

The Pennsylvania State University

The Graduate School

College of the Liberal Arts

A PERSON-CENTERED APPROACH TO UNDERSTAND BLACK STUDENTS' RACIAL-  
ACADEMIC IDENTITIES:  
AN EXAMINATION OF PREDICTORS AND OUTCOMES

A Dissertation in

Psychology

by

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Submitted in Partial Fulfillment  
of the Requirements  
for the Degree of

Doctor of Philosophy

August 2019

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## Abstract

The content of collective identities (e.g., racial identity, academic identity) falls on multiple dimensions in multiple domains. To date, much emphasis has been placed on characterizing patterns of these dimensions for racial identity; very limited work has also explored patterns of these dimensions with academic identity. Additional research suggests that racial and academic identities may be related, and collectively important in characterizing the experience of youth of color in general, and Black/African American youth in particular. Further, some research suggests shared predictors that may matter for both identities (e.g., school academic and racial climate), as well as outcomes that both identities may influence (e.g., academic performance and attainment, psychosocial wellbeing). Thus, in the present study I characterized profiles of the multidimensional content of joint racial-academic identities among 491 socioeconomically diverse African American adolescents ( $N_{boys} = 251$ ,  $N_{girls} = 240$ ). I also described how middle school-based race- and academic-related experiences informed later patterns of joint identity content, as well as how these joint identities informed both academic (i.e., GPA, persistence/attainment) and psychosocial wellbeing (i.e., self-esteem, positive future outlook) outcomes. Using a sample of socioeconomically diverse Black adolescents from the 1990s, I identified four profiles of joint racial-academic identity. Gender, along with various elements of middle school racial and academic climates, informed profile membership. Strongest predictors of profile membership included youth perceptions of their middle school teachers' preference for White students and students who get good grades; meaningfulness of middle school curricular content also mattered. The largest profile by far consisted of youth who positively identified with elements of both their racial and academic identities; these youth also had the most positive academic (high school grades, academic attainment post-high school) and psychosocial

outcomes (positive outlook toward the future, self-esteem). Other profiles included identity-alienated youth, youth who focused on education at the expense of their racial identities, and youth who were academically disengaged; academic and psychosocial outcomes varied by all profiles, with jointly- and/or academically-identified youth generally displaying the most positive outcomes, and disidentified youth generally displaying weaker or more negative outcomes.

## Table of Contents

List of Tables .....	viii
List of Figures .....	ix
Acknowledgements .....	x
Introduction.....	1
Identity .....	6
Guiding frameworks .....	7
Collective identity framework .....	9
Identity in adolescence. ....	12
Academic Identity .....	15
Academic identity multidimensionality.....	16
Academic identity content. ....	18
Academic identity during adolescence. ....	20
Predictors of academic identity. ....	21
Academic identity and youth outcomes.....	22
Racial Identity .....	24
Racial identity multidimensionality and content. ....	25
Racial identity during adolescence. ....	26
Predictors of racial identity.....	28
Racial identity and youth outcomes.....	30
Identity Profiles .....	33
A profile approach to academic identity.....	33
A profile approach to racial identity.....	36
A Joint Approach to Multiple Identities.....	38
Historical and contextual justification. ....	38
Empirical support. ....	40
Shared predictors of racial and academic identities. ....	44
Outcomes of joint racial and academic identities. ....	45
The Current Study .....	48
Research Questions & Hypotheses .....	49
Methods.....	54

Sample.....	54
Attrition Analyses.....	56
Procedure.....	56
Measures.....	56
Racial identity.....	57
Centrality.....	57
Private regard.....	57
Public regard.....	58
Shared fate.....	58
Academic identity.....	58
School importance.....	59
Academic self-concept.....	59
Academic intrinsic motivation.....	59
Academic extrinsic motivation.....	60
Predictors.....	60
School learning culture.....	60
School ability culture.....	60
Meaningful curriculum.....	61
School racial climate.....	61
Race-based performance.....	61
Outcomes.....	62
Grade-point average.....	62
Educational attainment.....	62
Efficacy to combat discrimination.....	63
Self-esteem.....	63
Belief in chance for positive life outcomes.....	63
Covariates.....	63
Results.....	65
Analytic Plan.....	65
Research Question 1.....	65
Research Question 2.....	68
Research Question 3.....	69
Handling missing data.....	69

Power .....	70
Research Question One .....	71
Research Question Two .....	73
Research Question Three .....	76
Grades (11 <sup>th</sup> grade).....	77
Educational attainment (3 years post-high school).....	77
Efficacy to combat discrimination. One year post-high school.....	77
Three years post-high school. ....	78
Self-esteem. One year post-high school.....	78
Three years post-high school. ....	78
Belief in chance for positive life outcomes. One year post-high school. ....	79
Three years post-high school. ....	79
Discussion .....	80
Joint Racial-Academic Identity Profiles .....	80
Middle School Context Predictors .....	86
Gender .....	86
Racial climate and race-based performance .....	88
School learning and ability culture .....	89
Meaningful curriculum .....	91
Socioeconomic status .....	91
Outcomes.....	92
Academic outcomes.....	93
Psychosocial outcomes .....	95
Limitations and Future Directions.....	99
References.....	106

## List of Tables

Table 1. Multiple Identity Models in the Context of Ashmore et al.'s (2004) Collective Identity Framework .....	140
Table 2. Identity Variables by Identity Type and Domain .....	144
Table 3. Scale Descriptives .....	145
Table 4. Correlations Between Variables of Interest .....	148
Table 5. Gender Differences in Variables of Interest, as Indicated by Independent-Samples T-Tests .....	151
Table 6. Model Fit Information and Selection Criteria for Latent Profile Analyses .....	153
Table 7. Parameter Estimates for the Four-Profile Model .....	154
Table 8. Individual Predictors of Profile Membership .....	156
Table 9. Logistic Regression of Predictors on Profile Membership .....	157
Table 10. Equality of Outcomes Across Profiles .....	160



## List of Figures

Figure 1. Conceptual Analytic Model. ....	162
Figure 2. Joint Racial-Academic Identity Profiles of Black 11 <sup>th</sup> Graders. ....	163

## Acknowledgements

It takes a village to raise a child. Similarly, it took a village of support for me to raise this, my mewling, many-paged academic progeny, from the ether of my vague initial passes (“Something about academic and racial identity? Maybe a multigroup comparison?”) to its final, lengthy form.

First and foremost, I would like to thank my academic advisor and mentor, Dr. Dawn P. Witherspoon, for her years of support and deft hand in helping me structure my approach, identify my data source, and design my questions of this and all projects over the past six years. To Dawn’s Co-PI, who has worked with me on data collection and interpretation for almost the same length of time, Dr. Mayra Y. Bámaca. Thank you, also to my dissertation committee (Dawn, Mayra, Suzy, and Jonathan), as well as to other mentors and faculty supports I’ve had before and during graduate school. Karyn, Dr. Tan, Lynn, Bob – thank you.

To my very dear, irreplaceable and indescribable friends, who provided the levity and distractions I needed when I needed, and sometimes when I didn’t – to my cohort (and beyond), and most particularly to Leigha, Ricky, Dan, Dione, and Jessi – I thank you. Thank you, also, to my wonderful labmates, who have entertained my dissertation bildungsroman angst with grace, patience, and reassurances.

To my cat, Samuel the Sphinx (the Cat), whose flagrant disregard for house rules re: litterbox usage keep me humble and encourage me to maintain a baseline standard of hygiene (and also for all the nighttime snuggles, as well as the headbuttingly-expressed demand for pets when I’m in the middle of writing): thank you.

Thank you, Mary, Emily, and Joe, for being local supports outside of the department and keeping me focused on what's important.

Finally, and most especially, to my family: my little sister, Portia, who deserves an acknowledgement section all of her own (and to her fiancé, Vignesh, who I am so happy to call a friend and future brother-in-law). To my mother for the years of support, to her new boyfriend for actually asking questions about my dissertation topic, and to my dad for the new beginnings.

Here's to the future!

A Person-Centered Approach to Understand Black Students' Racial-Academic Identities:  
An Examination of Predictors and Outcomes

Adolescence is a developmental period where numerous important transitions occur. These transitions can be structural (e.g., school transitions) or social (e.g., increasingly gaining autonomy from caregivers). In line with these transitions, adolescence is also a time of the diversification and specification of identity (e.g., racial identity, academic identity), due in part to both cognitive growth and shifts in social task demands (e.g., Quintana, 1998, Steinberg, 2005; Weil et al., 2013). Identities may be informed by and related to both lived experiences and to developmental social tasks; both racial and academic identities include elements of such experiences and tasks. Overall, racial identity is defined as the racialized experiences individuals have as a member of a particular racial/ethnic group (e.g., attitudes and beliefs about group membership, relation to other groups, and interpretations of racialized experiences), and their connection to their cultural heritage as a member of their group (e.g., Umaña-Taylor et al., 2014). Additionally, academic identity is most strongly related to the “task” of being a student. Academic identity is defined, broadly, as an individual’s sense of their own studenthood. This can be further disambiguated into an individual’s sense of the ideal objective of being a student (e.g., “getting good grades” vs. “learning new things”; Chorba, Was, & Isaacson, 2012), an individual’s sense of their own ability as a student, and the importance of academics and being academic to an individual’s sense of self. With most identities, including racial and academic, identity process (i.e., mechanism by which identity is explored, formed, and maintained) and identity content (i.e., attitudes and beliefs related to group; Quintana, 1994; Syed & Azmitia, 2008; Umaña-Taylor et al., 2014) are often considered separately; for the purposes of the present study, I will focus on identity content.

There is evidence to suggest that racial and academic identities are both key identities during adolescence. Additionally, a body of research suggests both identities may be affected by experiences with racial and academic climates at school (e.g., experiences with discrimination; school composition and norms). In particular, racial/ethnic identity may become more nuanced across adolescence, as youth experience school transitions and/or begin to enter the workforce, and therefore are exposed to new peer groups and new contexts of first-hand racialized experiences, such that different elements of identity may change in salience and importance and vary across individuals (e.g., Kiang, Witkow, Baldelomar, & Fuligni, 2010). Beyond exposure to new contexts, specific messages from parents, peers, and community members about race (i.e., racial socialization; Hughes, 2004) and exposure to race-based discrimination (e.g., Benner et al., 2018; Seaton, Yip, Morgan-Lopez, & Sellers, 2012) inform the development of racial identity from childhood through adulthood. Related, aspects of school climate such as supportive teachers (Ullman, 2015) and peer academic norms (Benner & Graham, 2007; Flores-Gonzalez, 1999) facilitate the development of academic identity. As with racial identity research, exposure to new school environments and demands (e.g., following school transitions) has been implicated in academic identity development. Whereas racial identity research focuses more on exposure to and changes in racial structures at schools (e.g., student body and faculty diversity; race-based curricula), academic identity focuses on exposure to and changes in both school norms surrounding “being academic” and in classroom dynamics and evaluation criteria (Aikins, Biermen, & Parker, 2005; Benner & Graham, 2009; Simmons, Burgeson, Carlton-Ford, & Blyth, 1987). However, limited work has explored the negative impact of racial discrimination on academic identity (Smalls, White, Chavous, & Sellers, 2007). It is conceivable that racialized experiences at school (e.g., academic- and race-based discrimination, such as perceptions that

others view [race] as not good students; presence or absence of meaningful race-based curricula) contribute to both racial and academic identities.

Further, both identities may relate – directly or indirectly – to academic performance and attainment, as well as psychological wellbeing (e.g., self-esteem and, more tenuously, efficacy to combat discrimination). In particular, aspects of racial identity content, including centrality (importance of racial group to sense of self), private regard (attitudes towards members of the same group), and public regard (perception of how others view members of your group; Sellers et al., 1998) have long-reaching implications for psychosocial adjustment and wellbeing (e.g., positive self-concept, health behaviors, academic attainment; see Rivas-Drake et al., 2014, for a review). Additionally, while academic identity is most commonly linked to academic performance (e.g., grades and attainment; Beron & Piquero, 2016; Reyes, Gillock, & Kobus, 1994), some argue that academic identity may have implications for, or be interconnected with, the content of other salient identities (e.g., racial identity; Whiting, 2006) and relate to psychosocial outcomes (e.g., self-esteem; Wigfield & Eccles, 2000) at later points. Synthesizing across multiple studies in multiple areas, it is possible that academic identity, in conjunction with other salient identities, may have some implications for an individual's ability to experience psychological wellbeing later in life.

Research has not systematically explored the joint content of both identities, including the degree to which they may be jointly shaped by earlier experiences, and jointly impact later outcomes. While there is an overall lack of empirical research on the content of joint racial-academic identities, there is conceptual evidence to suggest that an approach jointly considering interrelated identities (i.e., racial, academic) in relation to shared predictors and academic and psychosocial outcomes (e.g., Whiting, 2006; Whiting, 2009) is appropriate – and important. In

particular, Whiting has published a conceptual “scholar identity” model specific to Black male youth (Whiting, 2006; Whiting, 2009). This model addresses the core characteristics of scholar identity among Black males, as well as major contextual barriers and supports that inform and/or constrain these characteristics. According to Whiting, academic identity content components such as academic self-confidence, self-efficacy, and achievement orientations, work in concert with more global attitudes (e.g., future orientation, willingness to make sacrifices), racial identity, and – specific to Black males – masculinity (i.e., importance, how youth conceive of it). Further, Whiting argues that specific predictors are linked to the combined identities encapsulated in his Black male scholar identity model. For example, multicultural education may be particularly crucial for these joint identities, while race-based academic discrimination within schools may be uniquely harmful to both identities. Arguably, when multidimensional scholar identity is strong and positive (i.e., higher self-confidence and efficacy, linking multiple identities to academic and future success, high rates of racial centrality and pride), youth will achieve at higher levels and experience greater psychological wellbeing in life (e.g., more resilient to hardship, effective at accomplishing goals).

For the purposes of the present study, I will focus on the racial and academic identities of Black students given the pervasive educational disparities, reinforced by structural racism within school contexts (e.g., Kohli, Pizarro, & Nevárez, 2017), that exist between Black and White students (e.g., Paschall, Gershoff, & Kuhfeld, 2018). For example, Paschall and colleagues (2018) explored race and socioeconomic status (SES) effects on academic achievement (i.e., reading and math ability) across a twenty-year period, and found that while poor White and nonpoor Black students have similar achievement scores during early high school, the gap between poor White and poor Black students, as well as nonpoor White and poor Black students,

is widening rather than shrinking. There are also disparities in treatment within schools: Liou and Rotherham-Fuller (2019) found that even among Black youth who identified strongly with their school, teachers held lower expectations for their achievement than their White counterparts. Historical research emphasizes the connectedness between Black youth's racial and academic identities, often from a perspective that racial and academic identities must necessarily be at odds (e.g., Fordham & Ogbu, 1986; Majors & Billson, 1992). More recently, conceptual papers emphasize that these identities are interconnected in more complicated and, often, complimentary ways (e.g., Whiting, 2006). However, though limited research has addressed the connectedness between racial and academic identities among Black students (e.g., Harper, 2015; Oyserman, Harrison, & Bybee, 2001), no one has systematically explored the multidimensionality of racial-academic identities and how these identities matter in youth's lives. Thus, given the unique cultural context of the United States, I will focus on unpacking patterns of joint racial-academic identities among a socio-economically diverse sample of Black adolescents. Ideally, this will help to clarify subgroups of joint identities, and allow us to investigate how identity subgroups differentially relate to earlier school experiences and later academic and psychosocial wellbeing.

Therefore, in the current project, I will test the assumptions presented in conceptual work, primarily by Whiting (2006; Whiting, 2009), outlining the integration of racial/academic identities among a sample of 491 Black adolescents. Specifically, I seek to integrate across two interrelated and important identities (i.e., racial and academic), using latent profile analysis to characterize patterns of content across both identities at a time when youth typically are becoming aware that identities may be interrelated (e.g., Quintana, 1998; Syed, 2010). Then, to capture the potential effect of school context, I seek to unpack how school- and race-based



experiences during middle school (e.g., racially-meaningful academic curricula and school racial and academic climate) may inform the content of both identities in high school (i.e., through profile membership). Finally, in order to parse apart findings on the association between one or both identities and particular indicators of psychological wellbeing (academic outcomes; psychosocial wellbeing) I seek to understand how these joint identities matter for concurrent performance outcomes (i.e., GPA), and later academic and psychosocial outcomes (e.g., educational attainment, efficacy to combat discrimination, self-esteem). See Figure 1 for a full illustration of the conceptual analytic model for the present study.

### **Identity**

Identity refers to an individual's meaningful sense of self and can exist along multiple dimensions and in multiple contexts. In particular, for the purposes of the present project, I am focusing on collective identity (i.e., also referred to as "social identity"; e.g., Ashmore, Deaux, & McLaughlin-Volpe, 2004; Tajfel & Turner, 1979). Collective/social identities refer to identities that are linked to membership to a group or collective and include elements of comparing the self to the broader social group (Ashmore et al., 2004; Onorato & Turner, 2004). This is qualitatively distinct from personal identity, which refers to any identity aligned on a "me" vs. "not me" spectrum (e.g., a collective identity thought of in individualistic terms and not socially linked; any identities that by nature cannot be connected to social groups; McGuire & McGuire, 1998; Onorato & Turner, 2004; Turner, 1982).

Of note, Ashmore et al. (2004) used the term "collective identity" specifically to refer to social identities. For the purposes of this project, I also use "collective identity" when speaking of this type of identity, given that some academic identity researchers use the phrase "social identity" to refer to youth who align more with using school as a place to interact socially with

friends, rather than a place of learning (e.g., Komarraju & Dial, 2014). When I speak of “joint identities,” I am referring to instances where multiple collective identities that are conceptually distinct and often studied separately may be better understood as interrelated or overlapping in some key way. In particular, “joint identities” refers to two or more collective identities that share predictors and outcomes and are thought to inform each other and youth’s associated experiences; my contention is that taking “joint identities” into equal consideration may better enable researchers to characterize how both identities inform specific, unique experiences during an individual’s life. Here, the focus is on joint racial and academic identities; later in the document, I provide an argument for why an important next step in research is to identify subgroups of these two interrelated identities and explore how subgroup membership may be informed by earlier racialized school experiences and inform later academic and psychosocial outcomes. First, however, I review key identity related theories and frameworks, and I elaborate on the importance of focusing on identity during the adolescent developmental period.

**Guiding frameworks. *Social identity theory.*** Social identity theory (Tajfel & Turner, 1979) is a foundational theory for identity development; many of the more specific models of identity and identity development are derived from this overarching framework. In particular, social identity theory posits that group-based identity consists of three stages of mental processes whereby individuals refine their understanding of themselves and the groups to which they belong (i.e., in-group) and position their in-group against those who do not fit in (i.e., out-group). These groups can be based on demographic characteristics (e.g., race, ethnicity, gender) and groups associated with key developmental tasks or roles (Stets & Burke, 2000). For example, an individual may have an identity related to school (e.g., academic identity) during a time when school is compulsory; later identities may revolve around work or parenthood.

According to Tajfel and Turner (1979), for each group that an individual belongs to, identification with said group begins with social categorization. Specifically, after identifying various social categories, such as racial groups or student/non-student (e.g., Tapp, 2014), one can begin to draw inferences about these groups by making observations, determining what behaviors are appropriate for that group, and understanding if or how one may fit, or fail to fit, into that group. With respect to academic identity, an individual might start by developing a concept for what it means to be a good student or a bad student, or what it means to be a student versus someone who is not a student (Tapp, 2014). With respect to racial identity, an individual might start by developing a concept for what it means to belong to their racial or ethnic group.

