .05 level are denoted by differences in subscripts

Table 4 Model fit statistics for latent class analyses of racial identity classes

Model	BIC(LL)	L^2	*df*	Bootstrap p value	% Reduction in L^2	Maximum BVR
No direct effects						
One-class	3,955.92	252.32	54	.00	0.00	137.99
Two-class	3,837.38	109.12	50	.00	56.75	2.85
Three-class	3,832.59	79.67	46	.00	26.99	2.16
Four-class	3,842.75	65.16	42	.03	18.21	0.95
Five-class	3,856.27	54.03	38	.08	17.08	0.02

BIC(LL), log-likelihood based Bayesian information criterion, L^2, likelihood ratio Chi square; BVR, bivariate residuals

There was also convergence between findings from the LCA and the hierarchical and K-means approaches. An exception to the convergence between different clustering methods is that the latent class approach yielded 3 racial identity clusters instead of the 4 identified when using Ward's hierarchical method and K-means approach. However, the 3 racial identity clusters found using LCA were almost identical to three of the 4 clusters found using other techniques. Furthermore, clusters produced by the LCA are largely consistent with past studies that have clustered the same variables (Chavous et al. 2003; Seaton 2009).

The standardized means of the racial identity reports were used to describe the clusters (see Fig. 2) and raw and standardized means of the racial identity variables by cluster are presented in Table 5. Two of the clusters were labeled based on cluster patterns identified in prior research (e.g., Chavous et al. 2003; Seaton 2009). The largest cluster was labeled Detached (53 % of sample; n = 253) and had lower-than average scores on racial centrality and private regard and average public regard score relative to sample means across the variables. A second cluster, labeled Idealized (25 % of sample, n = 121), included participants with higher than average scores on all three racial identity subscales. A third cluster, Buffering/Defensive (21 % of sample, n = 102), included youth reporting moderately high scores on racial centrality and private regard and the lowest public regard relative to sample means across the variables.

ANOVAs indicate significant differences among racial identity cluster groups in racial centrality, [F (3, 473) = 248.48, $p < .001$], private regard, [F (3, 473) = 179.16, $p < .001$], and public regard, [F (3, 473) = 197.72, $p < .001$]. Post-hoc analyses are presented in Table 5. Chi square analysis indicate no significant differences in the proportions of girls and boys represented in each racial identity cluster [χ^2 (2) = 2.63, $p = .27$].

8th Grade Racial Discrimination/Parent Messages Clusters and 11th Grade Racial Identity

As a preliminary analysis, we conducted ANOVAs to examine whether the racial discrimination/parent messages clusters were associated with racial centrality, public regard, and private regard variables. There were significant differences between the discrimination/parent messages clusters in racial centrality [F (3, 472) = 3.69, $p = .01$] and private regard [F (3, 472) = 9.10, $p < .001$]. The discrimination/parent messages clusters were not related to public regard [F (3, 472] = 2.05, $p = .11$].

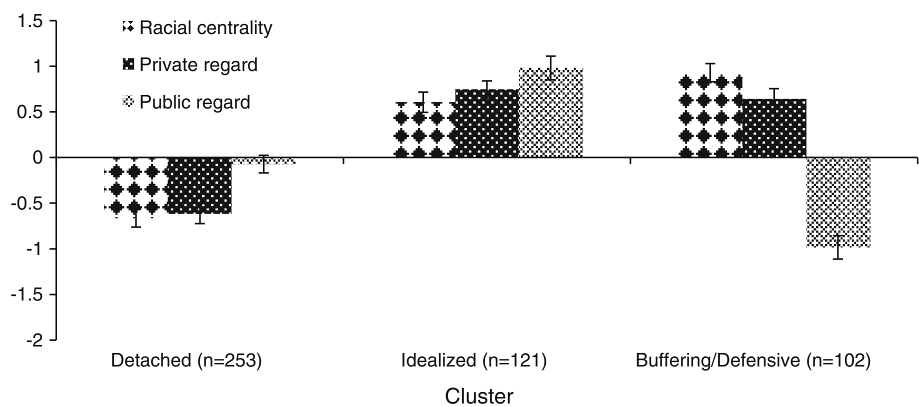

Fig. 2 Cluster profiles of 11th grade racial identity using standardized means

Table 5 Raw means, standardized means, and (standard deviations) of racial identity subscales by racial identity cluster group ($N = 476$)