Following categorization is the social identification stage, during which individuals begin to adopt and adapt to the behaviors associated with their in-group (Tajfel & Turner, 1979). For students, this may mean paying attention in class, completing homework, and taking initiative in learning new information beyond what is required to pass tests. Additionally, this may include a range of behaviors that the individual links to their racial group. Some argue (e.g., Ogbu, 1984) that certain racial groups may view assorted types of school engagement or doing well in school as an out-group racial behavior; it is possible that, if an individual views the “behaviors” associated with different groups they belong to as at odds, they will engage in the behaviors associated with their more salient identity. For example, a youth with a more salient racial identity than academic identity, who views school engagement as “not Black,” may be less likely to prioritize schoolwork than a youth who has a more salient academic identity.

Finally, there is the social comparison stage, whereby individuals compare their group to others, often to the benefit or detriment of self-esteem. Specifically, when individuals compare their group favorably to other groups, self-esteem tends to be maintained. With respect to

academic identity in particular, the social comparison stage may also have implications for academic performance, self-efficacy, and goal-setting. Categorization of identity and positioning the self and others as members of the same or different groups is a theme across multiple models of identity and identity development. For example, some process models of racial identity development for minority groups suggest that a key stage in identity development is rejecting any sort of identification with the majority group (e.g., Cross, 1971). The contention that academic achievement can be coded as a White behavior is the crux of Ogbu's cultural ecological argument that involuntary minorities underachieve (i.e., deliberately or not) in school to protect their racial/ethnic identities (Ogbu, 1981).

***Collective identity framework.*** To aggregate and synthesize across a disparate body of literature on various collective identities (i.e., identities as members of groups, analogous to social identity), Ashmore and colleagues (2004) characterized a multidimensional, organizational framework for understanding the key dimensions applicable to most collective identities; all dimensions identified by Ashmore et al. (2004) were explicitly linked to empirically-supported constructs frequently used in identity literature and were substantiated by hundreds of different studies of identity. That said, few if any identity models encompass every single dimension proposed by Ashmore et al. (2004). Within Ashmore et al.'s (2004) broader collective identity framework (Table 1), popular conceptualizations of racial and/or academic identity are characterized by dimensions including self-categorization, evaluation, importance, attachment/sense of interdependence, and behavioral involvement. For the purposes of the present study, I am focusing on the dimensions of evaluation, importance, and attachment; I discuss these below. For examples and definitions of all dimensions in this framework, as well as a roadmap for how specific racial and academic identity models fit onto this overall framework

see Table 1; for concrete measures of racial and academic identity representing evaluation, importance, and attachment in the present study, see Table 2.

Evaluation refers to the attitudes an individual holds toward their social category, including both the judgements the individual has toward their own identity (i.e., private regard) and their perception of how others view their social category (i.e., public regard). These judgements can be positive or negative. Within racial identity frameworks (e.g., Sellers et al., 1998), public and private regard comprise the evaluation dimension. According to academic identity researchers (e.g., Matthews, 2014; Whiting, 2006; Whiting, 2009), academic self-worth and self-confidence may be considered analogous to private regard. Further, youth perception of the academic climate at their school (e.g., is achievement valued; e.g., Benner, 2013) may be considered analogous to public regard.

The importance dimension of collective identity refers to the salience of group membership to the individual's self-concept. This can include both explicit and implicit appraisals of the importance of membership to a particular group to the individual's overall sense of self, as well as the position of a specific collective identity in the internal hierarchy of an individual's various identities. Among racial identity models, centrality is considered representative of the importance dimension (Sellers et al., 1998). Matthews (2014) argued that academic/educational utility and the intrinsic value of education represent the importance dimension of academic identity. Others (e.g., Whiting, 2006; Whiting, 2009) suggest that academic and school importance is meaningful, but do not present an argument for measures of academic identity that may reflect the importance dimension.

The affective/attachment dimension of collective identity, occasionally referred to as a sense of interdependence with one's group, has been interpreted in multiple related ways

(Ashmore et al., 2004). Sense of belonging is the most frequently-referenced indicator of affective attachment and refers to an individual's emotional involvement with or orientation to a group or a specific identity. Matthews (2014) identifies school belonging as representative of this dimension of academic identity. While Sellers et al. (2008) do not explicitly include racial belonging in their model, Phinney (1992) argues that ethnic affirmation and belonging, considered to be representative of an affective commitment to an identity or group, is central to ethnic identity. Sense of shared or mutual fate is another indicator of the attachment dimension and refers to one's awareness that individual outcomes are linked to group membership, often because individuals sense that they are treated as a member of their group before they are treated as a unique individual separate from their group. Thus, an individual may view their own behaviors as reflective of their overall group or perceive a camaraderie with their overall group due to shared experiences. While Sellers et al. (1998) do not explicitly include such a dimension in their model, a number of researchers (e.g., Hyers, 2001; Verkuyten, 2016) do consider it to be central to racial identity.

Ashmore and colleagues (2004) aggregated across research on multiple identities, including racial identity, gender identity, religious identity, feminist identity, and political identity, to develop their dimensional framework. The promise of such a framework is in the articulation of multiple dimensions of individuals' multiple identities; these dimensions may all jointly and uniquely affect an individual's adjustment and experiences in numerous ways. Interpretations of this framework (e.g., Matthews, 2014; Matthews, Bannerjee, & Lauermann, 2014) suggest that its inclusion of dimensions that reflect both the internal negotiation and external support of identity is critical. Further, this framework provides a critical, theory-based roadmap for testing multiple dimensions of multiple, co-occurring identities. In particular, the

framework gives consideration to the relative importance of multiple collective identities (e.g., racial, academic) that an individual may hold and argues for the importance of not just considering the interplay of multiple dimensions of one collective identity, but also the interplay of multiple dimensions of multiple identities. The information that jointly considering multiple elements of multiple identities may afford our interpretation and understanding of key developmental experiences and processes cannot be overlooked. That said, while Ashmore et al. (2004) incorporated developmental research in their framework, developmental period was not a consideration in the construction of their framework. Thus, next, I review identity during adolescence.

**Identity in adolescence.** Identity development occurs across the lifespan. However, according to a number of perspectives (e.g., Eriksonian; Erikson, 1956), identity development is a central developmental task during adolescence. While identity formation begins very early in life (e.g., Quintana, 1998; Rogers, Zosuls, Halim, Ruble, Hughes, & Fuligni, 2012; Weinraub, Clemens, Sockloff, Ethridge, Gracely, & Myers, 1984), during adolescence, several key identity-related events either begin or continue to occur; collectively, these events converge to make adolescence a critical period for identity development.

First, it is generally understood that as youth age, they become better able to frame or re-situate their personal identities in the context of their social groups, thus – in some cases – codifying these identities as social identities. For example, a child may view themselves as Black, but not link that identity to group membership and shared experiences with other Black individuals. However, as perspective-taking abilities increase, the youth's sense of self will increasingly merge with reference groups, leading to consciousness of their group (Cross & Cross, 2008; Onorato & Turner, 2004; Quintana, 1994). Additionally, cognitive abilities such as

introspection, perspective-taking, and abstract thinking are developed and refined to a point where individuals are capable of deeper introspective searches of what their identity/identities mean to them (Choudhury, Blakemore, & Charman, 2006; Keating, 2004; Steinberg, 2005; Van der Graff, Branje, De Wied, Hawk, Van Lier, & Meeus, 2014; Weil et al., 2013).

Second, social tasks change: in general, adolescents gain more responsibility, in more and varied contexts. For example, with gains in autonomy, youth may be more likely to take on a job, to be involved in school in new and demanding ways (e.g., extracurricular involvement; more advanced classes and different homework demands), to help around the house, or to have new, different, and/or expanding social requirements within peer groups. Further, adolescents must also begin to make decisions about their futures: whether to attend college or enter the workforce, which college or career track to pursue (e.g., Heckhausen & Tomasik, 2002), which relationships to enter, and so forth. Thus, adolescence is a period where both understanding of social roles, and the demands that need to be met in order to fulfill said social roles, are shifting. For example, during adolescence, Black youth's cognitive development and exposure to racialized situations separately from parents will lead to these youth first merging their "personal identity" as a Black individual into a collective identity as a member of a broader group (e.g., Black, African American; Cross & Cross, 2008). With this racial group consciousness (Quintana, 1998) and developmental refinement in cognition (Moshman, 2011), as adolescents age they are increasingly able to differentiate their experiences and identities as Black and make meaning from those experiences and identities independently of their parents' Black identities.

The environments in to which youth are exposed also undergo transitions in adolescence. For example, youth spend increasingly more time with peers, rather than parents (e.g., Lam, McHale, & Crouter, 2014; Montemeyor, 1984). When parents are not present, they are not able



to help immediately contextualize experiences such as discrimination; this might contribute to the integration of certain identities into an overall sense of self. Additionally, with very limited exceptions, most youth attend different schools between middle and high school. Often, there is a change in racial-ethnic and academic climates during this transition (Benner, 2013; Benner & Graham, 2007; Benner & Graham, 2009). High schools may be more or less diverse than middle schools; academic norms and messages about race and academics may also differ between the two contexts. These potential shifts in climate in contexts where youth spend much of their time will have implications for identity. For example, academic identity may be weakened for youth who felt like a “big fish in a little pond” in middle school, but who encounter a higher volume of similarly-talented students and less focus from teachers during high school. Similarly, an increase or decrease in frequency of exposure to racial discrimination may have implications for racial identity.

Erikson argued that in order to successfully navigate and complete the adolescent developmental period, youth must first develop a concept of an identity-linked role, and then learn how to take that role on (i.e., identity development, Erikson, 1956). Later identity theorists made the argument that people may need to learn to navigate a number of identities in their lives. Additionally, some researchers (e.g., Chorba et al., 2012; Nasir & Saxe, 2003; Was et al., 2009) affirm that an individual can be in different places with different identities. For example, some models postulate that the development of individual identities (e.g., racial) includes a stage where the individual focuses solely on that identity, at the expense of any other identities (e.g., Cross, 1995), whereas others posit that multiple identities can jointly intersect and mutually inform an individual's identity-related experiences (e.g., intersectionality and discrimination; Crenshaw, 1989; Crenshaw, 1991). Given that these multiple identities may not be all equally

important or developed, it is important to explore potential patterns of multiple identities in order to better characterize youth's identity-related experiences.

Next, I review research on academic and racial identities. First, I describe the content of both identities. Then, I describe these identities during the adolescent developmental period. Finally, I discuss predictors of these identities, and outcomes which these identities influence.

### **Academic Identity**

Academic identity refers to an individual's sense of their own studenthood. That said, various researchers treat this concept in a variety of ways. Aggregating across academic identity research, "sense of studenthood" can broadly encompass perceptions of the ideal objective of being a student, often broken down into performance goals such as getting high scores on academic-related tasks (e.g., doing well on tests and homework), and learning goals such as learning new concepts or skills (e.g., Chorba et al., 2012, Komarraju & Dial, 2014, Was et al., 2009). Sense of studenthood can also include an individual's sense of their own ability as a student (e.g., academic self-efficacy, academic self-concept; e.g., Bong & Skaalvik, 2003; Komarraju & Dial, 2014; Matthews, 2014; Wang & Niehart, 2015), and the importance of academics and being academic to sense of self. To that end, some researchers (e.g., Oyserman, Brickman, & Rhodes, 2007) suggest that even youth who are no longer attending school envision "student" as central enough to their identity that they may self-identify as high school students to a greater degree than they self-identify as school dropouts. This suggests that academic identity transcends actively performing the social role of the student; it is also possible that academic identity is strongly linked to the adolescent developmental period, regardless of an individual's actual student status.

Given that research on other identities (e.g., race, gender) typically suggests that other collective identities may be present, even if the individual does not align strongly or positively with components of that identity (e.g., Verkuyten & Yidiz, 2007), I take the position that all youth will have some form of academic identity. To that end, even self-categorizing as “a bad student” or as someone to whom school is unimportant (e.g., academic disengagement) reflects an identity in relation to academics and, therefore, an academic identity. Youth who are students may view themselves as an out-group among students (e.g., fail to self-categorize as students); however, I contend that even this has implications for an individual’s academic identity.

**Academic identity multidimensionality.** Research on academic identity can be disparate, and, though multiple researchers speak to the importance of considering identity multidimensionality (e.g., Ashmore et al., 2004; Eccles, 2009), academic identity is not often treated multidimensionally (e.g., Matthews, 2014). To date, much research focuses on just one or two of the dimensions Ashmore and colleagues (2004) identified as components of collective identities. Often, the focus falls primarily on the importance domain, utilizing indicators of motivation such as value and utility as reflective of the role of academics in an individual’s sense of self (e.g., Wigfield & Eccles, 2000). Other work centers around attachment (e.g., school belonging; Crosnoe, 2005; Voelkl, 1997). Focusing heavily on single dimensions of academic identity may lead to an overgeneralization of the role of academic identity in relation to outcomes. Additionally, in cases where multiple academic identity dimensions are conflated, the contributions of these dimensions to an individual’s academic experience may be muddled or overmagnified (Bong & Skaalvik, 2003).

That said, a body of qualitative research has gone a long way toward unpacking the dimensions of academic identity (e.g., Roderick, 2003; also, to a certain extent, Flores-Gonzalez,

1999). With Black adolescents, Welch and Hodges (1997) began to characterize academic identity “profiles” based primarily on students’ perceptions of academic achievement-related experiences. Critically, Welch and Hodges (1997) drew both on academic performance and youth’s self-reported academic-related values to characterize youth beyond fully-engaged or fully-disengaged groups. In particular, as a result of interrogating multiple potential dimensions of their interpretation of “scholar ethos,” Welch and Hodges (1997) described a variety of orientations toward academics, including individuals who value achievement (importance dimension) and aspire to educational tracks that require graduate education (e.g., veterinary school; evaluation dimension), but who engage in self-handicapping academic behaviors and fail to take responsibility for their own matriculation.

Unfortunately, much of the qualitative work characterizing nuanced interpretations of academic identity is limited in scope. The majority of it focuses on youth who fall outside of expected academic “norms,” partly as an attempt to unpack the secrets to these individuals’ academic success. For example, some work focuses on boys belonging to minority racial or ethnic groups who explicitly achieve highly in school, (e.g., Graham & Anderson, 2008; Irby, 2015). While this work is important, it leaves critical gaps in research on the broader scope of multidimensional academic identity. In particular, it is important to approach and study academic identity in a way that captures the potential heterogeneity of such an identity, including characterizing subtypes of academic identity that may be better characterized by overall academic disengagement and disinterest. Further, work characterizing subtypes of multidimensional academic identity should both be general across multiple populations (e.g., across race, gender, age) and within specific populations of interest (e.g., within specific races,

genders, or age groups); in the present study, I focus on a specific population of interest (i.e., Black adolescents).

Limited work (e.g., Matthews, 2014; Whiting, 2006; Whiting, 2009) has explicitly argued for a multidimensional approach to academic identity; Matthews (2014) went so far as to capture the heterogeneity of academic identity by characterizing subtypes of academic identity among Black and Latino boys. Next, I review this work and use its arguments to describe academic identity content within specific identity dimensions.

**Academic identity content.** As described earlier, the three primary identity dimensions of interest for the present study are evaluation, importance, and attachment. Matthews (2014) provided explicit arguments for parallels of each of these dimensions. However, conceptual parallels of these three identity dimensions need not be limited to those described by Matthews (2014). Below, I articulate Matthews' (2014) explanation for parallels of these dimensions and provide additional suggestions for other indicators that may also map onto these constructs (e.g., as suggested by Whiting, 2006; Whiting, 2009).

The **importance** dimension is characterized by the importance of a specific identity to overall sense of self. Conceptually, with respect to academic identity, this may encompass feelings that youth have about how meaningful their studenthood is to their sense of self, whether positive or negative. According to Matthews (2014), utility and value of education are proxies for academic identity importance. While Whiting (2006) does not have a direct parallel to importance in his scholar identity model, constructs such as future orientation (i.e., viewing academic success as central to future success) and willingness to make sacrifices in other domains because of the importance of academics to overall sense of self maps onto this construct. Other research deals explicitly with academic centrality (e.g., Brower, 2013),

characterizing it as the importance of academics to one's overall sense of self. In instances where explicit academic centrality measures are not available, such as this one, analogous measures may include explicit measures of importance, such as youth's sense of how important school and their education is to their sense of self, future possibilities, and overall wellbeing.

The **evaluation** dimension is characterized by attitudes individuals hold about their identity, including perceptions of how others may view that social grouping. Typically, in racial identity research, evaluation is measured as a combination of private regard (perception of own group) and public regard (perception of how others view your group; Ashmore et al., 2004; Sellers et al., 2006). There are conceptual parallels to private and public regard in academic identity research. Matthews (2014) and Whiting (2006) included academic indicators of private regard (i.e., academic self-concept and self-worth; Matthews, 2014; and academic self-confidence; Whiting, 2006; Whiting, 2009). School-based measures such as how students view the task-related culture of their school, as well as youth's sense of how others (e.g., neighborhood peers) may view academic engagement may represent the public regard component of evaluation (e.g., Datnow & Cooper, 1997).

The **attachment** dimension is characterized by emotional involvement with an individual's group. Conceptually, with respect to academic identity, this may encompass sense of belonging at school (Matthews, 2014). When school belonging measures are not available, such as in the present study, analogous measures tapping into youth's preferred reasoning for attending school may also reflect attachment. For example, intrinsic motivation (i.e., attending school because you value and care for what you are learning) and extrinsic motivation (i.e., attending school because you value and care for non-learning related things, such as sports and extracurriculars) may approximate emotional involvement with education. In Whiting's (2006)

model of scholar identity, intrinsic motivation is represented by prioritizing scholastic achievement over social affiliation.

**Academic identity during adolescence.** Academic identity has not consistently been interrogated using a developmental perspective, though a number of researchers have applied existing identity and identity development paradigms (or frameworks) to the concept of academic identity. Aggregating across cross-sectional and limited longitudinal research into dimensions of academic identity during adolescence (i.e., focusing on middle and high school) suggests several specific trends. First, positive academic identity (i.e., definitions vary by study but typically reflect self-identification as a student, high self-efficacy, and/or strong utility and attainment values) declines in middle school (Di Giunta et al., 2013; Fuligni, 1997; Matthews, 2014). This decline may be linked to school tracking (e.g., Legette, 2017), future goals (Brunson-Evans, 2007; Zirkel, 2002), and actual school performance (Eshel & Klein, 1981). Academic public regard may be particularly salient – research suggests that, as early as elementary school, youth become unwilling to take academic risks if they worry that this may lead others to view them as unknowledgeable (Beghetto, 2000; Meyer et al., 1997).

Throughout high school, youth undergo exploration of their academic identities, including deciding whether to maintain student status beyond high school by attending college. This exploration can be augmented by students' academic context – for example, when students view their academic climate as positive and supportive, such as through teacher support, extracurricular participation, or peer group academic orientation, high schoolers generally report a stronger academic identity and higher educational attainment goals (e.g., Burke, 1989, Hwang, Feliz, Kietzmann, & Diemer, 2016; Flores-Gonzalez, 1999; Kusiak, 2011). Next, I discuss specific predictors of academic identity dimensions.