Variable	Detached ($n = 253$)	Idealized ($n = 121$)	Buffering/defensive ($n = 102$)
Raw means			
Racial centrality	3.19 (.63)$_a$	4.20 (.50)$_b$	4.46 (.41)$_c$
Private regard	3.84 (.52)$_a$	4.63 (.31)$_b$	4.57 (.34)$_b$
Public regard	2.97 (.49)$_a$	3.63 (.46)$_b$	2.40 (.42)$_c$
Standardized means			
Racial centrality	−0.66 (.79)$_a$	0.60 (.62)$_b$	0.93 (.51)$_c$
Private regard	−0.61 (.90)$_a$	0.74 (.53)$_b$	0.64 (.59)$_b$
Public regard	−0.07 (.77)$_a$	0.98 (.73)$_b$	−0.98 (.66)$_c$

Significant differences at the .05 level are denoted by differences in subscripts

Table 6 Results of Chi square test and descriptive statistics for 8th grade racial discrimination/parental discrimination coping messages cluster by 11th grade racial identity cluster for girls and boys

Discrimination/parent messages cluster	Racial identity cluster		
	Detached	Idealized	Buffering/defensive
Girls (N = 230)			
High discrimination/average parent messages (n = 53)	28 (52.8 %)$_a$	9 (17 %)$_b$	16 (30.2 %)$_a$
Average discrimination/average parent messages (n = 56)	34 (60.7 %)$_a$	18 (32.1 %)$_a$	4 (7.1 %)$_b$
Low discrimination/low parent messages (n = 59)	38 (64.4 %)$_a$	9 (15.3 %)$_a$	12 (20.3 %)$_a$
Low discrimination/high parent messages (n = 62)	31 (50 %)$_a$	17 (27.4 %)$_a$	14 (22.6 %)$_a$
Boys (N = 246)			
High discrimination/average parent messages (n = 90)	55 (61.1 %)$_a$	14 (15.6 %)$_b$	21 (23.3 %)$_{a,b}$
Average discrimination/average parent messages (n = 63)	25 (39.7 %)$_a$	22 (34.9 %)$_a$	16 (25.4 %)$_a$
Low discrimination/low parent messages (n = 55)	27 (49.1 %)$_a$	15 (27.3 %)$_a$	13 (23.6 %)$_a$
Low discrimination/high parent messages (n = 38)	15 (39.5 %)$_a$	17 (44.7 %)$_a$	6 (15.8 %)$_a$

Numbers in parentheses indicate row percentages. Significant within-row differences at the .05 level are denoted by differences in subscripts. χ^2 (6) = 13.91, p = .031 (girls); χ^2 (6) = 15.46, p = .017 (boys)

Next, we examined whether 8th grade racial discrimination/parental coping messages clusters were related to adolescents' racial identity clusters in 11th grade. Chi square results indicate significant differences in the distributions of youth in the discrimination/parent messages clusters across the racial identity clusters relative to what would be expected by chance [χ^2 (6) = 16.62, p = .01]. Youth in the High Discrimination/Average Parent Messages cluster were under-represented (16 %) in the Idealized racial identity cluster and similarly represented in the Detached and Buffering/Defensive (58 % and 26 %) racial identity clusters. Youth in the other three discrimination/parent messages clusters were similarly distributed across racial identity clusters.

Finally, we examined gender variation in associations of 8th grade racial discrimination/parent coping messages cluster membership with 11th grade racial identity cluster membership. Among girls, there was variation in the representation of 8th grade racial discrimination/parent coping messages clusters across the racial identity clusters in 11th grade, relative to what would be expected by chance [χ^2 (6) = 13.91, $p < .05$]. Girls in the Average Discrimination/Average Parent Messages cluster were under-represented in the Buffering/Defensive cluster (7 %) compared to the Detached and Idealized racial identity clusters (61 % and 32 %, respectively). For boys, 8th grade racial discrimination/parent coping messages cluster membership was related to representation in racial identity clusters in 11th grade [χ^2 (6) = 15.46, $p < .05$]. Boys in the High Discrimination/Average Parent Messages cluster were over-represented in the Detached cluster (61 %) compared to the Idealized (16 %) cluster, relative to what would be expected by chance (See Table 6).