**Predictors of academic identity.** The school context is critical for academic identity. Experiences at school can inform an individual's sense of what it means to be a student, including whether they are supported as a student (Chang, 2016; Crosnoe, 2001; Dávila, 2011; Flores-Gonzalez, 1999); this has implications for academic self-efficacy and attachment. In particular, aspects of school climate such as feeling as if your teacher is likely to address instances of prejudice against a group you belong to, is linked to a more positive academic identity, feeling a stronger sense of school belonging (affective dimension) and support, as well as a stronger academic self-concept (evaluation and/or importance dimensions, depending on measure). Ullman (2015) found support for this among LGBT students observing teacher responses to homophobia; others have found similar effects among racial minority students (e.g., Cruise, 2016; Wittrup, Hussain, Albright, Hurd, Varner, & Mattis, 2016; Zirkel, 2002). Additionally, youth who prioritize their education tend to belong to social groups that value achievement (Flores-Gonzalez, 1999), suggesting that peer experiences at school are also meaningful for academic identity.

Research tends to explore the sequelae of academic identity and academic identity indicators rather than predictors of it, with one notable exception. Specifically, there is a body of research on experiences among racial/ethnic minority youth that impact later academic identity. In particular, school-based racial discrimination is thought to be particularly harmful for aspects of academic identity including motivation, engagement, self-concept, school belonging, and future orientation (e.g., Brunson-Evans, 2007; Cook et al., 2012; Irby, 2015; Noguera, 2003; Wittrup et al., 2016); these constructs map onto attachment, importance, and evaluation dimensions of collective identity. The effects of school-based discrimination on academic identity may differ based on gender, race (i.e., at the social address level), racial identity, and,



potentially, SES. Additionally, school academic climate may have implications for academic identity; Benner (2013) found that individual incongruity with school academic climate (i.e., performing notably better or worse than same-race peers on a school-wide academic assessment) had implications for the affective dimension of academic identity.

Because middle and high school is a time when youth's multiple identities (e.g., academic, racial/ethnic) may become relevant to their academic performance, most notably their academic attainment goals (Brunson-Evans, 2007; Guest & Schneider, 2003; Zirkel, 2002), declines in academic identity may have long-reaching implications. This is particularly true for youth of color, who may often feel that their academic achievement reflects on their race as a whole (Legette, 2017). Research on this will be explored more later, in the joint identities section. Next, I discuss research on outcomes of academic identity.

**Academic identity and youth outcomes.** Overwhelmingly, academic identity research explores academic identity in relation to academic-specific outcomes, largely performance or school drop-out. Notably, some research considers individual dimensions of academic identity in relation to other dimensions of academic identity; here, I focus on the link between indicators of academic identity and non-identity (e.g., psychosocial, academic performance) outcomes.

With respect to the evaluation dimension of academic identity, and private regard in particular, academic self-concept (i.e., the view of the self as a student) is often treated as highly related, conceptually, to academic self-efficacy (i.e., sense of ability to perform student-related tasks, an agentic component of academic identity (Matthews, 2014). To the potential detriment of detailed data on individual contributions, self-concept and self-efficacy are often conflated. That said, academic self-concept is generally found to predict higher grades and more time spent on homework, as well as classroom engagement (Steinberg et al., 1992; Warzon, 2006).

However, others (Eshel & Klein, 1981; Jones, 1993) do not find an association between academic self-concept and later academic performance. Related, higher rates of academic self-efficacy predict higher grades (Di Gunta et al., 2013) and stronger motivation to succeed (Komarraju & Dial, 2014). Self-efficacy may also be linked to a willingness to take risks (e.g., sharing tentative ideas with the class) in academic settings (Beghetto, 2009).

The affective dimension of academic identity (e.g., school belonging) is also often conflated with other dimensions, limiting our ability to draw clear links between it and specific outcomes. Still, work that conflates behavioral orientation and affective connection to academics does find that youth who are more highly engaged in school get better grades and have more positive attitudes related to their schools (Singh et al., 2002). Of work that focuses specifically on affective academic identity such as school belonging, researchers find that it positively relates to performance (Cook, Purdie-Vaughns, Garcia, & Cohen, 2012; Gonzalez & Padilla, 1997). Additionally, researchers typically find that students who have a stronger and more positive sense of school belonging tend to remain in school for longer (i.e., lower dropout rates, e.g., Alexander, Entwisle, & Horsey, 1997; Lee, 2014). In line with this, sense of school belonging and a positive view of school climate has lasting positive implications for adolescent's future orientation and goals (Burke, 1989; Flores-Gonzalez, 1999; Kusiak, 2011). This might be particularly important for minority youth at schools where they are not in the numerical majority (Alfaro et al., 2009; Kusiak, 2011; Perreira et al., 2010). That said, while academic identity does relate to better academic performance in high school (e.g., Lee, 2014), attainment beliefs do not necessarily map onto actual academic attainment beyond high school (Hwang et al., 2016).

Work in the importance dimension (e.g., academic centrality, utility and value) suggests that multiple indicators are related to academic performance. Generally, this link is thought to be

positive, such that higher utility and/or value of education are linked to better performance in school such as higher GPAs (e.g., Fuligni, 1997; see Wigfield & Eccles, 2000, for a review). However, Antecol, Eren, and Ozbeklik (2016) explored the interplay of academic identity centrality and comparative observations of relative performance on actual performance. Specifically, in a population of low-income, racial/ethnic-minority students at minority-dominant schools, when youth who had a high degree of academic centrality (i.e., being academic = me) viewed their peers as outperforming them, their own performance declined. The inverse of this was also true; youth who had low academic centrality (i.e., being academic = not me) but saw their peers as performing worse in school experienced improvement in their overall performance.

Taken together, these findings suggest that individual dimensions of academic identity have implications for later academic performance and, potentially, non-academic wellbeing. However, little of this work considers the interplay of multiple dimensions of academic identity in relation to outcomes. Further, it is possible that dimensions coalesce into qualitatively distinct subgroups of academic identity (Matthews, 2014). I discuss potential academic identity subgroups later in this manuscript. Next, I review content, predictors, and academic and psychosocial outcomes of racial identity.

### **Racial Identity**

Racial/ethnic identity is considered to be central to the development of minority youth. Racial/ethnic identity has been investigated as racial identity (particularly when group membership is considered to be racial in nature, e.g., Black), ethnic identity (particularly when group membership is considered to be ethnic in nature, e.g., Latinx), and ethnic/racial identity – which is considered to encompass both the ethno-cultural experience and identity of the individual in question, and the racial positionality and associated experiences of the individual in

question. In short, racial/ethnic identity deals with the overlapping “categories” of an individual’s cultural heritage and ethnic background, and their racialized experiences as members of their group. This multidimensional construct can reflect beliefs and attitudes that individuals hold with respect to their group membership and identity with the group (i.e., content), as well as the process by which this content is acquired (e.g., Phinney, 1993; Quintana, 1994; Umaña-Taylor et al., 2014). Work on racial identity, ethnic identity, and racial/ethnic identity occasionally treats these constructs as distinct but related; other work uses labels specific to whether it focuses on a racial group (e.g., Black) or an ethnic group (e.g., Latinx). For the purposes of this paper, “racial identity” will be used as an umbrella term which captures cultural heritage, ethnic background, and racialized experiences of individuals. Thus, when I refer to racial identity, I am referring to an individual’s group membership and their attitudes and beliefs related to experiences as a member of that group. Also, the objective of the current project is to unpack joint racial-academic identities among Black adolescents. As such, unless otherwise noted, all cited racial identity research focuses on Black populations.

**Racial identity multidimensionality and content.** Whereas research on academic identity content may best be characterized as limited and disparate, research on racial identity content has reached a stage of consensus on several key dimensions. In particular, racial identity content is generally thought to be comprised of constructs highlighted by Sellers and colleagues (1997); these constructs reflect some, but not all, of the dimensions identified by Ashmore et al. (2004). In particular, Sellers argues that the primary dimensions of racial identity content include centrality (importance dimension; importance of group membership to sense of self), regard (evaluation dimension; feelings about group membership, including the perception of attitudes others hold to your group [public] and your own attitudes toward other members of your group

[private]) and, for a number of researchers, ideology (content and meaning dimension; philosophy regarding the way you think group members should act or otherwise think about their group membership). For the purposes of the present study, ideology will not be included.

Other researchers propose additional dimensions of racial identity content that map on to additional portions of Ashmore and colleagues' (2004) framework. For example, ethnic affirmation and belonging (Phinney, 1992), sense of one-ness with one's racial/ethnic group (Kinket & Verkuyten, 1997), and sense of shared fate (e.g., Hunter, Case, Joseph, Mekawi, & Bokhari, 2016) with one's racial/ethnic group all represent different takes on the attachment dimension of collective identity.

Collectively, racial identity researchers agree that racial identity is a multidimensional construct (e.g., Sellers et al., 2006; Umaña-Taylor et al., 2014). In particular, any individual indicator of racial identity (e.g., just centrality) does not capture the nuance present within an individual's identity or associated racialized experiences. Additionally, individual dimensions of racial identity cannot be lumped or merged into one unidimensional indicator of racial identity. For example, public regard (i.e., sense of how outgroup others view members of your racial group) is often weak when centrality (i.e., importance of your race to your overall sense of self) is strong; to aggregate across these indicators would be to erase the unique contribution of both indicators to racial identity. Given the exhaustive body of research on racial identity and the multiple contributing indicators thereof, it is important that we maintain the integrity of the individual dimensions when studying racial identity.

**Racial identity during adolescence.** Racial identity is interrogated and refined following important cognitive and social developmental milestones through childhood and early adolescence. In particular, researchers often agree that during childhood, racial identity consists

primarily of racial identification (i.e., consisting of self-labeling and constancy in self-labeling, with limited knowledge of race-related behaviors; see Umaña-Taylor et al., 2014 for a review). As youth enter adolescence they experience a developmental refinement in their cognitive abilities (e.g., introspection, perspective-taking, and abstract thinking; Choudhury et al.; Keating, 2004; Steinberg, 2005; Umaña-Taylor et al., 2014; Van der Graff et al., 2014; & Weil, et al., 2013). Through these refined cognitive abilities and an associated exposure to more diverse and varied social contexts (e.g., more exposure to discrimination), youth (particularly youth of color) achieve enough social-cognitive maturity to interrogate and understand how their race relates to their own life experiences. The perspective-taking skills that youth develop during late childhood and early adolescence may be important both for making meaning of encounter experiences (i.e., experiences whereby an individual is confronted with the realities of race in society, such as discrimination; Cross et al., 2001) and for developing a global racial identity that synthesizes their race with both their understanding of other cultures and their own other identities (Cross et al., 2001; Quintana, 1994; Umaña-Taylor et al., 2014). Perspective-taking may also be instrumental in identity exploration, such as in determining what racial identity means to the youth outside of the context of their parents (Phinney, 1990; Umaña-Taylor, Yazedijian, & Bámaca-Gomez., 2004).

Research suggests that racial and ethnic minority youth increasingly explore their identity during middle school and across the transition to high school (Huang & Stormshak, 2011). With increases in both exploration of and commitment to racial identity come increases in racial centrality (importance dimension; Kiang, Witkow, Baldelomar, & Fuligni, 2010). These increases are also linked to higher rates of private regard (evaluation dimension; Yip, Seaton, & Sellers, 2006); further, private regard increases may be linked to social changes such as school

transitions (French, Seidman, Allen, & Aber, 2006). Another component of the evaluation dimension of racial identity, public regard, has been found to be weakly related or unrelated to private regard and centrality among Black teens (Scottham, Sellers, & Nguyễn, 2008); public regard is negatively impacted by discrimination experiences (Seaton, Yip, & Sellers, 2009). However, all three of these major dimensions of racial identity content come on-line and strengthen in importance during the adolescent period (Umaña-Taylor et al., 2014). As youth get older and make meaning of their race, they may become more aware of how race relates to other major identities (e.g., Erikson, 19689; Syed, 2010). This has been most frequently observed in late adolescence and emerging adulthood, such as in the final years of high school and first years of college (Azmitia, Syed, & Rademacher, 2008) or entering the workforce.

**Predictors of racial identity.** Much of the research on predictors of racial identity focuses on messages about race in relation to evaluation and importance dimensions of racial identity. These messages can be positive (e.g., socialization messages about racial group membership from multiple sources such as parents, peers, and teachers) or negative (e.g., exposure to race-based discrimination; Baden & Steward, 2000; Brown, 1995). With respect to discrimination, most research focuses on racial identity as a moderator or mediator of the link between discrimination and outcomes (e.g., psychosocial wellbeing; academic indicators; e.g., Benner et al., 2018; Giamo, Schmitt, & Outten, 2012; Sellers & Shelton, 2003; Sellers et al., 2006; Seaton et al., 2009). That said, research generally indicates that experiences with discrimination (e.g., frequency of discrimination, reported feelings of being bothered by discrimination) relate to lower reported public regard, suggesting that encountering race-based discrimination makes individuals perceive out-group others as thinking poorly of their racial group (e.g., Benner et al., 2018; Sellers & Shelton, 2003; Sellers et al., 2006). Further,

discrimination has a lingering effect on public regard, such that greater perceived discrimination is related to lower public regard at later time points (Seaton et al., 2009).

Arguably, perceptions of discrimination, such as with a negative school racial climate, also relate to centrality (i.e., importance of racial group membership to sense of self), such that experiences with discrimination are somewhat related to stronger racial centrality (e.g., Chae, Powell, Nuru-Jeter, Smith-Bynum, Seaton, Forman, Turbin, & Sellers, 2017; Sellers et al., 2006). Being confronted with racism may lead to a greater awareness of racial group membership, and of racial group membership's importance in one's everyday life experiences and identity (Huang & Stormshak, 2011; Syed & Azmitia, 2008; Umaña-Taylor et al., 2014).

Very limited work has explored discrimination and school racial climate in association with the attachment dimension of race (e.g., sense of shared or mutual fate) among African Americans; what work there is tends to focus on Black immigrants (e.g., Afro-Caribbean immigrants to the US) and their sense of shared fate with African American residents of the US following encounters with race-based, rather than ethnicity- or nationality-based, discrimination (e.g., Case, 2010). Still, Gay, Hochschild, and White (2016) found an association between perceived discrimination and sense of shared fate among Black Americans; this effect was stronger than it was for White or Asian Americans. As such, being confronted with the realities of racism may also lead to increased racial attachment.

Collectively, experiences with racial discrimination and negative school racial climates have been linked to multiple dimensions of racial identity among Black Americans and African Americans (e.g., Case, 2010; Gay et al., 2016; Sellers & Shelton, 2003; Seaton et al., 2009). In some cases (e.g., centrality/importance, shared fate/attachment), discrimination leads to a



strengthening of that dimension. In others (e.g., public regard/evaluation), it leads to a weakening of that dimension. Next, I discuss the outcomes of racial identity.

**Racial identity and youth outcomes.** Multiple researchers have linked the racial identity of Black individuals to psychosocial wellbeing (e.g., Baldwin, 1984, Cross, Parham, & Helms, 1998; Hardeman et al., 2016; Lanier, Sommers, Fletcher, Sutton, & Roberts, 2016), characterizing both direct and indirect links between, essentially, a strong Black identity and positive wellbeing (e.g., Baldwin, 1984). With respect to research on indirect links between racial identity and wellbeing, most research focuses on discrimination as a predictor (Neblett, Shelton, & Sellers, 2004; Sellers et al., 2003; Wong, Eccles, & Sameroff, 2003) or mediator or moderator of the link. Meta-analyses of a direct link have yielded mixed findings, such that some studies find the link between racial identity and self-esteem to be marginally to highly positive (e.g., Allen, Howard, & Grimes, 1997), while others do not find a link between the two (Cross, 1991). Findings from studies assessing the link between racial identity and psychological distress (e.g., internalizing symptoms) are also mixed (Carter, 1991, Sellers, Caldwell, Schmeelk-Cone, & Zimmerman, 2003). When attempting to link stages of racial identity (i.e., through Cross's Nigresence model) to academic (GPA) and outcomes, among Black college students, Lockett and Harrell (2003) found that racial identity only weakly predicted GPA, and that general self-esteem was more important for grades than racial identity status.

Still, when aspects of racial identity are disambiguated, such as by considering centrality, public regard, and private regard independently of one another, mixed findings suggest a nuanced pattern of associations. For example, Sellers, Copeland-Linder, Martin, and Lewis (2006) found that private regard was linked to greater psychosocial wellbeing and lower stress and depression, while public regard and centrality were not directly related to any indicators of

psychological functioning. However, public regard interacted with experiences of discrimination, such that youth who had high public regard were more sensitive to the negative effects of discrimination on depressive symptoms and stress.

Consistent research across racial groups, including Black individuals (see Neblett, Rivas-Drake, & Umaña-Taylor, 2012 for a review), links private regard to psychosocial wellbeing and academic success. Further, positive aspects of racial identity, including public regard and connectedness to racial group, mitigate the risk of exposure to discrimination in relation to academic achievement (Wong et al., 2003) and problem behaviors, among other outcomes (Again, see Neblett et al., 2012 for a review). Sellers and colleagues (2006) found that positive private regard predicted lower depression and stress, and higher global psychological wellbeing, both at the bivariate level and when controlling for other dimensions of racial identity and experiences with discrimination. In a study of natural mentors (Hurd, Sánchez, Zimmerman, & Caldwell, 2012), private regard during twelfth grade was indirectly related to educational attainment level four years post-high school through youth's sense of the importance of school. Public regard and centrality were not related to educational attainment or school importance.

Although Sellers et al. (2006) did not find a link between centrality and psychosocial functioning, Sellers, Chavous, and Cooke (1998) found a direct link between centrality and academic performance, such that youth with stronger identity centrality reported higher GPAs. Further, the links between different racial ideologies and GPA were nonsignificant when racial centrality was low, suggesting that importance of race to sense of self may strengthen the association between race-related experiences and outcomes.

Research exploring the link between public regard and outcomes is mixed. Sellers and colleagues (2006) did not find a link between public regard and psychosocial wellbeing.

Additionally, public regard is linked to worse academic adjustment (Sellers et al., 2006; Thomas et al., 2009) but some also find positive associations such that worse public regard is linked to worse academic outcomes (Chavous et al., 2003). In a study unpacking this link, as well as the role of parenting, McGill, Hughes, Alicea, and Way (2012) found that among Latinx and Black youth, public regard was moderately related to current levels of academic adjustment, but that this association varied by parenting socialization profile. Public regard was related to positive academic adjustment for racially involved parents but not for other parenting types, such that youth with low regard had lower academic adjustment when their parents were racially involved. Parents who reported low involvement had youth who experienced declines in academic adjustment. Overall, there was a main effect of gender on both racial and academic indicators, such that boys had lower academic adjustment than girls and Black youth had lower public regard than Latinx youth. Mickelson (1990) found that youth with lower reported public regard also were less engaged in school, and Chavous and colleagues (2003) suggested that youth with lower public regard have higher concurrent negative academic attitudes, and lower later educational attainment. However, this effect was only present when youth also reported low centrality and private regard; when youth had highly central racial identities and high private regard, academic attitudes were positive and attainment was higher regardless of their sense of public regard (Chavous et al., 2003). It is also possible that having a high sense of academic utility and being more likely to link academic performance to future success may motivate and contribute to positive academic outcomes when public regard is low.