Discussion

Scholars have theorized that experiences in the contexts of school and home have important implications for African American adolescents' racial identity development. In our study, we drew on Spencer's Phenomenological Variant of Ecological Systems Theory (PVEST) (Spencer et al. 1997) in exploring mechanisms linking youths' contexts and their racial identity, as the PVEST framework highlights how the environmental feedback youth receive through experiences tied to individual differences of race and gender have implications for how they view the world and their meaning-making of race and its significance in their lives. Our study's racial identity framework, the Multidimensional Model of Racial Identity (MMRI), provided an organization for describing the outcomes of adolescents' meaning making around their racial group membership, emphasizing youths' views of the significance of race to their overall self-concept, their personal affective views about their group, and their views of their racial group's societal status. Conceptually, stigmatizing race-related experiences such as racial discrimination and uplifting race-related experiences such as parental messages about how to effectively cope with discrimination should relate to the significance and meanings that adolescents attribute to their racial group membership, however, few studies have tested these relationships empirically. The current study employed a person-centered approach to examine associations of adolescents' profiles of racial discrimination and parental racial socialization messages with their racial identity profiles. Specifically, we examined adolescents' reported experiences of school-based racial discrimination and parental preparation for racial bias messages (ways to cope with discrimination) in 8th grade as antecedents of their 11th grade racial identity. In addition,

we considered gender variation in discrimination, parental coping messages, and racial identity, and in the associations of discrimination and parental coping messages with racial identity. The study highlights the utility of considering associations between adolescents' race-related experiences and racial identity, as well as the potentially gendered contexts of these experiences.

Gender, Racial Discrimination, and Parental Racial Bias Preparation Messages

Boys in our sample reported experiencing more 8th grade racial discrimination (both teacher and peer discrimination) than did girls. The findings are consistent with other research focused on African American youth's experiences of racial bias and unfair treatment, particularly within the school context (e.g., Cogburn et al. 2011; Dotterer et al. 2009). Racial and gendered stereotypes may situate African American boys in a specific negative light (e.g., view of boys as more threatening, anti-intellectual) compared to boys of other races and girls (Swanson et al. 2003). That said, it is possible that a number of the racial discrimination experiences assessed in this study (teacher punishment, being called on less in class, peer fighting) tap into gendered stereotypes and are thus more likely to be experienced by boys than by girls, relative to other types of discrimination (Chavous et al. 2008).

With regard to parental socialization messages about bias preparation, we found gender variation in youth reports of parental messages they received about coping with racial discrimination. Girls reported receiving more overall messages than did boys, consistent with research suggesting more family interactions and discussions about race with girls than boys (Sanders Thompson 1994). However, the findings are inconsistent with scholarship noting that boys receive more bias preparation messages than do girls (Coard et al. 2004). One factor that might help reconcile this discrepancy is consideration of our measure of parental discrimination coping messages relative to other preparation for bias scales used in racial socialization research. For example, other preparation for bias scales include explicit messages warning adolescents of the potential for unfair treatment because they are Black (e.g., Stevenson et al. 2002). In contrast, our study measure reflected another type of bias preparation, the frequency of messages parents provide about coping effectively with discrimination. Furthermore, when examining specific discrimination coping messages, we found that girls reported receiving three out of six socialization messages from parents more frequently than did boys: "do your best and be a good person," "try hard to get along with people," and "don't blame yourself." The three items reported more frequently by girls may reflect gendered socialization, for instance, parents being more likely to emphasize relational responses with girls (both intra-personal and inter-personal). In addition, the latter item may reflect parents' acknowledgement that when faced with a stressful and negative situation, girls may be at risk for internalizing negative experiences compared to boys (Leadbeater et al. 1999). In contrast, girls and boys reported similar frequencies of parents giving messages to respond to discrimination by doing better than everyone else in school, standing up and demand your rights, and having faith in God. The former two items may reflect parents' beliefs that, because African Americans are faced with obstacles of discrimination, it is exceedingly important to work harder than majority member peers and to make oneself heard and respected. The latter item may reflect the grounding of racial socialization within African American culture with religion and faith (e.g., Mattis 2002). It is possible that African American youth may be similarly likely to receive these types of racial and cultural messages, across gender. Although parental racial socialization research has extended our understanding of family socialization processes by considering variation across different types of messages, our findings highlight the need to consider ways of conceptualizing, studying, and measuring specific types of complex messages, such as preparation for bias.

Our cluster analysis approach allowed us to identify distinct profiles of youth experiencing racial discrimination and parental discrimination coping messages. Adolescents were fairly equally distributed across the four discrimination/parent coping messages clusters. However, the largest group of adolescents reported more frequent discrimination and about average parental discrimination coping messages (High Discrimination/Average Parent Messages cluster). This is consistent with prior research showing that racial discrimination is not uncommonly experienced by racial minority adolescents (Fisher et al. 2000). Of note is that boys were more represented than girls in this cluster group; thus, they were more likely to report experiencing frequent racial discrimination but receiving fewer parental support/messages for understanding and coping with those experiences. In contrast, girls were overrepresented in the Low Discrimination/High Parent Coping Messages cluster, which suggests that parents may proactively socialize their children, and especially girls about race, outside of the context of specific discrimination experiences (Riina and McHale 2012). We note that boys and girls were represented across all clusters; thus, our cluster approach demonstrates that there is no single way that girls and boys experience racial discrimination and parental racial socialization messages. However, our findings indicate that gender may be associated with a higher or lower likelihood of particular discrimination and parental socialization experiences (e.g., Dotterer et al. 2009).

Racial Identity

Finally, we examined associations of adolescents' racial discrimination and parental discrimination coping messages in 8th grade with adolescents' 11th grade racial identity. We identified three distinct clusters across centrality, private regard, and public regard racial identity variables, and the clusters demonstrate variation in patterns of racial attitudes and beliefs among African American adolescents consistent with clusters identified in prior research (e.g., Chavous et al. 2003; Seaton 2009). Although we found gender differences in racial discrimination and parental discrimination coping messages variables and clusters, there were no significant gender differences in the racial identity variables or in the representation of girls and boys across racial identity clusters.

Prior research studies report associations between racial discrimination and racial identity (Dotterer et al. 2009) and between racial socialization and racial identity (e.g., Bennett 2006), but most have not examined both discrimination and socialization, nor were these associations examined prospectively. We found that adolescents experiencing more discrimination and receiving average parental discrimination coping messages in 8th grade (High Discrimination/Average Parent Messages cluster) were less represented in the Idealized racial identity cluster in 11th grade, a cluster characterized by stronger group affiliation (higher racial centrality), more positive personal group affect (higher private regard), and more positive perceptions of societal beliefs about African Americans (higher public regard). Consistent with our expectations, boys were more represented in the High Discrimination/Average Parent Messages cluster and boys in this cluster were also more likely represented in the Detached cluster in 11th grade, characterized by the lowest racial centrality, lowest private regard, and moderate public regard. Youth who experience more frequent discrimination but do not receive the same frequency of supports for coping with these experiences from parents may be most likely to internalize these stigmatizing beliefs such that they disconnect from their racial group and develop negative affective views about their group. This cluster is somewhat consistent with the Alienated group found in prior research (Chavous et al. 2003), but we note that the public regard score in our Detached cluster was average relative to the sample, not lower than average as found in prior work. Thus, these youth would be best described as not particularly connected to their Black identity, lower in feelings of racial pride, with neither strongly negative or strongly positive views of society's regard for Blacks. Although membership in this cluster is not a negative outcome in itself, it is noteworthy that this type of racial identity profile (lower centrality and private regard) has been associated with negative academic and psychological outcomes in other studies (Chavous et al. 2003; Seaton 2009).

We hypothesized that youth who receive more proactive coping messages from parents (Low Discrimination/High Parent Messages cluster) would feel more positively about their racial identities and develop racial identities emphasizing closeness and belongingness to their racial group (Buffering/Defensive or Idealized clusters). This hypothesis was not supported, however, our findings support a related notion that, when adolescents do experience some degree of racial discrimination (High Discrimination/Average Parent Messages and Average Discrimination/Average Parent Messages clusters), youth are less likely to feel positively about their racial identities and develop racial identities emphasizing closeness and belongingness to their racial group (i.e., Buffering/Defensive and Idealized clusters). For instance, girls in the Average Discrimination/Average Parent Messages cluster were under-represented in the Buffering/Defensive racial identity cluster, characterized by high group connectedness and racial pride. Past research has characterized the Buffering/Defensive profile as protective for African American adolescents in the face of racism awareness and is related to positive academic outcomes (Chavous et al. 2003). It is possible that, in order for youth who experience some degree of racial discrimination to develop a racial identity of high group connectedness and racial pride, more frequent parental socialization about effectively understanding and coping with discrimination is needed. This is particularly relevant given that the largest number of youth did report experiencing high discrimination with average parental discrimination coping messages. Boys who were more likely to experience high discrimination and the girls who experienced average discrimination in 8th grade had greater representation in the Detached racial identity cluster in 11th grade (61 % in both cases) compared to the Buffering/Defensive and Idealized. On the other hand, boys and girls in clusters characterized by low experiences of discrimination did not have this association. Thus, our findings suggest a need to counteract the negativity experienced through discrimination for both boys and girls by providing high levels of cultural supports to both.