These findings suggest that public regard may be most important in relation to outcomes in the absence of traditionally protective factors such as positive racial affect (i.e., private regard) and academic beliefs. Thus, it is important to consider how multiple dimensions of racial identity

may jointly relate to outcomes. Further, these set of studies suggest that exploring the multidimensionality of identity in multiple domains matters for youth's development, signaling the need for studies that explore various constellations of identity. Next, I present an argument for taking a joint profile approach to racial and academic identities. First, I describe what person-centered approaches to multidimensional racial and/or academic identity content reveal. Then, I build the final model for the current project, including arguing for the importance of considering racial and academic identities jointly and discussing specific indicators that may inform these joint identities, as well as possible outcomes of these joint identities.

### **Identity Profiles**

One way to address multidimensionality and nuance within a construct such as identity is to establish multiple patterns of the construct's dimensions, such as by using a latent profile or class approach. Traditional, variable-centered approaches function under the assumption that populations are, at their core, homogenous with respect to how certain indicators relate to predictors and outcomes (Laursen & Hoff, 2006). Conversely, with a person-centered, latent profile approach, subgroups who share particular attributes are identified; the key assumption of this approach is that populations are heterogeneous and, within different groups, the same variables may relate differently to predictors and outcomes (Laursen & Hoff, 2006). Thus, by characterizing profiles of identity, we are able to identify different groups of a population for whom dimensions of identity represent discrete patterns (i.e., similar within groups and different between groups), and for whom identity relates differently to both predictors and outcomes. (Laursen & Hoff, 2006; Magnusson, 2003).

**A profile approach to academic identity.** Academic identity profile research is limited in quantity—to date, two studies have focused on academic identity using the traditional

methodological understanding of a profile approach (e.g., profiles, classes, and/or clusters); of these, only one focuses on populations of color (Matthews, 2014). However, these studies provide a preliminary look at types of academic identity profiles. Roeser, Strobel, and Quihuis (2002) used academic self-efficacy and academic goal orientation (i.e., prioritizing grades vs. prioritizing learning new things) to characterize academic identity in a predominantly-White sample. They found evidence of three distinct patterns of how different dimensions of academic identity function together and relate to both academic outcomes (i.e., classroom engagement) and psychosocial wellbeing (i.e., externalizing behaviors, internalizing behaviors, global self-esteem). “Mastery-oriented” students prioritized learning over grades and had high self-efficacy; these youth reported greater classroom engagement and better psychosocial functioning. “Ego-oriented” students had moderate self-efficacy and prioritized good grades over learning new concepts; these individuals were engaged in the classroom but reported more classroom withdrawal behaviors than mastery-oriented students. Like the mastery-oriented students, ego-oriented students reported high self-esteem and low sadness, but they also reported more anger than mastery-oriented peers. Finally, “helpless” students had low self-efficacy and were goal-avoidant (i.e., did not prioritize learning or grades). These youth were academically disengaged and reported low social-emotional functioning.

The other academic identity profile study was focused exclusively on boys of color, given arguments that boys may be more at-risk than their female counterparts for academic disidentification (Matthews, 2014; Roderick, 2003). Matthews (2014) identified five profiles of academic identity among African American and Latino boys (i.e., during sixth, eighth, and tenth grades) using identity variables representing dimensions identified by Ashmore et al.’s (2004) collective identity framework (Table 1); two of these profiles were analogous to ones identified

by Roeser and colleagues (2002). “Model” students, similar to the Mastery-oriented students Roeser et al. (2002) identified, were high on all indicators of academic identity. “Calloused Poor” students, similar to the “helpless” students Roeser et al. (2002) identified, were characterized as fully disidentified with school/academics. “Sensitive Poor” students did not value or otherwise see the point of academics, view themselves as particularly competent in school, or have a strong sense of school belonging, but they indicated that school success was linked to how they felt about themselves in terms of pride or satisfaction. “Dispirited Connectors” were effortful and engaged in academics and school communities but viewed themselves as incapable of successfully completing educational tasks, suggesting that they were trying, but had ineffective strategies and were therefore overwhelmed by academics. Finally, “Moderate” students worked hard and did well in school but did not tie their self-worth to their performance or necessarily value academic success. Of all profiles, Black boys were over-represented in the dispirited connector profile; there were no other differences by race/ethnicity.

Taken together, the findings from these studies suggest that there is more nuance to academic identity than just youth who have strong, positive academic identities characterized by high levels of engagement, and youth who have weak or negative academic identities characterized by disidentification with school. Both of these typologies were present in both studies, but the range of profiles were not limited to these all-high and all-low typologies in either study. Further, this work suggests that profiles relate uniquely to various academic outcomes (e.g., performance, attainment) and psychosocial outcomes (e.g., self-esteem, internalizing behavior) compared to work that considers, or even conflates, single dimensions of academic identity in relation to performance. Notably, work that focuses on academic identity among minority youth emphasizes the joint importance of racial identity or race-related

experiences on outcomes (Matthews, 2014; Roderick, 2003). Next, I review racial identity profile research; then, I argue for collectively examining racial-academic identity profiles.

**A profile approach to racial identity.** In contrast to the limited work on academic identity, a number of researchers have characterized profiles of racial identity content among Black adolescents and young adults. For example, Chavous et al. (2003) and Seaton (2009) used Multidimensional Inventory of Black Identity (MIBI; Sellers et al., 1997) identity content indicators of centrality (importance dimension), private regard, and public regard (evaluation dimension) to construct profiles of racial identity. Chavous and colleagues (2003) identified four profiles of racial identity; Seaton (2009) was able to replicate three of these profiles. In both studies, “Buffering/Defensive” youth reported that being Black was important to their identity (high centrality) and that they felt good about being a member of their racial group (high private regard), but that they perceived other groups as viewing Black people in a negative light (low public regard). “Alienated” youth felt that being Black was not important to their identity (low centrality), that they did not feel good about being Black (low private regard), and that they felt other groups viewed Black people negatively (low public regard). “Idealized” youth suggested that their race was important to their identity (high centrality), that they felt good about being Black (high private regard), and that they viewed others as having positive perceptions of Black people (high public regard). Finally, Chavous et al. (2003) also identified a “Low Connectedness/High Affinity” profile, suggesting that adolescents felt good about being Black (high private regard) but that being Black was not central to their own identity (low centrality); further, they believed that others saw Black people in a negative light (low public regard); Seaton (2009) was not able to replicate this specific profile. Critically, in both studies, Alienated youth were more academically and psychosocially at-risk than other subgroups, suggesting that youth

who were low on all indicators had qualitatively different experiences than their counterparts. Chavous et al. (2003) found that Alienated youth were more likely to report negative school attitudes and not enroll in college than their counterparts. In Seaton's study (2009), alienated youth reported lower self-esteem and more depressive symptoms than their counterparts and were more susceptible to the negative effects of experiencing racism.

Other approaches to racial identity profiles use alternate indicators. For example, Banks & Kohn-Woods (2007) included both the identity content measures and the ideology measures from the MIBI; they identified four profiles of racial identity that reflected both identity content and identity-related beliefs among Black college students; profile membership moderated the link between discrimination and depression. Further, Neville and Lilly (2000) identified five clusters of racial identity status using the Racial Identity Attitudes Scale, which assesses racial identity statuses analogous to Cross's Nigrescence model. Their findings suggested that individuals who were further along in racial identity development reported less psychological distress than those who were less far along.

As with academic identity profile research, racial identity profile research suggests that there is greater nuance to racial identity than being all-high or all-low on racial identity indicators. Further, different subgroup patterns of racial identity indicators matter uniquely for predictors, outcomes, and the link between the two. Thus, Black youth in different racial identity subgroups may have qualitatively distinct experiences. Additionally, these person-centered approaches provide clarity to our understanding of how racial identity indicators jointly relate to both psychosocial outcomes and indicators of academic behaviors and suggest that it is important to extend this work. Given empirical research and conceptual arguments for the way that academic identity may be strongly linked to race-related experiences, racial group membership,



and racial identity, it is also possible that including dimensions of both racial and academic identities in person-centered approaches will provide more evidence for how race and academic identities relate to youth's racial and academic experiences and outcomes. I discuss joint approaches to both identities next.

### **A Joint Approach to Multiple Identities**

**Historical and contextual justification.** This project is situated firmly within the context of the United States, meaning that structural racism shapes the experiences of Black youth and other youth of color in a myriad of ways. Multiple reviews (e.g., Harper, 2015; Kohli et al., 2017) have been published on structural racism within the school context alone, identifying subtle ways in which racism informs the daily experiences of school-aged youth of color. In particular, structural racism is normalized and reinforced in school contexts beyond the vestiges of overt racism (e.g., segregation) that linger to this day (such as through districting and “colorblind” voucher systems, Kohli et al., 2017). This translates into increased surveillance and criminalization (e.g., disproportionate rates of disciplinary actions) of Black students (e.g., Love, 2014; Wun, 2015), as well as a de-emphasis and individualization of historic Black experiences, such as systemic racial violence (e.g., Brown & Brown, 2010) – essentially, painting such experiences as a relic of the past. Additionally, though racist stereotypes and ideologies such as framing Black individuals as less intelligent than their White counterparts have been exposed and, to some extent, confronted, Black students still report school-based treatment that reflects such stereotypes (e.g., Allen, 2012; Kohli et al., 2017). As such, the academic identities of Black youth are by default racialized within the US context. Since Black-White academic achievement gaps are not present at the beginning of schooling, but widen rapidly during the school years

(e.g., Valencia, 1997), the impact of racialized school spaces on Black students may have considerable implications for Black academic identity.

A number of researchers have interrogated how race and academics interplay among Black students. Ogbu and Fordham wrote extensively on how identifying with academics and prioritizing academic performance may be antithetical to a Black racial identity (e.g., Fordham & Ogbu, 1986). This viewpoint suggested that Black youth who have strong, positive racial identities would naturally have weak or disengaged academic identities (e.g., profiles low on all academic identity indicators and high on all racial identity indicators save, potentially, public regard). This and related theories have been applied as explanations for educational outcome disparities between Black and White children (e.g., Steele, 1997), with researchers exploring concepts such as “cool pose” of Black male youth. In particular, “cool pose,” characterized by ritualized, unflustered masculinity underscored by skill in code-switching, refers to one of an assortment of strategies for coping with oppression-related stressors, particularly among low-income Black males (Majors & Billson, 1993). This was thought to reaffirm racial pride, increase distance from White oppression, and, critically, involve tempering academic effort and affective attachment (e.g., Allen, 2012). Under this framework, youth may report strong racial centrality, variable public regard and academic self-concept, and low academic importance.

Others take issue with framing the racial and academic identities of Black youth as necessarily at odds and highlight the importance of deconstructing deficit-based narratives of Black education and educational possibilities, particularly among boys (e.g., Harper, 2015; Noguera, 2003), as well re-framing perspectives of academic success as “acting White” (e.g., Datnow & Cooper, 1997). Zirkel and Johnson (2016) published a condemnation on research that problematizes Black racial identity in association with positive outcomes. They reaffirmed that it

is “possible,” even common, for Black people to have strong, positive racial identities even in the overwhelming antiblack and racist US context. Further, Black identity is related to psychosocial wellbeing (e.g., better self-esteem; Seaton et al., 2006; and greater future optimism; Spencer et al., 2003) and academic success (e.g., performance; Byrd & Chavous, 2009; and self-efficacy; Shin, 2011). Aggregating across the research cited in Zirkel and Johnson’s concept paper (2016), evidence suggests that youth may also report strong centrality, private regard, school importance, motivation, and academic self-concept, and weak public regard.

Though there is historical theoretical precedent for considering racial and academic identities to be negatively correlated, there is also a push, supported by empirical research (e.g., Cokley & Chapman, 2008) to reject such beliefs and narratives. Rather, Black identity and academic identity may be positively linked as well; further, there may be nuance to the way that different dimensions of both identities manifest and matter for outcomes. However, there is one point on which all of this research agrees: Regardless of directionality or patterning, racial and academic identities among Black youth are intrinsically interconnected; in none of the above theorizing are they considered to be orthogonal identities. Next, I review literature linking racial and academic identities, as well as individual dimensions thereof.

**Empirical support.** With respect to empirical research considering the academic and psychosocial prognosis of youth of color, a considerable amount argues for the importance of accounting for race and race-based experiences in relation to school-based outcomes. However, while the interplay of racial and academic identities has been considered jointly to varying degrees, under varying theoretical orientations, typically, racial and academic identity are not often both explicitly measured or even considered. Rather, this work ranges from research that acknowledges that race and academic-related experiences (including performance) may be

related, to work that specifically considers (aspects of) both identities jointly in relation to some pattern of other predictors and/or outcomes.

First, some researchers consider how race and school-based experiences, such as school-based racial experiences, jointly influence academic and psychosocial outcomes (e.g., Irby, 2015; Noguera, 2003; Okagaki et al., 2009; Simpson & Erikson, 1983; Whiting, 2009; Zirkel, 2002). Second, some researchers explore how one identity may mediate or moderate the link between race-based discrimination and academic outcomes (e.g., Alfaro et al., 2009; Perreira et al., 2010; Syed, Azmita, & Cooper, 2011). Third, some researchers study how racial identity may mediate the link between school racial and academic climate and individual dimensions of academic identity, such as importance (e.g., Perreira et al., 2010), motivation (e.g., Alfaro et al., 2009), engagement (e.g., Wittrup, Hussain, Albright, Hurd, Varner, & Mattis, 2016) and school belonging (e.g., Benner & Graham, 2007).

Altogether, findings of research that incorporate elements of racial and academic identities, such as that described above, present clear and compelling evidence that it is important to consider racial and academic identities simultaneously in unpacking school-based racial and academic experiences of minority youth. Some researchers have argued for an approach such as this outright: Graham and Anderson (2008) found that 'Blackness' (i.e., racial identity pride) was critical for both the formation of academic identity and academic success, which Whiting (2006) further argued in his Black male scholar identity model. Specifically, Whiting (2006) argued that a positive "racial identity" was critical to the development of a positive scholar identity for Black boys, though he did not clarify what, specifically, comprises a positive racial identity. Additionally, Nasir, McLaughlin, and Jones (2009) argued that academic identity was important in some manifestations of Black racial identity, and unimportant for others.

Notably, several researchers have moved beyond conceptual frameworks such as Whiting's (2006; Whiting, 2009) and systematically studied joint racial and academic identities. However, this work is limited in several ways. First, though work on minority boys is of critical importance (e.g., Dumas & Nelson, 2016; Harper & Davis, 2012; Matthews, Kizzie, Rowley, & Cortina, 2010), particularly in light of minority boys "falling behind" their female and White peers in academic settings, due in part to receiving more criticism and punishment than their counterparts (e.g., Cogburn, Chavous, & Griffin, 2011; Simpson & Erickson, 1983), much of the empirical work that considers the joint manifestation of academic and racial identities in any capacity focuses just on boys (e.g., Burke, 1989; Graham & Anderson, 2008; Irby, 2015; Matthews, 2014; Wright, 2011). Second, though multiple scholars have theorized about the link between race and academics for decades, largely as a way to account for race-based academic disparities (e.g., Ainsworth-Darnell & Downey, 1998; Fordham & Ogbu, 1986; Noguera, 2003; Ogbu, 1984; Ogbu, 2004), much of the work characterizing experiences related to this link is qualitative in nature, largely centered around case studies of under 20 participants (e.g., Roderick, 2003). Finally, a number of researchers (e.g., Rigali-Oiler & Robinson Kurpius, 2013) either do not test identity specifically or just focus on a single dimension of relevant identities. While such work provides evidence for a connection between racial and academic identities, it does not tap into the multidimensionality of these identities; deeper exploration is needed. First, I review how racial and academic identities may correlate and/or co-occur. Then, I discuss predictors of these joint identities; finally, I review outcomes.

Whereas early work contends that racial and academic identities may be antithetical among Black youth (e.g., Fordham & Ogbu, 1986; Majors & Billings, 1993), more recent work suggests that racial identity is supportive of academic identity (e.g., Flores-Gonzalez, 1999). In a

case study of three Black boys, Graham and Anderson (2008) found that ‘Blackness’ was critical for both the formation of academic identity and academic success among Black youth. In particular, Graham and Anderson (2008) rejected Fordham and Ogbu’s (1986) ideas that oppositional identities that resist “selling out” and assimilating to White culture result in Black youth not engaging in academics. Further, qualitative research suggests that Black youth are offended by the idea that being good at school represents “acting White,” and that awareness of racial barriers may increase motivation to succeed. (Sanders, 1998; Bergin & Cooks, 2002). Smalls, White, Chavous, and Sellers (2007) explored racial identity in conjunction to “public oppositional academic identity” (i.e., the level of comfort in identifying with an academic orientation in peer contexts) and found that a sense of shared fate with other minority groups was linked to a higher degree of comfort in being openly academic, while youth who prioritized being American over being African American were less comfortable being openly academic. Additionally, Cokley and Chapman (2008) found that racial identity was positively linked to academic self-concept and devaluing academic success, meaning that youth with a positive racial identity had a stronger sense of academic self-concept, but also did not value academic attainment success. Further, academic self-concept was also negatively linked to out-group orientation (i.e., preferring racial out-group to in-group) and anti-White attitudes.

This multifaceted picture of how different dimensions of racial and academic identities may interrelate further supports explicitly testing patterns of different dimensions of racial and academic identities. We know from existing profile research that neither racial nor academic identities are homogenous (e.g., Matthews, 2014; Chavous et al., 2003); we also know that variable-centered approaches suggest complex associations between individual indicators (Cokley & Chapman, 2008). It is logical to suggest that joint racial-academic identities would

also not be homogenous. It is also logical to suggest that these joint identities, like their individual components, may share predictors, or jointly explain academic and/or psychosocial outcomes. Next, I discuss shared predictors of racial and academic identities.

**Shared predictors of racial and academic identities.** Elements of the school context, including the school racial climate (school-based discrimination, school-based inter-racial relations, and meaningful race-related curricular content) and the school academic climate (e.g., emphasis on performance, emphasis on doing your best) have implications for both racial and academic identities. Graham and Anderson (2008) argued that the co-socialization of racial and academic identities may be critical for the degree to which Black boys are high-achieving. Specifically, this means that when individuals (e.g., teachers) use messages such as “Black kids, especially Black men, should get as much education as possible,” youth may be more likely to have positive racial and academic identities, even in school settings that discourage the expression of racial identity. Other researchers, including Wright (2011) and Perry, Steele, and Hilliard (2003) provide additional evidence that when Black youth are told stories about African Americans pursuing educational equity, youth are more likely to link academic and racial identities, such as reporting high racial pride in conjunction with it being “cool” to do well at school. When teachers explicitly link academic success to race, racial-academic pride may be strengthened (Legette, 2017). However, the way that messages of race are conveyed in the classroom may complicate that relationship: for example, when teachers drew comparisons between differing achievement levels among Black students, students were less interested in maintaining relationships with their same-race counterparts (Legette, 2017).

When students of color view school environments as supportive of their race (e.g., through meaningful assignments), they may be more likely to display positive private and public

racial regard (Rigali-Oiler & Robinson Kurpius, 2013). However, negative school climates also inform elements of racial and academic identity. For example, Hackett, Ponterotto, Zusho, and Jackson (2018) suggested that among high-achieving black middle school boys, motivation to excel was due in part to striving to counter negative stereotypes about Black males.