Limitations

The current study links the racial contexts of African American adolescents' school and home to their racial identity. However, we note several study considerations that qualify our findings and limit generalizability. First, the internal reliability estimate of the public regard scale was just below the typical standard (i.e., .60) used in research (Neblett et al. 2009). The lower reliability estimate may be, in part, because a shortened number of items were selected and used by the initial researchers. Future

research should re-evaluate the internal consistency of this scale. Secondly, our predictors and criterion data were based on adolescent self-report, which raises the likelihood of common method bias (Podsakoff et al. 2003). However, the fact that reports of the predictors and criterion data were collected three years apart, as well as the scales having different response options, helps to control for this bias (Podsakoff et al. 2003). Related to this, because we only examined youth-reported parental messages, we cannot draw conclusions about socialization from parents' perspectives. At the same time, youths' perceptions of their environment are as influential as "actual" environmental conditions, such as parental reports of their racial socialization, in predicting adolescent beliefs (Hughes et al. 2009). In addition, although we examined the prospective relationship of discrimination and parental discrimination coping messages with later racial identity, we were unable to examine changes in racial identity due to limitations in racial identity variables available in our dataset at different study waves; thus, we can only speak to associations of earlier discrimination and socialization experiences with later identity. Future research may examine changes and development in racial identity across adolescence in response to contextual experiences. Such approaches will allow us to make inferences about the dynamic, bi-directional interplay of youths' race-related experiences and their racial identity belief systems.

Also, a study strength is that our examination of discrimination and parental messages clusters allows us to make some inferences about whether youth generally received more proactive messages (in the context of little or low discrimination), whether youth experienced both moderate discrimination and parental messages, whether youth experienced high discrimination with average parental messages, or whether youth experienced neither. However, our study design and measure of parental messages do not allow for an examination of whether adolescents received particular types of coping messages in response to particular types of discriminatory events. Related to this, we acknowledge that there are other components and types of racial socialization that are relevant to youths' racial identity. It was not our intent to convey that only one type of message was relevant, nor was our intent to represent the full range of socialization messages that youth might receive around race. Instead, the current study focused on the alignment (or lack thereof) of youths' reported racial discrimination experiences with contextual supports for coping with those experiences in their racial identity constructions. Furthermore, our finding of gender variation among the different parental coping messages items indicate the utility of considering the nature of and complexity *within* particular types of socialization messages, which we view as an important study strength and contribution.

Conclusion

This study highlights the importance of considering connections among adolescents' racial discrimination experiences, supports they receive for negotiating these experiences, and subsequent racial identity. An important study outcome was that, across the sample youth, experiencing more discrimination and average parental discrimination coping support related to youths' feeling less connected to and positive about their racial identities. More boys reported frequent discrimination but average parental coping messages, suggesting their potential for developing less strong and less positive racial identities when experiencing contextual risk without parental supports. When considered along with other research suggesting academic and psychological risk outcomes for youth with low group connectedness and low group pride (e.g., Seaton 2009), our study findings may inform interventions and practice focused on supporting youth in effectively coping with racial discrimination experiences normatively experienced by many racial minority adolescents. Finally, the findings also indicate the need to address the contexts in which youth reside, such that they experience more inclusion in classroom and peer contexts and fewer stigmatizing experiences that may have negative implications for identity development.

Acknowledgments The authors would like to acknowledge the University of Michigan Achievement in Context Research Lab, and especially Gloryvee Fonseca-Bolorin and Seanna Leath, for their review and thoughtful suggestions for this manuscript.

Author contributions B.R. helped draft manuscript, participated in study design and interpretation of data, coordinated writing components for co-authors, and conducted primary statistical analyses; T.M. contributed to drafting manuscript, including integrating co-authors' written sections, and helped in creating tables/figures and manuscript editing; F.M. participated in the writing and coordination of writing for the study, interpretation of data findings, and helped create tables/figures; E.B. participated in manuscript drafting, interpretation of data findings, editing; Y.C. participated in manuscript drafting, interpretation of data, and editing; T.C. conceived of the study, participated in its design and coordination of roles, conducted statistical analyses, supported interpretation, and helped draft the manuscript and tables. All authors read and approved the final manuscript.

Conflict of interest The authors declare that they have no conflict of interest.

Ethical standard Ethical standards were followed in the execution of this study. The manuscript does not contain clinical studies or patient data.

References

Ashmore, R. D., Deaux, K., & McLaughlin-Volpe, T. (2004). An organizing framework for collective identity: Articulation and significance of multidimensionality. *Psychological Bulletin, 130*(1), 80–114.

Bennett, M. D. (2006). Culture and context: A study of neighborhood effects on racial socialization and ethnic identity content in a sample of African American adolescents. *Journal of Black Psychology, 32*(4), 479–500.

Chavous, T. M., Bernat, D., Schmeelke-Cone, K., Caldwell, C., Kohn-Wood, L. P., & Zimmerman, M. (2003). Racial identity and academic attainment among African American adolescents. *Child Development, 74*(4), 1076–1091.

Chavous, T. M., Rivas-Drake, D., Smalls, C., Griffin, T., & Cogburn, C. (2008). Gender matters too: School-based racial discrimination experiences and racial identity as predictors of academic adjustment among African American adolescents. *Developmental Psychology, 44*(3), 637–654.

Coard, S. I., Wallace, S. A., Stevenson, H. C., & Brotman, L. M. (2004). Towards culturally relevant preventive interventions: Consideration of racial socialization in parent training with African American families. *Journal of Child and Family Studies, 13*(3), 277–293.

Cogburn, C. D., Chavous, T. M., & Griffin, T. M. (2011). School-based racial and gender discrimination among African American adolescents: Exploring gender variation in frequency and implications for adjustment. *Race and Social Problems, 3*(1), 25–37.

Cross, W. E., Parham, T. A., & Helms, J. E. (1998). Nigrescence revisited: Theory and Research. In R. L. Jones (Ed.), *African American identity development: Theory, research, and intervention* (pp. 3–71). Hampton, VA: Cobb and Henry.

Dotterer, A. M., McHale, S. M., & Crouter, A. C. (2009). Sociocultural factors and school engagement among African American youth: The roles of racial discrimination, racial socialization, and ethnic identity. *Applied Developmental Science, 13*(2), 61–73.

Dubois, D., Burk-Braxton, C., Swenson, L., Tevendale, H., & Hardesty, J. (2002). Race and gender influences on adjustment in early adolescence: Investigation of an integrative model. *Child Development, 73*(5), 1573–1592.

Eccles, J. S. (1993). *Maryland Adolescent Growth in Context Study (MAGICS)*. Unpublished manuscript, University of Michigan.

Ethier, K. A., & Deaux, K. (1994). Negotiating social identity when contexts change: Maintaining identification and responding to threat. *Journal of Personality and Social Psychology, 67*(2), 243–251.

Fisher, C. B., Wallace, S. A., & Fenton, R. E. (2000). Discrimination distress during adolescence. *Journal of Youth and Adolescence, 29*(6), 679–695.

Frabutt, J. M., Walker, A. M., & MacKinnon-Lewis, C. (2002). Racial socialization messages and the quality of mother/child interactions in African American families. *Journal of Early Adolescence, 22*(2), 200–217.

Greene, M. L., Way, N., & Pahl, K. (2006). Trajectories of perceived adult and peer discrimination among Black, Hispanic, and Asian American adolescents: Patterns and psychological correlates. *Developmental Psychology, 42*, 218–238.

Harnois, C. E., & Ifatunji, M. (2011). Gendered measures, gendered models: Toward an intersectional analysis of interpersonal racial discrimination. *Ethnic and Racial Studies, 34*(6), 1006–1028.

Hill, S. (2002). Teaching and doing gender in African American families. *Sex Roles, 47*(11–12), 493–506.

Hughes, D. (2003). Correlates of African American and Latino parents' messages to children about ethnicity and race: A comparative study of racial socialization. *American Journal of Community Psychology, 31*(1–2), 15–33.

Hughes, D., & Chen, L. (1999). The nature of parents' race-related communications to children: A developmental perspective. In L. Balter & C. S. Tamis-LeMonda (Eds.), *Child psychology: A handbook of contemporary issues* (pp. 467–490). New York, NY: Psychology Press.

Hughes, D., Hagelskamp, C., Way, N., & Foust, M. (2009). The role of mothers' and adolescents' perceptions of ethnic–racial socialization in shaping ethnic-racial identity among early adolescent boys and girls. *Journal of Youth and Adolescence, 38*(5), 605–626.

Hughes, D., Rodriguez, J., Smith, E. P., Johnson, D. J., Stevenson, H. C., & Spicer, P. (2006). Parents' ethnic-racial socialization practices: A review of research and directions for future study. *Developmental Psychology, 42*(5), 747–770.

Langeheine, R., Pannekoek, J., & Van de Pol, F. (1996). Bootstrapping goodness-of-fit measures in categorical data analysis. *Sociological Methods & Research, 24*, 492–516.

Leadbeater, B. J., Kuperminc, G. P., Blatt, S. J., & Hertzog, C. (1999). A multivariate model of gender differences in adolescents' internalizing and externalizing problems. *Developmental Psychology, 35*(5), 1268–1282.

Magidson, J., & Vermunt, J. (2002). Latent class models for clustering: A comparison with K-means. *Canadian Journal of Marketing Research, 20*(1), 37–44.