Collectively, these studies suggest that elements of the school context, such as experiences with discrimination, messages about race and academic aptitude, and perceiving the school context as supportive of racial group are related to both racial and academic identities (e.g., racial-academic pride; Legette, 2017); conceivably, they may inform the development of different racial-academic identity typologies. Additionally, identity typology may matter for how earlier school context informs distal outcomes such as psychological wellbeing and academic persistence. While in Hackett et al.'s (2018) study, racial discrimination fostered academic motivation, it is possible that the relationship between discrimination and identity may differ based by identity typology, such that youth who reflect more racial alienation or academic hopelessness may be more adversely impacted by school-based race-related experiences such as discrimination. Next, I discuss other outcomes of linked racial and academic identities.

**Outcomes of joint racial and academic identities.** Individually, as described above, both variable-centered and person-centered approaches to academic identity and racial identity have linked these individual identities to psychosocial and academic outcomes. To date, research that jointly considers racial and academic identities in relation to outcomes is variable-centered; any additional work that takes a person-centered approach to one identity merely alleges the importance of the other (e.g., Matthews, 2014). Overwhelmingly, the variable-centered research that does exist explores joint identities in relation to academic-specific outcomes. The one exception is a study by Wong, Eccles, and Sameroff (2003), which explored racial and academic



identities in relation to psychological wellbeing, following exposure to discrimination. Within the same model, youth who had a positive racial identity and a positive academic identity (i.e., high self-concept, low disengagement) reported higher resiliency (e.g., lower depressive symptoms, less anger).

With respect to academic outcomes, most research suggests that positive indicators of racial identity (e.g., strong private regard; degree of out-group orientation) and academic identity (e.g., orientation toward school, academic self-concept) are linked to numerous academic-related behaviors, including increased persistence (i.e., greater satisfaction with school, lower likelihood of dropping out; Rigali-Oiler & Robinson Kurpius, 2013) and curiosity (Rigali-Oiler & Robinson Kurpius, 2013; Smalls et al., 2007), and higher GPAs (Cokley & Chapman, 2008). In general, this work argues for the importance and explanatory power of jointly considering both racial and academic identities (Rigali-Oiler & Kurpius, 2013). However, primarily, such work has explicitly drawn a link between “positive” identity and “positive” academic-related outcomes. While the findings of this variable-centered research are valuable, it is possible that such research does not capture the heterogeneity of identity and its implications for youth’s experiences (Laursen & Hoff, 2006); such work could be further ameliorated by examining the variability of identity.

Cokley, McClain, Jones, and Johnson (2011) argued for the importance of considering race-linked academic identities in relation to academic performance outcomes. In particular, they found that while academic self-concept was related to higher GPAs, racial centrality was related to lower GPAs among Black high school students. Cokley et al. (2011) argued that joint-identity approaches may provide additional clarity for how racial and academic identities both inform outcomes. Further, findings by Rigali-Oiler and Robinson Kurpius (2013) suggested that the

degree to which individual identity indicators mattered for academic persistence is varied and may differ by group (e.g., ethnic group). By constructing profiles of joint racial-academic identities, it may be possible to capture more nuance and meaningful information in the association between identity and outcomes than just “strong/positive identity relates to good/positive academic outcomes.”

It is particularly important to note that research constructing individual profiles of racial or academic identity suggests a varied constellation of identity content (e.g., Chavous et al., 2003; Matthews, 2014; Seaton et al., 2009). While the results of work exploring the variable-centered link between joint identity and academic-related outcomes does tend to suggest positive identity equals positive outcomes, identity is not linearly experienced. Research suggests that individuals are not just high on all identity content indicators or low on identity content indicators. For example, high racial centrality is often coupled with high private regard and low public regard (Chavous et al., 2003; Seaton, 2009). While the important work described in this section provides evidence that joint racial-academic identities are linked to both academic (Cokley & Chapman, 2008; Cokley et al., 2011; Rigali-Oiler & Robinson Kurpius, 2013) and psychosocial outcomes (Wong et al., 2003), an important next step is to unpack patterns in the expression of these joint identities in relation to the same outcomes.

Synthesis of all of this work demonstrates the possibility that joint antecedents such as racialized experiences in school may influence both an individual's identity as a member of their race, and as a student. As such, experiences with race-based discrimination in school may have implications for both an individual's racial identity (e.g., public regard is negatively affected) and academic identity (e.g., may be less inclined to view school/academic-ness as central to identity if school is a source of discrimination). Additionally, both racial and academic identity relate to

academic (e.g., GPA, attainment) and psychosocial (e.g., mental health, general wellbeing, self-esteem) outcomes. However, most of the work that explores both identities in relation to outcomes either treats one identity as a moderator or mediator in relation to a predictor (e.g., discrimination; Alfaro et al., 2009; Noguera, 2003; Perreira et al., 2010; Syed et al., 2011) or outcome (e.g., GPA, self-esteem; Alfaro et al., 2009; Benner & Graham, 2007; Perreira et al., 2010; Wittrup et al., 2016), or else takes a variable-centered or qualitative approach to joint identities. While all of this work is important, the next step is to characterize profiles of joint identities in relation to shared predictors and outcomes among both Black boys **and** girls.

### **The Current Study**

There is evidence to suggest that racial and academic identities are both critical, and potentially interrelated, during adolescence. In general, this research suggests that both identities may be affected by experiences with racial and academic climates at school (e.g., experiences with discrimination; school academic norms). Additionally, both identities may relate – directly or indirectly – to academic performance and attainment, as well as psychological wellbeing (e.g., self-esteem). However, this research has not systematically explored the joint content of both identities, including the degree to which they may be jointly shaped by earlier experiences, and jointly relate to later outcomes. In the present study, we had three goals. First, we sought to integrate across two interrelated and important identities (i.e., racial and academic), characterizing patterns of content across both identities at a time when youth typically are becoming aware that identities may be interrelated. Then, to capture the potential effect of school climate, we sought to unpack how school- and race-based experiences (i.e., school academic climate, school racial climate, and meaningful curriculum) during middle school may inform the content of both identities in high school. Given the prevailing focus on Black boys in academic

identity literature, we also considered how profiles varied by gender. Since research on the topic of race and education tends to target lower-SES populations (e.g., Antecol et al., 2016) and the present sample is socioeconomically diverse, we included family SES as a covariate. Finally, in order to parse apart findings on the association between one or both identities and particular indicators of psychological wellbeing (i.e., academic outcomes; psychosocial wellbeing), we sought to understand whether and how these joint identities matter for concurrent performance outcomes and later psychosocial outcomes.

### **Research Questions & Hypotheses**

(1) Profiles: Using a person-centered approach, can we identify nuanced profiles of joint academic and racial identity during middle adolescence (i.e., eleventh grade)?

First, in order to ensure parallel dimensions for each identity, four indicators representing the attachment, importance, and evaluation dimensions of both identities of interest were used (see Table 2). Public and private regard represented the evaluation dimension of racial identity. Additionally, in order to capture the range of possible affective reasons a youth may attend school, intrinsic and extrinsic motivation represented the attachment dimension of academic identity. Other dimensions had one commonly-accepted indicator representing each dimension. For racial identity, importance and attachment were represented by centrality and sense of shared fate, respectively. For academic identity, importance and evaluation were represented by school importance and academic self-concept respectively.

While earlier researchers suggested that “profiles” of academic identity, particularly among racial minorities, may consist of “engaged” versus “disengaged” youth, empirical literature suggests more nuance than that (Matthews, 2014; Roeser et al., 2002; Welch & Hodges, 1997). Further, racial identity profile research generally identifies three to four profiles

of racial identity using multidimensional indicators of racial identity content. Though no empirical work has jointly considered multiple dimensions of these identities simultaneously, I hypothesized multiple profiles of racial-academic identity. However, given the lack of empirical work linking the two, the number and type of profiles to expect was uncertain. However, I hypothesized at least three profiles (one high on all indicators, one low on all indicators, and one representing some other configuration of indicators). That said, drawing from empirical and theoretical work, it was plausible to hypothesize representation of some or all (i.e., 3-8) of the following typologies:

- a. Disidentified: relatively low levels of all identity dimensions. With profile analysis, typically at least one profile is marked by low levels on all constituent dimensions; therefore, it is very likely a “disidentified” profile will emerge.
- b. Fully identified: relatively high levels of all identity dimensions. With profile analysis, typically at least one profile is marked by high levels on all constituent dimensions; therefore, it is very likely a “fully identified” profile will be found.
- c. A profile representing academic identification and positive racial identity, more nuanced than the “fully identified” profile, as described by Zirkel and Johnson (2016): strong centrality, private regard, school importance, motivation, and academic self-concept, and weak public regard (no specific hypotheses for sense of shared racial fate). This multiple-identification profile reflects theoretical and empirical work by Oyserman and colleagues (e.g., Oyserman, Harrison, & Bybee, 2001; Oyserman & Markus, 1990; Oyserman et al., 2007) and may be more likely than profile solutions suggesting identities are at odds.

- d. A profile reflecting Ogbu's academic disidentification hypothesis (Fordham & Ogbu, 1986): strong racial identity (i.e., high on private regard, centrality, and sense of shared fate; potentially low on public regard) and weak academic identity (i.e., low on school importance, academic self-concept, and intrinsic and extrinsic motivation). Given recent research discrediting Ogbu's hypothesis (e.g., Datnow & Cooper, 1997; Zirkel & Johnson, 2016), such a profile may be less likely than those listed above.
- e. A profile reflecting "cool pose" research (Majors & Billings, 1993): strong racial centrality, average public regard and academic self-concept, and low school importance (no specific hypotheses for private regard, sense of shared fate, and intrinsic/extrinsic motivation, based on the theory). As with the profile reflecting Ogbu's hypothesis, this profile may be less likely than others.
- f. Alternate/additional identity configurations may emerge that reflect racial identity profile research (e.g., Chavous et al., 2003) and Matthew's (2014) findings of overrepresentation of Black boys in his "dispirited connectors" profile. Three potential examples include high rates of school importance and motivation, and low academic self-concept, potentially in conjunction with racial identity indicators reflecting (1) Chavous and colleagues' alienated (all racial identity indicators low), (2) buffering/defensive (high centrality and private regard, low public regard), or (3) low connectedness/high affinity profiles (high private regard, low centrality).

(2) Predictors: How do school racial and academic climate in middle school relate to the later racial-academic identities during high school (i.e., 11<sup>th</sup> grade), adjusting for gender and socioeconomic status? How do identity profiles differ by gender?

Research suggests that experiences with past discrimination impact various indicators of racial identity, generally relating to weaker private regard and stronger centrality (Benner et al., 2018; Chae et al., 2017; Sellers et al., 2006; Seaton et al., 2009). Also, research on academic identity suggests that school academic climate may be important for academic identity development (e.g., Benner, 2013; Hwang et al., 2016; Kusiak, 2011). Limited evidence suggests that school-based racial discrimination impacts racial and academic identity (Smalls et al., 2007). Thus, I hypothesized that school climates with higher rates of discrimination or a de-emphasis on race-based education (e.g., connecting lessons to students' heritage), lower emphasis on facilitating learning, and higher rates of teachers focusing primarily on talented students would be associated with more academically disidentified and racially alienated-type profiles.

Research on academic identities in relation to race typically focuses on boys, with the argument that boys struggle more than girls (e.g., Matthews, 2014; Roderick, 2003). Thus, I hypothesized an overrepresentation of boys in any profiles characterized by a strong racial identity but high rates of academic disidentification. Additionally, to account for the potential contribution of family SES, I controlled for this in all predictor analyses.

(3) Outcomes: Academic outcomes: How do joint racial and academic identities relate to concurrent GPA? How might they relate to later college matriculation and/or desire to attend college, if the youth is not currently enrolled?

In general, youth in profiles characterized by a stronger positive racial-academic identity would report a significantly higher concurrent GPA, particularly compared to any profiles characterized by a disidentified-negative racial-academic identity. With respect to educational attainment three years after high school, given the overall lack of research into this area, these

analyses were exploratory. However, controlling for SES, youth who were fully or partially identified might be more likely to have completed more education.

Psychosocial outcomes: How do joint racial and academic identities relate to psychological wellbeing, including self-esteem and perceived positive life outcomes three years post-high school?

Based on research with Black boys (for a review, see Wright, 2009), I hypothesized that profiles characterized by stronger positive racial-academic identity would be related to higher self-esteem, particularly compared to any profiles characterized by racial-academic disidentification. While most existing research examines the links between both racial and academic identity with mental health indicators such as externalizing or internalizing behaviors (Zirkel & Johnson, 2016), some work, particularly in the racial identity domain, focuses on resilience (e.g., Sellers et al., 2003; Sellers et al., 2006). There is an overall lack of research on these identities in relation to perceptions of an individual's ability to avoid discrimination, or to individual chances for positive life outcomes. However, given the protective effects of racial and academic identities for overall wellbeing, exploring these joint identities in relation to such variables may yield important and new information about identity-related experiences. Thus, the final aim of the current study was to explore this association. While this aim was exploratory, we hypothesized that fully-identified youth might experience greater psychosocial wellbeing than disidentified youth; it is possible that other profiles characterized by some degree of racial-academic identification (i.e., not fully identified) would also have better psychosocial wellbeing than fully racial-academically disidentified youth.



## Methods

### Sample

Data for the present study were taken from the Maryland Adolescent Development In Context Study (MADICS). MADICS was a longitudinal study of economically and racially diverse families in Prince Georges County, MD. Data collection (i.e., 6 waves) began in 1991 (i.e., seventh grade) and ended in 2000 (i.e., three years post-high school). In 1991, two-year middle schools ( $N = 23$ ) were sampled in a county that encompassed rural, suburban, and urban areas. Participants included seventh graders, their parents, teachers, and older siblings.

Depending on the wave, data were collected using a combination of face-to-face and telephone interviews as well as self-administered questionnaires. Youth were followed across school changes, and during Wave 3 (i.e., 8<sup>th</sup> grade), 1065 youth from 37 middle schools participated ( $Range_{youth\ per\ school} = 1-61$  [0.1%-5.7%];  $M_{youth\ per\ school} = 29$  [2.7%]); of these youth, 59.2% ( $N = 630$ ) self-identified as Black, 31.4% ( $N = 334$ ) self-identified as White, and 5.0% ( $N = 53$ ) self-identified as mixed-race. The rest identified as Latino ( $N = 15$ ), Asian ( $N = 20$ ), or some other race/ethnicity ( $N = 8$ )

The present sample consists of the 491 self-identified Black participants who were present in both Wave 3 (i.e., 8<sup>th</sup> grade) and Wave 4 (i.e., 11<sup>th</sup> grade) and provided responses to at least one scale of interest at both waves; when available, data from Waves 5 (i.e., one year post-high school;  $N_{participants} = 334$ ), and 6 (i.e., three years post-high school;  $N_{participants} = 328$ ) were also included. Of these youth, 265 (53.9%) were present and provided responses to at least one scale of interest at all four waves. A total of 397 youth (80.9%) participated in at least three waves of interest (i.e., 8<sup>th</sup> grade, 11<sup>th</sup> grade, and one additional wave); 94 youth (19.1%) did not participate beyond 11<sup>th</sup> grade. There are no systematic differences in age or SES by number of

waves in which youth participated. However, boys were more likely to participate in fewer waves (2 or 3 waves) than girls. Each scale described in the measures below was calculated for every youth who responded to at least half of the items on the scale; the total number of participants who have scale information is listed in the descriptives table (Table 3).

The Black youth who participated in MADICS during 8<sup>th</sup> and 11<sup>th</sup> grades were, on average, 13.34 years old ( $SD = .54$ ) during 8<sup>th</sup> grade and 16.99 years old ( $SD = .54$ ) during 11<sup>th</sup> grade. Black youth attended any of 31 middle schools during 8<sup>th</sup> grade ( $Range_{youth\ per\ school} = 1-36$  [0.2%-7.3%];  $M_{youth\ per\ school} = 16$  [3.2%]; six of the total 37 middle schools were attended only by White participants); this is comparable to the total sample population. Of these youth, 51.1% were male ( $N = 251$ ). Additionally, of parents who reported educational attainment level when youth were in 8<sup>th</sup> grade ( $N = 483$ ), 4.8% had less than a high school education; 5.9% of parents reported obtaining a GED; and 80.7% of parents obtained at least a high school diploma. Further, 56.6% of parents ( $N = 278$ ) obtained at least some college education, with 25.8% ( $N = 127$ ) completing a four-year degree and 13.2% ( $N = 65$ ) obtaining an advanced degree. Some parents ( $N = 448$ ) also reported family income before taxes when their youth were in 11<sup>th</sup> grade; income ranged from less than \$5,000 per year to \$199,999 per year ( $M_{annual\ family\ income} = \$50,000-\$54,999$  per year).

Of the youth who participated and provided responses to at least one scale of interest one year after high school ( $N = 388$ ; 79.0% of participants who participated in 8<sup>th</sup> and 11<sup>th</sup> grades), 168 were male (43.3%). On average, youth were 18.71 years old during this wave ( $SD = .61$ ). Of youth who participated during this wave, 69 did not participate three years after high school.

Of the youth who participated three years after high school and provided responses to at least one scale of interest ( $N = 380$ ; 77.3% of participants who participated in both 8<sup>th</sup> and 11<sup>th</sup>

grade), 166 were male (43.7%). On average, youth were 20.91 years old during this wave ( $SD = .66$ ). Of youth who participated during this wave, 63 did not participate one year after high school. In total, 94 youth who participated in 8<sup>th</sup> and 11<sup>th</sup> grades did not participate in any post-high-school wave.

**Attrition Analyses.** Youth who participated at all four waves were compared to youth who did not participate in all four waves. Girls were significantly more likely than boys to participate in all four waves ( $\chi^2(1) = 43.64, p < .001$ ): while the overall sample was 53.7% male, only 99 of the 265 youth who participated at all four waves were male (37.4%). Age did not differ between youth who participated at all four waves and those who did not; youth who participated at all four waves were on average just two months younger than those who did not participate at all four waves. Finally, there was no difference in parents' education level between youth who participated at all four waves and those who did not; on average, both fathers and mothers graduated high school and attended at least one year of college for both groups.

### **Procedure**

During both 8<sup>th</sup> and 11<sup>th</sup> grade, participants were interviewed by project staff in their homes. These in-person interviews lasted for approximately one hour, after which participants completed a self-administered questionnaire. Youth who did not complete the questionnaire in the allotted hour received follow-up telephone interviews. During the waves one and three-years post high school, participants completed either a telephone interview or a mail-in self-administered questionnaire. Data collection method was not available to compare response rates.

### **Measures**

Most scales used in MADICS were based on scales used in other large, longitudinal projects. Recommendations for scale items for all scales except private regard were suggested by

the MADICS team in the MADICS manuals. Scales were developed to represent constructs of interest using both the MADICS scale suggestions and existing theory and research as guidelines. For private regard, theory, research, and recommendations by other researchers using MADICS data (e.g., McDonald et al., 2018) were used to inform item selection. All scales were tested using exploratory and confirmatory factor analysis (EFA and CFA); reliability was also assessed. Reliability is reported in Table 3, as are measure descriptives and the number of participants who responded to each scale. In each measure description, the theoretical/conceptual source of each scale and the MADICS source of the scales and items (when available) are reported.

**Racial identity.** All racial identity indicators (i.e., centrality, public regard, private regard, sense of shared fate) used in the construction of identity profiles were reported during 11<sup>th</sup> grade. Indicators were adapted from the MBI (Sellers et al., 1997); some items were developed by the research team for the MADICS protocol. Project-developed questions tended to be open-ended or drawn from open-ended questions in previous waves.