Magidson, J., & Vermunt, J. K. (2004). Latent class models. In D. W. Kaplan (Ed.), *The Sage handbook of quantitative methodology for the social sciences* (pp. 175–198). Thousand Oaks, CA: Sage.

Magnusson, D. (1998). The logic and implications of a person-oriented approach. In R. B. Cairns, L. Bergman, & J. Kagan (Eds.), *Methods and models for studying the individual* (pp. 33–64). Thousand Oaks, CA: Sage.

Masyn, K. E. (2013). Latent class analysis and finite mixture modeling. In T. D. Little (Ed.), *The Oxford handbook of quantitative methods (Vol 2): Statistical analysis* (pp. 551–611). New York, NY, US: Oxford University Press.

Mattis, J. (2002). Religion and spirituality in meaning-making and coping experiences of African American women: A qualitative analysis. *Psychology of Women Quarterly, 26*, 309–321.

McDermott, P. A. (1998). MEG: Megacluster analytic strategy for multistage hierarchical grouping with relocations and replications. *Educational and Psychological Measurement, 58*, 677–686.

Neblett, E. W., Philip, C., Cogburn, C., & Sellers, R. M. (2006). African American adolescents' discrimination experiences and academic achievement: Racial socialization as a cultural compensatory and protective factor. *Journal of Black Psychology, 32*(2), 199–218.

Neblett, E. W., Smalls, C. P., Ford, K. R., Nguyên, H. X., & Sellers, R. M. (2009). Racial socialization and racial identity: African American parents' messages about race as precursors to identity. *Journal of Youth and Adolescence, 38*, 189–203.

Neblett, E. W., White, R. L., Ford, K. R., Philip, C. L., Nguyên, H. X., & Sellers, R. M. (2008). Patterns of racial socialization and psychological adjustment: Can parental communications about race reduce the impact of racial discrimination? *Journal of Research on Adolescence, 18*(3), 477–515.

Phinney, J. S. (1990). Ethnic identity in adolescence and adulthood: A review and integration. *Psychological Bulletin, 108*, 499–514.

Phinney, J. S. (1992). The multi-group ethnic identity measure a new scale for use with diverse groups. *Journal of Adolescent Research, 7*(2), 156–176.

Podsakoff, P. M., MacKenzie, S. B., Lee, J., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*(5), 879–903.

Riina, E. M., & McHale, S. (2012). Adolescents' experiences of discrimination and parent–adolescent relationship quality: The moderating roles of sociocultural processes. *Journal of Family Issues, 33*(7), 851–873.

Rivas-Drake, D., Hughes, D., & Way, N. (2009). Public ethnic regard and perceived socioeconomic stratification: Associations with well-being among Dominican and Black American youth. *The Journal of Early Adolescence, 29*(1), 122–141.

Rivas-Drake, D., Seaton, E. K., Markstrom, C., Quintana, S., Syed, M., Lee, R. M., et al. (2014). Ethnic and racial identity in adolescence: Implications for psychosocial, academic, and health outcomes. *Child Development, 85*(1), 40–57.

Sanders Thompson, V. L. (1994). Socialization to race and its relationship to racial identification among African Americans. *Journal of Black Psychology, 20*(2), 175–188.

Schwartz, S. J., Syed, M., Yip, T., Knight, G. P., Umaña-Taylor, A. J., Rivas-Drake, D., et al. (2014). Methodological issues in ethnic and racial identity research with ethnic minority populations: Theoretical precision, measurement issues, and research designs. *Child Development, 85*(1), 58–76.

Seaton, E. K. (2009). Perceived racial discrimination and racial identity profiles among African American adolescents. *Cultural Diversity and Ethnic Minority Psychology, 15*(2), 137–144.

Sellers, R. M., Caldwell, C. H., Schmeelk-Cone, K. H., & Zimmerman, M. A. (2003). Racial identity, racial discrimination, perceived stress, and psychological distress among African American young adults. *Journal of Health and Social Behavior, 44*, 302–317.

Sellers, R. M., Linder, N. C., Martin, P. P., & Lewis, R. L. (2006). Racial identity matters: The relationship between racial discrimination and psychological functioning in African American adolescents. *Journal of Research on Adolescence, 16*(2), 187–216.

Sellers, R. M., Rowley, S. A., Chavous, T. M., Shelton, J. N., & Smith, M. A. (1997). Multidimensional Inventory of Black Identity: A preliminary investigation of reliability and construct validity. *Journal of Personality and Social Psychology, 73*(4), 805–815.

Sellers, R. M., Smith, M. A., Shelton, J. N., Rowley, S. A., & Chavous, T. M. (1998). Multidimensional model of racial identity: A reconceptualization of African American racial identity. *Personality and Social Psychology Review, 2*(1), 18–39.

Spencer, M. B. (2006). Phenomenology and ecological systems theory: Development of diverse groups. In W. Damon & R. Lerner (Eds.), *Handbook of child psychology: Theoretical models of human development* (pp. 829–893). Hoboken, NJ: Wiley.

Spencer, M. B., Dupree, D., & Hartmann, T. (1997). A phenomenological variant of ecological systems theory (PVEST): A self-organization perspective in context. *Developmental and Psychopathology, 9*, 817–833.

Spencer, M. B., Fegley, S. G., & Harpalani, V. (2003). A theoretical and empirical examination of identity as coping: Linking coping resources to the self-processes of African American youth. *Applied Developmental Science, 7*(3), 181–188.

Stevenson, H., & Arrington, E. (2009). Racial/ethnic socialization mediates perceived racism and the racial identity of African American adolescents. *Cultural Diversity and Ethnic Minority Psychology, 15*(2), 125–136.

Stevenson, H., Cameron, R., Herrero-Taylor, T., & Davis, G. (2002). Development of teenager experience of racial socialization scale: Correlates of race-related socialization frequency from the perspective of Black youth. *Journal of Black Psychology, 28*(2), 84–106.

Swanson, D., Cunningham, M., & Spencer, M. B. (2003). Black males' structural conditions, achievement patterns, normative needs, and "opportunities". *Urban Education, 38*(5), 608–633.

Tajfel, H., & Turner, J. C. (2004). The social identity theory of intergroup behavior. Abridged version reprinted in J. Jost & J. Sidanius (Eds.), *Political psychology: Key readings* (pp. 276–293). New York: Psychology Press. (Original work published 1986).

Umaña-Taylor, A. J., & Guimond, A. B. (2012). A longitudinal examination of parenting behaviors and perceived discrimination predicting Latino adolescents' ethnic identity. *Developmental Psychology, 46*(3), 636–650.

Umaña-Taylor, A. J., Quintana, S. M., Lee, R. M., Cross, W. E, Jr, Rivas-Drake, D., Schwartz, S. J., et al. (2014). Ethnic and racial identity during adolescence and into young adulthood: An integrated conceptualization. *Child Development, 85*, 21–39.

Vermunt, J. K., & Magidson, J. (2005). *Latent gold 40 user's guide*. Belmont, MA: Statistical Innovations Inc.

Wong, C. A., Eccles, J. S., & Sameroff, A. (2003). The influence of ethnic discrimination and ethnic identification on African American adolescents' school and socio-emotional adjustment. *Journal of Personality, 71*(6), 1197–1232.

Bridget L. Richardson is a doctoral candidate in the Personality and Social Contexts area of psychology at the University of Michigan. Her primary research interests include examining the factors that prompt the development and change of Black racial identity (i.e., experiences of racial socialization and racial discrimination) and how particular racial identities influences academic achievement, motivation, and health.

Tamarie A. Macon is a doctoral student in the Combined Program in Education and Psychology at the University of Michigan. Her primary research interests include children's social-emotional development and the role of parents, families, and community in promoting that development. Broadly, she is concerned with supporting children at-promise, leading to scholarly work on insurance coverage for children with special needs, masculinity beliefs among adolescent males, and the emotional competence of African American children.

Faheemah N. Mustafaa is a doctoral candidate in the Combined Program in Education and Psychology at the University of Michigan. Her research highlights educational practices and contexts that support the holistic development (i.e., intellectual, socio-emotional, physical) of Black children. Currently, she is conducting a national survey of K-12 Black teachers to explore how their racial identities and socio-cultural ideals relate to their pedagogy with Black children.

Erin D. Bogan is a doctoral candidate in the Combined Program in Education and Psychology at the University of Michigan. Her research interests include individual and contextual factors influencing cognitive development in low-income children and youth. More specifically, she is interested in the development of executive function and social emotional competencies, particularly those skills that contribute to academic and psychological resiliency in the face of stress.

Yasmin Cole-Lewis is a doctoral student in Clinical Psychology at the University of Michigan. Her primary research interests include the development of prevention and intervention strategies that positively impact the health and education of Black males.

Tabbye M. Chavous is a Professor of Education and Psychology at the University of Michigan. In her program of research, she focuses on social identity development among adolescents and emerging adults in the context of educational settings, as well as the measurement and impact of diversity climates in secondary and higher education, including implications for students' academic and psychological adjustment.