**Centrality.** Three items adapted from the MIBI were used to assess the importance dimension of racial identity. Sample items included “Being Black is an important part of my self-image.” Participants rated the degree to which they agreed with these items on a 5-point Likert-style scale ranging from 1 (strongly agree) to 5 (strongly disagree); these items were reverse-coded so that higher scores would reflect a higher degree of racial importance. All three items loaded onto one factor and reliability was acceptable.

**Private regard.** Seven items adapted from the MIBI were used to assess private regard, part of the evaluation dimension of racial identity. Sample items included “I feel good about other Black people.” Participants rated the degree to which they agreed with these items on a 5-

point Likert-style scale ranging from 1 (strongly agree) to 5 (strongly disagree); these items were reverse-coded so that higher scores would reflect a higher degree of positive feelings towards participants' own race. All seven items loaded onto one factor and reliability was good.

**Public regard.** Four items adapted from the MIBI were used to assess public regard, part of the evaluation dimension of racial identity. Sample items included "Others respect Black people." Participants rated the degree to which they agreed with these items on a 5-point Likert-style scale ranging from 1 (strongly agree) to 5 (strongly disagree); these items were reverse-coded so that higher scores would reflect that youth perceived others as holding Black individuals in higher regard. All four items loaded onto one factor; however, reliability was poor.

**Shared fate.** Six items, adapted from other, not-specified longitudinal studies, assessed the degree to which youth linked their achievement to the overall prognosis of their racial group (i.e., indicated a sense of shared fate with their racial group). This maps onto the attachment dimension of collective identity. Sample items included "It will help other Blacks if I am successful." Participants rated the degree to which they agreed with these items on a 5-point Likert-style scale ranging from 1 (strongly agree) to 5 (strongly disagree); these items were reverse-coded so that higher scores would reflect a stronger sense of shared fate with other group members. All six items loaded onto one factor and reliability was good.

**Academic identity.** All academic identity indicators (i.e., school importance, academic self-concept, intrinsic motivation, and extrinsic motivation) were reported during 11<sup>th</sup> grade and were drawn from an amalgam of other longitudinal studies, including but not limited to The Michigan Study of Adolescent Life Transitions (Eccles, Midgley, Buchanan, Wigfield, Reuman, & MacIver, 1993), studies by the MacArthur Network on Successful Adolescent Development

(Bandura, Cook, & Eccles), and work by Epstein (1990), Epstein and Dauber (1991), and Oyserman and Markus (1990).

***School importance.*** Five indicators tapping into the importance dimension of academic identity assessed the degree to which youth found education to be central to sense of self and future success. Sample items included “I must do well in school for success in my life.” Participants rated the degree to which they agreed with these items on a 5-point Likert-style scale ranging from 1 (strongly agree) to 5 (strongly disagree); these items were reverse-coded so that higher scores would reflect a stronger sense of the importance of education. All five items loaded onto one factor; reliability was good.

***Academic self-concept.*** Four items tapping into the evaluation domain of academic identity assessed youth’s perception of their own academic abilities in math and other school subjects; ability included both overall ability and ability in relation to other students. Sample items included “How good are you at math?” Participants rated their perceptions of their own abilities on a 7-point Likert-style scale ranging from 1 (not at all good/much worse than other students) to 7 (very good/much better than other students). All four items loaded onto one factor; reliability was good.

***Academic intrinsic motivation.*** Three items tapping into the attachment domain of academic identity assessed youth’s intrinsic (i.e., academic-based) motivation for pursuing education. Sample items included “I go to school because I like what I’m learning.” Participants rated the importance of these motivations for their academic engagement on a 7-point Likert-style scale ranging from 1 (not an important reason) to 7 (a very important reason). All three items loaded onto one factor; reliability was very good.

***Academic extrinsic motivation.*** Three items tapping into the attachment domain of academic identity assessed youth's extrinsic (i.e., not academic-based) motivation for pursuing education. Sample items included "I go to school because I like the sports we do there." Participants rated the importance of these motivations for their educational involvement on a 7-point Likert-style scale ranging from 1 (not an important reason) to 7 (a very important reason). All three items loaded onto one factor; reliability was good.

***Predictors.*** Predictor variables are reported from 8<sup>th</sup> grade. As with academic identity measures, predictor variables (i.e., school learning culture, school ability culture, meaningful curriculum, and school racial climate) were taken from a variety of existing large-scale longitudinal studies. In addition to the sources listed for academic identity, predictor variables may have been taken from the Iowa Youth and Family Study (Conger, Ge, Elder, Lorenz, & Simons, 1994) and the National Study of Children (Allen, Moore, Kuperminc, & Bell, 1998). As with both racial and academic identity indicators, some of these variables were developed specifically for MADICS. Descriptives, reliability, and number of participants who responded to each scale are provided in Table 3.

***School learning culture.*** Four items assessed the degree to which youth perceived teachers and schools as emphasizing learning and doing your best in order to be academically successful. Sample items included "Teachers want students to learn, not memorize." Participants rated their perception of the accuracy of these statements on a 5-point Likert-style scale ranging from 1 (not at all true) to 5 (very, very true). All four items loaded onto one factor; reliability was good.

***School ability culture.*** Five items assessed the degree to which youth perceived teachers as prioritizing "smart" kids who get good grades. Sample items include "Teachers treat students

with good grades better.” Participants rated their perception of the accuracy of these statements on a 5-point Likert-style scale ranging from 1 (not at all true) to 5 (very, very true). All five items loaded onto one factor; reliability was good.

***Meaningful curriculum.*** Ten items assessed the frequency with which youths’ academic curriculum covered relevant topics, such as those related to youth’s culture or everyday life, in multiple areas (i.e., math, science, English, overall). Sample items included “How often do you learn about people and places that are important to you?” Participants rated the frequency with which they found their course content meaningful on a 5-point Likert-style scale ranging from 1 (almost never) to 5 (almost always). All ten items loaded onto one factor; reliability was good.

***School racial climate.*** Six items assessed the frequency with which youth perceived a negative racial climate at the school. Two items were specific to racism/discrimination originating from teachers and four were specific to racism/discrimination originating from other students; all six items loaded best onto a single factor and so the student and teacher subscales were collapsed into one school racial climate scale. Sample items included “At your current school, how often have you heard teachers or other students put down kids in class by using bad words or expressions about their race?” Participants rated the frequency with which they observed such incidents on a 5-point Likert-style scale ranging from 1 (never/almost never) to 5 (every day/almost always). All six items loaded onto a single factor; reliability was good.

***Race-based performance.*** Five items assessed the frequency with which youth perceived teachers as being less supportive of their education due to their race. Sample items included “How often did you feel like teachers called on you less because of your race or ethnicity?”. Participants rated the frequency with which they perceived such behaviors on a 5-point Likert-



style scale ranging from 1 (never) to 5 (every day). All five items loaded onto a single factor; reliability was very good.

**Outcomes.** Outcome variables are reported from one and three years post-high school. The one exception to this was GPA, which was reported during 11<sup>th</sup> grade (i.e., concurrent with profile indicators). As with other measures, outcome variables were taken from a variety of existing large-scale longitudinal studies. In addition to sources listed for identity and predictor variables, a number of measures, particularly those related to college experiences, were developed for MADICS. Scales constructed from variables present both one and three years after high school are identical across waves; descriptives, reliability, and number of participants responding to each scale are provided in Table 3.

**Grade-point average.** Youth reported the total number of each letter grade they received in the first semester of 11<sup>th</sup> grade (e.g., 2 As, 3 Bs, 2 Cs; range of  $N_{total\ reported\ grades} = 1-21$ ). Each letter grade was converted to a 4-point grading scale (i.e., A = 4.0, B = 3.0, C = 2.0, D = 1.0, F = 0.0); the sum of all grade-points was divided by the total number of possible points to calculate each student's total four-point GPA. Due to the nature of the construction of this variable, reliability was not calculated, and factor analyses were not performed.

**Educational attainment.** Educational attainment was three years post-high school. Youth reported the highest grade of schooling they had completed on a 8-point scale, ranging from 1 (less than high school diploma) to 8 (already completed a 4-year college diploma or beyond). Of note, there was a trimodal distribution for this single-variable item: 25.6% of youth who responded to this item had completed high school, 21.6% of youth who responded to this item had completed two years of college to date, and 27.2% had been in college since graduating high

school. Due to the nature of this variable, reliability was not calculated, and factor analyses were not performed.

***Efficacy to combat discrimination.*** Three items assessed participants' sense of their ability to avoid discrimination experiences both one and three years after high school. Sample items included "I can't avoid discrimination when I am at work." Participants reported the degree to which they felt discrimination was unavoidable on a 4-point Likert-style scale ranging from 1 (strongly disagree) to 4 (strongly agree); higher scores reflect **less** perceived ability to avoid discrimination. At each wave, items loaded onto a single factor; reliability was very good.

***Self-esteem.*** Three items assessed participants' self-esteem – in particular, their desires to change facets of themselves. Sample items included "How often do you wish you were different?" Participants reported the degree to which they had negative feelings about themselves on a 5-point Likert-style scale ranging from 1 (almost never) to 5 (almost always); these items were reverse-coded so that higher scores would reflect a more positive self-esteem. At both waves, all three items loaded onto a single factor and reliability ranged from very good to good.

***Belief in chance for positive life outcomes.*** Twelve items assessed participants' beliefs that they would experience overall positive life outcomes. Sample items included "What do you think the chances are that you will have a job that you enjoy doing?" Participants reported how high they felt their chances were to have specific positive outcomes on a 5-point Likert-style scale ranging from 1 (very low) to 5 (very high). During both one and three years after high school, all twelve items loaded onto a single factor; at both times, reliability was excellent.

***Covariates. Socioeconomic status*** taken from parent interviews. Parents reported their annual family income after taxes when youth were in 11<sup>th</sup> grade on a scale of 1 ("Less than

\$5000” to 25 (“More than \$200,000”); no parent reported a family income greater than \$199,999. On average, parents reported an income within the range of \$50,000 and \$59,999.

## Results

### Analytic Plan

See Table 3 for descriptive statistics for all variables, Table 4 for correlations between all variables, and Table 5 for t-tests of gender differences in each variable. Descriptive statistics were conducted in SPSS version 25; research question analyses were all conducted in Mplus version 8.2.

**Research Question 1.** I conducted latent profile analysis (LPA) using all eight indicators of racial and academic identity. LPA is a person-centered approach that classifies individuals into discrete groups that share common trends (Laursen & Hoff, 2006); the implication of such population subgroups is that individuals within any given group share specific attributes that may relate to a specific set of experiences. This approach allows for the heterogeneity of an overall population and does not presume that processes (e.g., identity in relation to predictors and outcomes) operate similarly for all individuals. Rather, processes may differ within different subgroups (Laursen & Hoff, 2006; Magnusson, 2003). It may be helpful to think of LPA classification as defining a latent categorical variable from a number of continuous indicators. Generally, LPA models will successfully converge with appropriate power to detect the correct number of classes when the population sample is larger than 100 (Wurpts & Geiser, 2014) or 250 (Tein, Coxe, & Cham, 2013) and a greater number of high-quality indicators are used (i.e., ten is better than six; Tein et al., 2015). However, LPA can accommodate any number of indicators as long as the overall analysis allows for five observations per parameter (Muthén, 2018).

Because some identity indicators were on different scales (i.e., racial identity indicators and school importance were on 5-point scales, academic self-concept and intrinsic/extrinsic motivation were on 7-point scales), and to facilitate interpretation of findings, scales were

standardized prior to analysis. Thus, standardized within-profile means suggest distance from overall sample mean; “significant” indicators mean that youth within the profile differ significantly from the full sample on that indicator. A maximum likelihood algorithm was used to create these profiles, as described by Loken (2004). Within-profile means and variances were estimated. The final profile solution was selected based on model fit indices, including the entropy value for the profile solution, the Akaike information criterion (AIC), the Bayesian information criterion (BIC) and sample-size adjusted BIC (a-BIC), and the parametric bootstrapped likelihood ratio test (BLRT). Entropy values approaching one indicate a clear delineation of the profiles (i.e., class separation; Celeux & Soromenho, 1996). AIC values indicate asymptotically unbiased estimations of the model’s expected distance from the truth, while a-BIC values are a sample size-adjusted approximation to the log marginal likelihood of a model; smaller values for both indicate greater likelihood of model fit (Posada & Buckley, 2004). Finally, the BLRT uses bootstrapped samples to test  $k$  classes against  $k-1$  classes; significant values suggest that increase in model fit from previous iterations is not due to chance (Henson, Reise, & Kim, 2007). An additional test, the Lo-Mendell-Rubin test (LMRT), also compares improvement in fit from the previous model, but some call the performance of this metric into question; for example, fit values may “bounce around” in significance with increasing models (Jeffries, 2003; Nylund et al., 2007). The best solution is one where the Akaike information criterion (AIC, Akaike, 1974) and sample-size adjusted Bayesian information criterion (a-BIC, Sclove, 1987) minimize, the entropy value maximizes, and the Lo-Mendell-Rubin test (LMRT, Lo, Mendell, & Ruben, 2001) and parametric bootstrapped likelihood ratio test (BLRT; Nylund, Asparouhov, & Muthén, 2007) suggest that additional classes will not improve model fit. Because the BLRT and LMRT tests compare  $k$  classes to  $k -$

$I$  classes, it is important to run  $k + I$  tests. Specifically, if a solution seems to be the “best” model fit (e.g., minimized a-BIC, maximized entropy), a model with one additional profile should be run to confirm that the collective selection criteria indicators suggest the additional profile does not contribute to the model. Monte Carlo simulation tests suggest that fit statistics are sufficiently powered to estimate profiles using eight variables with a sample of 491 (Nylund, 2007). Concerns do arise when the number of cases within a single profile is small (e.g.,  $< 10\%$  of the sample) as it can be more difficult to estimate profile effects with wildly disproportionate profile sizes when using profiles in subsequent models. Additionally, the average latent class probability (i.e., likelihood that participants have been accurately assigned to their final profile) should be in the acceptable range ( $\geq .8$ ; Geiser, 2011).

Profile selection and identification must also be theoretically informed and conceptually meaningful. If a profile does not describe a qualitative characteristic of the subgroup it represents that is distinct from other subgroups, it does not hold meaning and does not contribute to the interpretation of that group’s experiences. In my hypotheses, I articulated three to eight potentially theoretically-informed profiles that I might identify, as well as additional variations that I might find, given existing profile research on individual identities. Thus, per the lower end of my expected range, I planned to test at least four profiles ( $3 + 1$ ). Given that there may be additional profiles of joint racial-academic identity per individual-identity research, I planned to continue testing additional profiles provided that (1) the previous solutions suggest model fit continued to improve, (2) the profiles that were generated were conceptually distinct and offered additional, meaningful and interpretable interpretation about the sample, (3) and there was adequate representation within the sample population (i.e.,  $\geq 10\%$ ). Once a final solution was

selected, I checked for profile distinctness by ensuring each profile differed significantly from the sample on at least one variable each.

**Research Question 2.** To test how 8<sup>th</sup> grade predictors informed 11<sup>th</sup> grade profile membership, I used the current recommended approach for mixture models (e.g., LPA) culminating in testing the association between profiles and continuous distal outcomes while controlling for continuous predictors (i.e., this approach sets up Research Question 3; for a comparison of various approaches and recommendation for the present approach, see Asparouhov & Muthén, 2014). This approach was proposed by Bolck, Croon, and Hagenaars (2004; colloquially referred to as the “BCH approach”; Asparouhov & Muthén, 2014; Bakk & Vermunt, 2016). The manual BCH approach consists of three steps: in the first, profiles are estimated, and participants are assigned to profiles based on their modal posterior probabilities, adjusting for classification error in these assignments when assessing profile-specific distributions. In the second step, auxiliary predictor variables are used to predict membership in the established profiles. This test assesses pairwise differences in profile-specific means using  $\chi^2$  statistics and overall differences using Wald tests. Using this approach enables evaluation of profile-specific differences in all predictor variables; these differences are expressed as pairwise differences between profiles.

Of note, the final step (i.e., outcome analysis) of the BCH approach allows for controlling for covariate predictors; the first steps estimate each predictor independently of all other predictors. Preliminary t-tests for gender differences among study variables, reported in Table 5, suggested that there were gender differences in most predictor variables. This, along with gender differences in profile membership, indicated by the BCH approach to be statistically significant, suggested gender may be impacting profile-level differences in predictor variables (described

below). As such, I also used the R3STEP function in Mplus. This method is recommended for use with covariates in predictor analyses and functions as a multivariate nominal logistic regression of predictors on categorical (i.e., latent profile) outcomes (Asparouhov & Muthén, 2014). Therefore, it allows us to determine the individual contribution of each predictor on profile membership, controlling for all other predictors. It does not provide Wald tests of overall differences in profile means, just pairwise differences between profiles. The findings of both the first step of the manual BCH approach and the R3STEP analysis are reported below and in tables 8 (manual BCH) and 9 (R3STEP).

**Research Question 3.** In order to assess how profiles related to academic and psychosocial outcomes, adjusting for the effect of the predictor variables explored in Research Question 2 (RQ2), I used the final step of the manual-BCH approach, as described by Asparouhov and Muthén (2014). In the final step of this method, BCH weights of predictors of profile membership from RQ2 and profile membership were saved and used as a weighted multiple group analysis. These BCH weights were used as training data for profile membership in regressing profiles on outcomes of interest. As with the BCH approach for predictor variables, the test assesses overall differences in profile-based means of dependent variables  $\chi^2$  statistics and pairwise differences using Wald tests, controlling for predictors. Thus, we controlled for gender, family SES, and middle school context when estimating the effect of profiles on outcomes. With this approach, we are able to report when outcomes varied by profile membership as well as instances where outcomes varied significantly by a predictor variable.

**Handling missing data.** In order to account for missing data, I followed steps outlined by Muthén (2012; Graham, 2003) in the Mplus user forums to handle missing data in latent profile analysis (LPA) and latent class analysis (LCA). Full information maximum likelihood



(FIML) was used for the overall models. This approach uses all available information to estimate the final model and is state-of-the-art in handling missing data (e.g., robust even when missing rate is high; Allison, 2012; Graham, 2003; Muthén, 2012). Additionally, given that the first two waves have the same sample size, FIML accommodates for post-high school attrition similarly to, but more efficiently than, multiple imputation (Allison, 2012).

**Power.** Latent profile analyses using eight or more variables reported by roughly 500 participants yields sufficient power to identify the best profile solution and adequately assign participants to the appropriate profile (Gudicha, Schmittmann, & Vermunt, 2017; Tein, Coxe, & Cham, 2014; Wurpts & Geiser, 2014). Further, simulation studies suggest that roughly 500 participants are sufficient for estimating predictor and outcome effects using the BCH approach provided the profile entropy fit is .6 or higher (Asparouhov & Muthén, 2014). In addition to effect size and sample size when estimating power for latent profiles in relation to other indicators (covariates, predictors, outcomes), it is important to account for class separation: if class separation is low (i.e., entropy is low) then larger samples or effect sizes need to be used to achieve statistical power (Gudicha et al., 2017). In general, power is higher when more indicators are used to identify profiles; when class separation is high; and when fewer profiles are identified. Still, based on sample size, number of profiles identified, class separation, and effect size; the power of Wald tests to detect pairwise differences between profiles on the indicators of interest may range from .23 to 1 in a sample of 500 (Gudicha et al., 2017). Gudicha, Tekle, and Vermunt (2016) suggested that in order to achieve power of .95 in determining Wald differences between four classes equivalent in size when using six indicators, the sample must have a size of at least  $N= 130$ . When class sizes are unequal, the required sample size increases; when number of profile indicators increases, the required sample size decreases. Given our sample of 491

participants, even when profiles are uneven in size, existing research suggests that the study is well-powered to detect profile differences (Tein et al., 2013), select the correct number of profiles (Wurpts & Geiser, 2014), and calculate the relationship between auxiliary variables (predictors and outcomes) and profiles (Gudicha et al., 2016; Gudicha et al., 2017).

### **Research Question One**

Profile model information is provided for solutions from one to nine profiles in Table 6. The BLRT did not minimize at any point in these solutions. However, the AIC, BIC, and a-BIC either minimized or decreased significantly in improvement (i.e., went from decreasing by 100+ points to decreasing by <15-24 points) at the four-profile solution. The LMR suggested that the three-profile solution had better fit than a four-profile solution; the BLRT and model fit information suggested that the four-profile solution had better fit than a three-profile solution. The entropy value for the four-profile solution was .76, which is considered appropriate for that sample size and number of indicators. Additionally, all average class probabilities ranged from .80-.90 and therefore all fell within the accepted range. At the five-profile solution, the smallest profile consisted of 3.3% of the sample which was below our cutoff of all profiles being represented by at least 10% of the sample population. Thus, the four-profile solution, which yielded four conceptually-meaningful and theoretically-informed profiles, was selected. See Figure 2 for a visual representation of the final profile solution.

Gender differences in profile membership for the four-profile solution were tested using the KNOWNCLASS function in Mplus with within-profile means and variances constrained to be consistent across gender. This test allowed for multigroup differences (i.e., with individuals in “known” existing classes such as gender) in profile membership to be estimated and the relative proportion of male and female participants within each profile to be calculated.

Four profiles of joint racial-academic identity were identified. See Table 7 for full details on this solution, including standardized profile means (i.e., distance from sample mean) and raw profile means on identity indicators, as well as gender distribution within profiles. The largest profile, with 50.3% of the total sample (N = 241), was labeled *Fully Identified*. Youth in this profile were significantly higher than the sample average on both racial and academic identity indicators, including centrality, private regard, sense of shared fate, school importance, academic self-concept, and intrinsic motivation; raw scores suggested that they “agreed” with each of these identity indicators. While Fully Identified youth were slightly higher than average on public regard or extrinsic motivation, these indicators were not statistically significant; raw means more closely reflected ambivalence. Girls (N = 129; 53.5% of profile) were slightly more likely to be Fully Identified than boys (N = 112; 46.5% of profile).

The second-largest profile (N = 108; 22.5% of sample) was labeled *Education-Focused/Racially Distant*. In general, youth belonging to this profile reported lower-than-average racial identity and higher-than-average academic identity, suggesting that they were racially disidentified and academically identified. Specifically, youth in this profile were significantly lower than the sample average on centrality, private regard, and sense of shared fate, with raw means suggesting ambivalence; they were significantly higher than the rest of the sample on school importance and intrinsic motivation. While they were slightly higher than the sample on public regard and academic self-concept, and slightly lower than the sample on extrinsic motivation, these indicators did not differ significantly from the sample mean. Girls (N = 60; 55.6% of profile) were more likely than boys (N = 48; 44.4% of profile) to be Education Focused/Racially Distant.

The third-largest profile (N = 79; 16.5% of sample) was labeled *Academically Disengaged*. These youth were significantly lower than the sample mean on school importance, academic self-concept, and intrinsic motivation; raw means fell at or below the threshold for ambivalence on all indicators. These youth most strongly rejected intrinsic motivation. While these youth were somewhat above average on centrality and somewhat below average on extrinsic motivation and all other racial identity indicators, they did not differ significantly from other profiles on any of these indicators; raw means suggested overall racial ambivalence with a slight endorsement of private regard. Boys (N = 50; 63.3% of profile) were more likely than girls (N = 29, 36.7% of profile) to be Academically Disengaged.

The smallest profile (N = 51; 10.6% of sample) was labeled *Alienated/Ambivalent*. These youth were significantly lower than the sample average on both racial and academic identity indicators, including centrality, private regard, sense of shared fate, school importance, academic self-concept, and intrinsic motivation. While Alienated/Ambivalent youth were slightly lower than average on public regard and higher than average on extrinsic motivation, these indicators did not differ significantly from the sample mean. Raw means suggested overall ambivalence (i.e., reporting “neither agree nor disagree”) on each identity indicator. Boys (N = 35; 68.6% of profile) were more likely than girls (N = 16, 31.4% of profile) to be Alienated/Ambivalent.

### **Research Question Two**

Within-profile means and standard errors for each predictor are listed in Table 8. Overall  $\chi^2$  Wald tests of significance are also reported. Each individual indicator differed significantly between profiles, suggesting that gender and middle school climate all meaningfully contributed to joint racial-academic identity profiles. Overall, Alienated/Ambivalent youth reported the most negative middle school racial climate, the strongest links between academic performance and

race, the lowest learning culture, and the highest ability culture in middle school. Conversely, Education-Focused/Racially Distant youth reported the least negative middle school racial climate, the weakest links between academic performance and race, the strongest learning culture, and the weakest ability culture. Academically Disengaged youth reported the lowest meaningful curriculum, whereas Fully Identified youth reported the highest meaningful curriculum.

Pairwise differences of individual indicators between profiles using the BCH approach are reported in Table 8. Results from R3STEP analysis are reported in Table 9. As indicated earlier, the BCH approach represents pairwise  $\chi^2$  differences between profiles on each variable independently, and the R3STEP approach represents pairwise logit differences between profiles on every predictor *controlling for all other predictors*.

Using the BCH approach, every single indicator differed significantly from at least two other profiles; Wald tests also suggested global significant differences in each indicator across all profiles. Using the R3STEP approach, there were pairwise differences between at least two profiles on all indicators except middle school racial climate and middle school learning culture. Significant pairwise findings from the R3STEP model are reported below.

Overall, though middle school racial climate differed significantly between profiles,  $\chi^2(3) = 23.98, p < .001$ ; pairwise differences were not found when controlling for gender, SES, and other middle school climate variables, suggesting that gender differences and other elements of middle school climate may account for this finding. The same is true of school learning culture; it differed significantly overall,  $\chi^2(3) = 15.62, p = .001$ , but there were no pairwise differences in the logistic regression.

Youth gender predicted profile membership and differed significantly between profiles,  $\chi^2(3) = 16.30, p = .001$ . In particular, controlling for middle school context, boys were significantly more likely to be Alienated/Ambivalent than Fully Identified ( $p < .05$ ) or Education-Focused/Racially Distant ( $p < .05$ ). Boys were also significantly more likely to be Academically Disengaged than Fully Identified ( $p < .05$ ). Gender differences between Academically Disengaged youth and Education-Focused/Racially Distant youth ( $p = .08$ ) were present but marginal; boys were somewhat more likely to be Academically Disengaged than Education-Focused/Racially Distant.

Middle school race-based performance predicted profile membership and differed significantly between profiles,  $\chi^2(3) = 47.43, p < .001$ . Controlling for gender and other middle school context variables, Alienated/Ambivalent youth ( $M = 2.47, SE = .16$ ) were more likely to report that teachers were less supportive due to their race than Fully Identified ( $M = 1.50, SE = .05; p < .01$ ) or Education-Focused/Racially Distant ( $M = 1.42, SE = .09; p < .01$ ) youth. Academically Disengaged youth ( $M = 2.07, SE = .14$ ) were also more likely to report that teachers were somewhat less supportive due to their race than Education-Focused/Racially Distant ( $p = .09$ ) youth. There were no significant differences between Education-Focused/Racially Distant or Fully Identified youth, between Academically Disengaged and Fully Identified youth, or between Academically Disengaged and Alienated/Ambivalent youth on race-based performance.

Middle school ability culture predicted profile membership and differed significantly between profiles,  $\chi^2(3) = 24.99, p < .001$ . While Alienated/Ambivalent youth ( $M = 2.98, SE = .14$ ) did not differ significantly from any other profile on their middle school's ability culture when controlling for gender and other middle school context variables, Education-

Focused/Racially Distant youth ( $M = 2.20, SE = .09$ ) reported significantly lower levels of teachers showing preferences to students who got good grades than both Fully Identified ( $M = 2.52, SE = .06; p < .01$ ) and Academically Disengaged ( $M = 2.85, SE = .13; p < .05$ ) youth. There were no significant differences between Fully Identified or Academically Disengaged youth on school ability culture.

Middle school meaningful curriculum predicted profile membership and differed significantly between profiles,  $\chi^2(3) = 11.22, p = .01$ . Controlling for gender, SES, and other middle school context variables, Academically Disengaged youth ( $M = 2.86, SE = .10$ ) reported a somewhat less meaningful curriculum than Alienated/Ambivalent youth ( $M = 3.08, SE = .09; p = .09$ ) and a significantly less meaningful curriculum than Fully Identified ( $M = 3.24, SE = .05; p < .05$ ) youth; they did not differ from Education-Focused/Racially Distant youth ( $M = 3.22, SE = .09; p = .08$ ). Alienated/Ambivalent, Education-Focused/Racially-Distant, and Fully Identified youth did not differ significantly on meaningful curriculum.

Finally, family SES predicted profile membership and differed significantly between profiles,  $\chi^2(3) = 8.82, p < .05$ . Controlling for gender and middle school context, however, there were no significant pairwise differences between profiles on the basis of family socioeconomic status. That said, Alienated/Ambivalent youth came from families with somewhat of a lower income ( $M = 10.33, SE = .82$ ) than Fully Identified ( $M = 12.73, SE = .43, p = .06$ ) youth. Education-Focused/Racially Distant youth also came from somewhat lower-income families ( $M = 10.89, SE = .81, p = .07$ ) than Fully Identified youth.

### **Research Question Three**

Results of overall Wald tests of profile differences in outcome variables, as well as pairwise tests of differences between profiles, are presented in Table 10. Within-profile means

and standard errors for each variable are included; profiles that do **not** differ significantly on a particular indicator share subscripts.

**Grades (11<sup>th</sup> grade).** Overall, 11<sup>th</sup> grade GPA differed significantly by profile,  $\chi^2(3) = 32.25, p < .001$ . Fully Identified youth ( $M = 2.90, SE = .06$ ) and Education-Focused/Racially Distant youth ( $M = 2.76, SE = .11$ ) both had, on average, significantly higher GPAs than Academically Disengaged youth ( $M = 2.42, SE = .11$ ) and Alienated/Ambivalent youth ( $M = 2.18, SE = .13$ ); Fully Identified youth did not significantly differ from Education-Focused/Racially Distant youth and Academically Disengaged youth did not differ significantly from Alienated/Ambivalent youth. Also, GPA differed by gender, with girls reporting higher grades than boys ( $B = .20, SE = .07, p = .004$ ). GPA also differed by family SES, with youth from higher-income families reporting higher GPAs than youth from lower-income families ( $B = .02, SE = .006, p = .02$ ).

**Educational attainment (3 years post-high school).** Overall, educational attainment three years after high school differed significantly by profile,  $\chi^2(3) = 11.30, p = .01$ . Fully Identified youth ( $M = 4.76, SE = .21$ ) reported significantly higher educational attainment three years after high school than Alienated/Ambivalent ( $M = 3.38, SE = .5$ ) and Academically Disengaged ( $M = 3.78, SE = .41$ ) youth. However, Education-Focused/Racially Distant ( $M = 4.19, SE = .36$ ) youth did not significantly differ from any other profile on educational attainment. Education attainment also varied by family socioeconomic status, with youth from more affluent families procuring more education than their lower-income counterparts ( $B = .14, SE = .02, p < .001$ ).

**Efficacy to combat discrimination. One year post-high school.** Overall, youth across different profiles did not differ on their self-reported efficacy to combat discrimination one year after high school,  $\chi^2(3) = 4.14, p = .25$ . However, Academically Disengaged youth viewed



themselves as less able to avoid discrimination ( $M = 2.71, SE = .14$ ) than Fully Identified ( $M = 2.39, SE = .09$ ) youth. Also, efficacy to combat discrimination varied by middle school ability culture ( $B = -.15, SE = .06, p = .009$ ) and family SES ( $B = .03, SE = .008, p = .001$ ).

*Three years post-high school.* Youth across different profiles did not differ on self-reported efficacy to combat discrimination three years post-high school,  $\chi^2(3) = 4.69, p = .19$ . However, Academically Disengaged youth ( $M = 2.95, SE = .14$ ) viewed themselves as less able to avoid discrimination than Alienated/Ambivalent youth ( $M = 2.43, SE = .21$ ). Other profiles did not differ significantly on efficacy to combat discrimination. However, efficacy to combat discrimination differed significantly by gender, with boys viewing themselves as less able to combat discrimination than girls ( $B = -.22, SE = .09, p = .01$ ).

*Self-esteem. One year post-high school.* Self-esteem did not differ by profile,  $\chi^2(3) = 0.64, p = .89$ . There were no pairwise differences of self-esteem between any two profiles. However, self-esteem differed significantly by family SES, with youth from higher-income families reporting greater self-esteem ( $B = .04, SE = .01, p = .001$ ) and marginally by gender, with boys reporting higher self-esteem than girls ( $B = -.23, SE = .14, p = .10$ ).

*Three years post-high school.* Self-esteem differed by profile,  $\chi^2(3) = 9.53, p = .02$ . Alienated/Ambivalent youth had significantly worse self-esteem ( $M = 3.43, SE = .24$ ) than both Fully Identified ( $M = 4.09, SE = .11$ ) and Academically Disengaged ( $M = 4.25, SE = .20$ ) youth. Education-Focused/Racially Distant youth ( $M = 3.87, SE = .17$ ) did not differ significantly from any other profile. Additionally, middle school ability culture was marginally related to self-esteem such that when youth attended schools where teachers placed a greater emphasis on grades, their self-esteem three years after high school was lower ( $B = -.16, SE = .09, p = .06$ ).

*Belief in chance for positive life outcomes. One year post-high school.* Overall, youth's belief in their chance for a positive life outcome one year after high school differed significantly by profile,  $\chi^2(3) = 14.97, p = .002$ . Both Fully Identified ( $M = 4.26, SE = .08$ ) and Education-Focused/Racially Distant ( $M = 4.23, SE = .14$ ) had significantly more positive beliefs in their chance for positive life outcomes than Alienated/Ambivalent youth ( $M = 3.58, SE = .20$ ). Additionally, Fully Identified youth's belief in their chances of positive life outcomes was significantly better than those of Academically Disengaged youth ( $M = 3.92, SE = .15$ ). Middle school meaningful curriculum was associated with belief in chance for positive life outcomes one year after high school, such that the more meaningful the curriculum, the greater the chances youth saw for positive life outcomes ( $B = .16, SE = .06, p = .009$ ).

*Three years post-high school.* Youth's belief in their chance for positive life outcomes three years after high school also differed significantly by profile,  $\chi^2(3) = 11.39, p = .009$ . Specifically, Fully Identified youth ( $M = 4.47, SE = .08$ ) had significantly more positive beliefs in their chance for positive life outcomes than Alienated/Ambivalent youth ( $M = 3.97, SE = .18$ ). There were no other significant differences in chance for positive life outcomes between profiles at this wave. However, multiple predictors were associated with youth's beliefs in their chance for positive life outcomes. Middle school racial climate ( $B = .19, SE = .06, p = .003$ ) was significantly related to chance for positive life outcomes, as was middle school race-based performance ( $B = -.14, SE = .07, p = .04$ ). Both middle school learning culture ( $B = .14, SE = .07, p = .054$ ) and family SES ( $B = .02, SE = .01, p = .052$ ) were marginally related to chance for positive life outcomes.

## Discussion

In the present study, we sought to characterize profiles of joint racial-academic identity among Black eleventh graders. Then, using a statistical approach (i.e., BCH; Asparouhov & Muthén, 2014) that allows for the association between predictors and profile membership to be assessed and incorporated into tests of the association between profile membership and distal outcomes (i.e., controlling for covariates and predictor variables), we assessed how middle school racial and academic climate predicted profile membership, and explored how profile membership related to academic and psychosocial outcomes during eleventh grade and at one and three years after high school. Overall, we found evidence of four conceptually-meaningful and statistically-distinct profiles of joint racial-academic identity. Gender distribution varied significantly within profiles, such that girls had greater representation in profiles characterized by greater insertion into academic identity, and boys had greater representation characterized by less of an emphasis on academic identity. Profiles also differed significantly by various elements of middle school climate, particularly with respect to perceiving teachers as treating students differentially on the basis of race or academic aptitude (race-based performance and ability culture, respectively); curricular meaningfulness and family SES also contributed to profile membership. Finally, profile membership mattered for some distal outcomes. Discrimination efficacy and some measures of self-esteem did not vary by profile membership, but academic outcomes (i.e., GPA, attainment) and youth's sense of their chances for positive life outcomes varied significantly by profile membership.

### Joint Racial-Academic Identity Profiles

We hypothesized that we would identify at least three to five conceptually-meaningful and statistically-distinct profiles of joint racial-academic identity among Black 11<sup>th</sup> graders.

Within the present sample, the best solution was a four-profile solution. This solution represented a variety of multidimensional patterns of joint identities; a number of the potential profiles that we hypothesized we might find were present within this solution. Of our hypothesized potential profiles, only one was truly not represented by our findings. Specifically, we hypothesized that we may find a profile that reflected “cool pose” as described by Majors and Billings (1993); none of our final profiles were characterized by high centrality, average public regard and academic self-concept, and low school importance. We did, however, find partial or complete support of the remaining hypothesized profiles.

In particular, we hypothesized that we might find an “all-high” fully identified profile and/or alternately a slightly modified “fully identified” profile with weak public regard, in line with Zirkel and Johnson’s (2016) work. We found evidence of such a profile. Our Fully Identified profile was comparatively higher than sample average on all identity indicators, though they were not significantly higher on public regard or external motivation. For all of these indicators, raw means suggested they “agreed” on all academic identity indicators, and most racial identity indicators; they were ambivalent on racial public regard. This suggests that both their racial and academic identities were meaningful to them upon multiple axes of content.

Collectively, this pattern of identity content reflects elements of Matthew’s (2014) Model Students profile, a group of highly-engaged boys of color who were highly connected to their schools and academic selves. It also reflects elements of both the Idealized youth and the Buffering/Defensive Youth identified in Seaton’s (2009) and Chavous et al.’s (2003) work – Black youth who were high on centrality and private regard (Idealized youth were high on public regard as well; Buffering/Defensive youth were low on public regard). The Fully Identified profile in the current study also supports Oyserman’s oeuvre of work on possible selves (e.g.,

Oyserman et al., 2004; Oyserman, Bybee, & Terry, 2006), which suggests that among youth of color, being able to view oneself simultaneously both as a member of one's racial-ethnic group and as doing well at school may relate jointly to improvements in academic performance and reductions in mental health concerns such as depressive symptomatology. Specifically, Fully Identified youth were able to identify with both academic and racial identities simultaneously; later in this discussion, we review how these youth also frequently had the most positive academic and psychosocial outcomes.

Additionally, this was the largest profile in the sample. The fact that over half of the youth in the present study could be characterized as Fully Identified may signal positive adaptation and positive youth development in a way that contradicts contemporary discourse about Black youth. Specifically, though a number of researchers have argued that deficit-based narratives of Black education fail to encompass the realities of Black academic identification and academic experiences (e.g., Harper, 2015; Noguera, 2003; Zirkel & Johnson, 2016), at the time of data collection the prevailing narrative was that racially-identified Black youth largely reject academic success and identification (Fordham, 1994; Fordham & Ogbu, 1986; Majors & Billings, 1993). This profile therefore counter narratives of academic identity being codified as a "White" attribute and instead suggests that Black youth may be more likely than not to identify simultaneously and positively with both academic and racial identities.

We hypothesized that we may find an "all-negative," or overall disengaged, profile. Our Alienated/Ambivalent profile was the smallest of the sample and consisted of youth who were significantly lower than the sample mean on most racial and academic identity indicators (i.e., they were at sample mean on public regard and slightly above it on extrinsic motivation; neither indicator was statistically significant). Further exploration of raw means of indicators within this

profile suggested that, though these youth were comparatively highly racially-academically disidentified, they felt largely ambivalent about both their racial and academic identities. In general, they were not sure about the importance of their schooling or their race to their sense of selves, and so on. This profile most closely aligns with the Alienated racial profile identified by both Seaton (2009) and Chavous et al. (2003), which consisted of low centrality, private regard, and public regard, and the Sensitive Poor academic profile identified by Matthews (2014), who were somewhat low on most academic identity indicators but were high enough on some indicators that they were not totally disengaged. Later in the discussion, we review how these youth frequently had the most adverse middle school experiences as well as the least positive academic and psychosocial outcomes, suggesting that these youth may be most sensitive to their middle school environment, and potentially least protected from that environment by identity when it came to later outcomes. Thus, these youth may be at greatest risk for maladjustment, of all profiles in the current sample. However, consistent with research on identity-related interventions, these youth might also benefit the most from brief, high-impact identity interventions (e.g., Cook et al., 2012; Cohen et al., 2009).

We further hypothesized that we might find some limited evidence of Ogbu's academic disidentification hypothesis (e.g., Fordham & Ogbu, 1986). This hypothesis suggests strong racial identity and weak academic identity. We found evidence of the inverse of this hypothesis with our Education-Focused/Racially Distant profile. Education-Focused/Racially Distant youth were the second largest profile within our sample; they were strongly aligned with academics (specifically school importance and intrinsic motivation) and racially disidentified. In particular, raw mean scores suggested that they were ambivalent about their racial identity centrality, public regard, and shared fate; while they overall did report some agreement with private regard, it was

still comparatively lower than most other profiles in the sample. Thus, this profile could be best characterized as racially ambivalent and academically engaged, particularly with respect to school importance and intrinsic motivation. This trend suggests that Education-Focused/Racially Distant youth viewed education and schooling as important as a means to get ahead in life and that they might be “getting more” from their academic achievements than their racial group membership. Therefore, among this group, which had greater representation of female than male students, academic success was not linked with Blackness. In addition to aligning with the Alienated racial identity profile identified by Seaton (2009) and Chavous et al. (2003), this profile also reflects Matthews’ (2014) Moderate Students and Dispirited Connectors profiles, which collectively reflect high intrinsic value and motivation, and low-to-moderate endorsement of other aspects of academic identity.

Research suggests an achievement and identity gap between Black boys and girls, such that girls are more likely to be academically identified (e.g., Chavous et al., 2008; Saunders, Davis, Williams, & Williams, 2004) and experience better academic outcomes (e.g., Altschul et al., 2006; Chavous et al., 2008). This may account, in part, for the overrepresentation of girls in the Education-Focused/Racially Distant profile. While Fordham and Ogbu (1986) wrote at length about their academic disidentification hypothesis, suggesting that racial and academic identities are necessarily at odds, Fordham’s later work (e.g., Fordham, 1994) interrogated alternate perspectives on the hypothesis. Specifically, when focusing on Black girls’ academic engagement, Fordham (1994) described a typology highly similar to that represented by the Education-Focused/Racially Distant profile. Fordham (1994) proposed that academically-oriented Black girls may deliberately disassociate from race as a tool to pursue academic success, given that she and Ogbu (e.g., Fordham & Ogbu, 1986) viewed academic ideals as

Euro/White-centric. Thus, per Fordham and Ogbu's theorizing, Education-Focused/Racially Distant youth may be "othering" themselves on the basis of race as they focus on academics.

Finally, we identified a profile that we labeled Academically Disengaged. This profile was less represented in our original hypotheses but did reflect a complex pattern of identity content. In particular, this profile was most strikingly low on intrinsic motivation; while other profiles reflected ambivalence or agreement that they were intrinsically academically motivated, youth in this profile tended to explicitly indicate their disagreement that they were intrinsically academically motivated. While other academic identity indicators were low compared to the sample, they reflected a pattern of academic ambivalence. With respect to racial identity, these youth were slightly higher than the sample mean on centrality and slightly lower on other racial identity indicators; these effects did not differ significantly from the overall sample. Thus, it seems that these youth do not feel good about school, similar to both the Sensitive Poor and Calloused Poor profiles Matthews (2014) identified. Their racial identity is most closely aligned to the Undifferentiated profile identified by Chavous and colleagues (2003) and replicated by Seaton (2009). While this profile may also provide limited support for Fordham and Ogbu's (1986) theory of academic disidentification, the youth in this profile were not strongly identified with race enough for this profile to be considered a full justification of the hypothesis.

Collectively, there was less differentiation between profiles on the basis of public regard and extrinsic motivation. This is most likely because these are extra-individual factors, reflecting external valence in reference to the self, while the remaining identity indicators reflected an internal valence. Additionally, mean public regard within the overall sample – and therefore within each profile – suggested ambivalence with respect to how these youth perceived others as viewing Black people. In general, researchers find that public regard decreases from early to



mid-adolescence among racial/ethnic minority youth, particularly after exposure to discrimination (e.g., Altschul, Oyserman, & Bybee, 2006; Seaton, 2009). Hughes, Way, and Rivas-Drake (2011) found that, among Black teens, public regard decreases consistently across middle school and into high school, though there is a lot of variability in the rate at which it decreases. Thus, research generally suggests that by high school, Black youth may be more aware of the negative perceptions that others hold for them, though some may still be “unsure” about whether other groups view Black people favorably. In the present sample, youth were overall ambivalent on this front, and it did not vary between profiles. Thus, developmentally they may be midway through transitioning from a positive sense of public regard to a negative one.

### **Middle School Context Predictors**

**Gender.** We hypothesized that that boys would be more likely to belong to profiles characterized by academic disidentification and/or racial identification. Our findings were largely consistent with these hypotheses. Specifically, girls had stronger representation in profiles that reflected academic identification (Fully Identified, Education-Focused/Racially Disengaged) while boys had stronger representation in profiles that reflected academic disidentification (Alienated/Ambivalent, Academically Disengaged), suggesting that girls may be more academically oriented than boys in this sample. This is at least somewhat in line with broader literature, which suggests that Black girls may be at least slightly more academically oriented and/or successful than their male counterparts (e.g., Altschul et al., 2006; Chavous et al, 2008; Cokely, 2001; Saunders et al., 2004). Our hypothesis that boys would be more strongly represented in profiles characterized by stronger racial identification and weaker academic identification was not supported; we found no such profile. Girls were more likely to be Fully Identified; no profile reflected exclusive racial identification. However, the Academically

Disengaged, while not racially identified, came closest to exclusive racial identification; consistent with tentative hypotheses, this profile was more strongly represented by boys.

As indicated above, research conducted at the same time as data collection for the present study suggested that academically-oriented Black girls may be particularly likely to distance themselves from racial identity in order to be taken seriously as a student (e.g., Fordham, 1994; Fordham, 1996; Henry, 1998). Thus, the overrepresentation of female participants in the Education-Focused/Racially Distant profile may reflect such trends. More recent research (e.g., Hovart & Lewis, 2003) explored Black female students' tendency to manage academic success (i.e., hiding or downplaying success among some peer groups while emphasizing it among others) and found that academically-oriented Black girls also tended to have strong racial identities, to the extent of inextricably linking these two identities with frequently-expressed goals of attending Historically Black Colleges and Universities (HBCUs) in order to cement their academic statuses while maintaining connections to the Black community. In sum, research on Black female students does tend to emphasize parallels to both full identification and being educationally-focused while racially distant.

Conversely, research on Black boys tends to highlight the academic challenges and/or deficits of this group. In particular, research on Black male students tends to highlight the unique challenges this group faces in academic settings. Extrapolating from research on reasons boys of color "fall behind" their female and White counterparts (e.g., higher rates of punishment; Cogburn et al., 2011; Simpson & Erikson, 1983), boys may be more likely to be Academically Disengaged due to unique classroom stressors that they face. Our exploration on middle school predictors of joint racial-academic identity helps us unpack the particular components of the school climate that inform identity profile membership.

We hypothesized that a variety of indicators of the racial and academic climate of youth's middle schools would inform their joint racial-academic identities in high school. Specifically, we hypothesized that school climates characterized by discrimination, a lack of focus on race-based education, and a de-emphasis on facilitating learning for the sake of learning and greater emphasis on teachers showing preference for talented students would be associated with membership in any profiles characterized by academic disidentification and racial alienation.

**Racial climate and race-based performance.** Whereas there were similar trends in profile differentiation by overt racism (i.e., racial climate) and teachers treating individuals as less academically capable due to their race (i.e., race-based performance), pairwise differences within a logistic regression were only significant for the latter. With respect to racial climate, there was an overall significant variation in the degree to which youth perceived a negative racial climate characterized by discrimination originating from adults and students at school. However, overall rates of youth-reported middle school racial climate were low (i.e., ranged from youth “almost never” perceiving their school climate as racist to “sometimes” perceiving their school climate as racist), and this effect went away within the logistic regression, suggesting that profile differences in middle school racial climate may be accounted for by other middle school climate indicators. Still, mean differences suggest that the middle school racial climate was most strongly characterized by discriminatory messages for Alienated/Ambivalent youth, and was least characterized by such messages for Education-Focused/Racially Distant youth.

Consistent with hypotheses, there were both overall and pairwise differences in race-based performance, or the degree to which youth viewed their teachers as being less supportive of them due to their race. Overall, youth in profiles characterized by academic disidentification (i.e., Academically Disengaged and Alienated/Ambivalent) were more likely to report race-based

performance, whereas youth in profiles characterized by academic identification (i.e., Fully Identified and Education-Focused/Racially Distant) were less likely to report race-based performance. This suggests that the frequency with which youth viewed teachers as treating them differently due to their race may be more strongly linked to academic identity than racial identity. When youth viewed teachers as treating them as less capable academically due to their race, they were more likely to be academically disidentified. This is consistent with research suggesting that teacher's expectations of student performance outcomes may facilitate academic engagement and success (e.g., Goldenberg, 1992), including among Black students (e.g., Tyler & Boelter, 2008) and provides further evidence that racial discrimination along academic lines may negatively impact academic identities.

Research also suggests that exposure to discrimination may lead to a stronger sense of racial identity, with being confronted with the realities of racism leading to a stronger sense of racial centrality (e.g., Butler-Barnes, Richardson, Chavous, & Zhu, 2018; Chae et al., 2017; Sellers et al., 2006). Thus, it is possible that Education-Focused/Racially Distant youth were less likely to have their racial identities “triggered” by their middle school racial atmosphere. The lack of discrimination observed and reported by Education-Focused/Racially Distant youth may have led to a decreased likelihood of interrogating race and its meaning to these youth, thus, they may have had less opportunity to develop a strong sense of racial identity. Next, we will discuss how these youth attended middle schools that were supportive of academic success; this, too, may have influenced their later identity development.

**School learning and ability culture.** With respect to school academic climate, school learning culture (i.e., “doing your best” is rewarded) varied significantly between profiles. Consistent with hypotheses, youth in academically-engaged profiles (i.e., Education-

Focused/Racially Distant, Fully Identified) reported higher middle school learning culture than their Alienated/Ambivalent and Academically Disengaged counterparts, suggesting that, similar to middle school racial climate, profile differences in middle school learning climate were stratified along the lines of academic identity insertion. However, there were no significant pairwise differences between profiles in the logistic regression.

School ability culture, or the degree to which students viewing teachers as prioritizing “smart kids” more, also varied significantly between profiles. Unlike school learning culture, pairwise differences in school ability culture remained significant in the logistic regression. In particular, Education-Focused/Racially Distant youth had a significantly lower likelihood of teachers showing preference for “good” students than most other youth, continuing the trend of these youth experiencing more “favorable” middle school environments. Alienated/Ambivalent youth reported the highest school ability culture compared to all other profiles, though these differences were not statistically significant. Existing research (e.g., Brattesani, Weinstein, & Marshall, 1984) suggests that differential treatment by teachers may contribute to greater differences in student achievement. Therefore, it is possible that academic identity may be better “preserved” when youth view teachers as less likely to give preference exclusively to successful students. Also, while we did not test the interaction between school academic climate and school racial climate, research suggests that teacher treatment of students may conflate race/ethnicity and academic aptitude (e.g., Suarez-Balcazar, Orellana-Damacela, Portillo, Rowan, & Andrews-Guillen, 2003). The unique nexus that Education-Focused/Racially Distant youth occupy (i.e., academically-identified, racially-disidentified, in schools low in ability culture and low in racist teaching) may further relate to differences in perception of school ability culture from Fully Identified youth.

**Meaningful curriculum.** Consistent with hypotheses, there were overall profile differences with respect to how meaningful youth found their middle school academic curriculum. In particular, within the logistic regression, Academically Disengaged youth reported a significantly less meaningful curriculum than Fully Identified youth, and a marginally less meaningful curriculum than Alienated/Ambivalent youth. Given that Academically Disengaged youth were, in particular, very low on intrinsic motivation, it is possible that feeling less connected to course materials may be particularly detrimental to later motivation. Existing research supports the assertion that students who think aspects of their lives and experience are reflected in their curriculum are more motivated to engage with it (see Little, 2012, for a review). That said, it is possible that our meaningful curriculum measure, though comprised of indicators that frequently connected curricular content to race/ethnicity, was not necessarily interpreted as a “racially meaningful curriculum” by youth. It is also possible that youth interpreted this measure as ambiguously meaningful, along multiple potential axes of meaningfulness. Still, findings suggest that being less connected to your education and course content in middle school is associated with being less likely to identify with academics and, in particular, to be motivated by academic success in high school. Given the findings of the present study, and existing research on the association between academic curricular meaningfulness and motivation (e.g., Little, 2012), it is possible that increasing curricular meaningfulness may be a target for academic interventions among youth of color. However, more research is needed to assess this claim.

**Socioeconomic status.** Finally, we did not have specific hypotheses about how family SES would predict profile membership. However, in controlling for SES, we found that high school joint identity profile membership did vary as a function of annual family income. In particular, Fully Identified youth came from significantly more affluent families than

Alienated/Ambivalent youth. Historic research has suggested socioeconomic differences in academic self-concept, such that lower-income individuals tend to view themselves as less capable than higher-income individuals (e.g., Osborne & LeGette, 1982; Zirkel & Moses, 1971). However, this association may be less strong among minority youth (Sirin, 2005) or moderated by gender (e.g., lower-income girls had lower academic self-concept while lower-income boys had higher academic self-concept; Chavous et al., 2008). Additionally, while racial socialization differs by SES (see Hughes et al., 2006, for a review), findings on whether racial identity is likely to differ by SES are mixed. With limited exceptions (e.g., Carter & Reynolds, 2011), research tends to suggest that racial identity does not vary by SES (e.g., Caldwell, 2011; Carter & Helms 1988). It is also possible that, like academic identity, any SES differences in racial identity may vary by gender (Chavous et al., 2008). Still, higher-income youth are more likely to be raised in more Afrocentric homes (Caughy, O'Campo, Randolph, & Nickerson, 2002). Additionally, their academic identity may be less threatened by school-based racial discrimination (Chavous et al., 2008). Youth in higher-income families may also attend schools that promote joint racial-academic identification while youth in lower-income families may attend schools that negatively impact joint racial-academic identification. Alternately, family income may help protect against negative elements of the school environment and promote joint identification among Fully Identified youth compared to Alienated/Ambivalent youth.

## **Outcomes**

In the present study, we were interested in how joint racial-academic identity profile membership predicted both academic and psychosocial outcomes. In all of these analyses, we controlled for middle school climate predictors, gender, and SES.

**Academic outcomes.** With respect to academic outcomes, we hypothesized that youth with strong, positive joint identities would have higher concurrent GPAs compared to profiles that include disidentified identities; we expected to find a similar trend for educational attainment after high school. Our findings were largely consistent with our hypotheses. Fully Identified and Education-Focused/Racially Distant youth had significantly higher GPAs than Alienated/Ambivalent and Academically Disengaged youth. Despite the lack of significant differences between Alienated/Ambivalent and Academically Disengaged youth, as well as the lack of significant differences between Fully Identified and Education-Focused/Racially Distant youth, it seems that full joint identification leads to the most favorable grade outcomes, while full joint disidentification leads to the least favorable grade outcomes. Additionally, having a relatively strong, positive academic identity – whether or not it jointly occurs with a positive racial identity – predicts better grade performance. These findings are consistent with research that suggests positive indicators of joint racial-academic identities are associated with greater academic performance (Cokley & Chapman, 2008) and that Fully Identified youth may experience the most “positive” academic outcomes. Additionally, some researchers (e.g., Cokley et al., 2011) suggested that positive academic identity and negative racial identity were both related to higher grades and called for more playful joint-identity approaches to further unpack his finding. Our Education-Focused/Racially Distant profile, which consisted of youth with strong positive academic identities and weak, disengaged racial identities, may be considered converging evidence for Cokley and colleagues’ (2011) findings.

While Academically Disengaged youth did not differ significantly from the overall sample on racial identity indicators, they did tend to have somewhat positive racial identities. Their relatively low GPAs may suggest that academic disengagement is particularly harmful for



academic outcomes; this would be supported by the similarly-low GPAs of Alienated/Ambivalent youth. However, racial identity research also occasionally suggests that racial identity is weakly related or nonrelated to GPA (e.g., Lockett & Harrell, 2003) or only related to GPA in certain conditions (e.g., Sellers et al., 1998). Therefore, Academically Disengaged youth's somewhat-positive sense of racial centrality may not be enough to protect their grades.

As with grades, there was significant profile variation in educational attainment three years post-high school. Specifically, Fully Identified youth reported that, on average, they had completed at least two years of college since graduating high school three years prior. Conversely, Education-Focused/Racially Distant and Academically Disengaged youth clustered around one year of college after high school, while Alienated/Ambivalent youth, had, on average, completed at least some vocational training; the only significant differences fell between Fully Identified youth and their non-Education Focused/Racially Distant counterparts. Thus, jointly and simultaneously identifying with racial and academic identities confers benefits with lasting implications for academic achievement that exist even after controlling for SES (i.e., these differences are not due to the income level of Fully Identified youth's families).

Fully Identified youth belonged to the only profile with significant, positive racial identity. Research overwhelmingly suggests that racial identity content such as strong, positive centrality and private regard predicts academic attainment (see Rivas Drake et al., 2014, for a review); elements of positive academic identity are also linked to educational attainment (e.g., Beron & Piquero, 2016; Reyes et al., 1994). It is possible that jointly identifying with both race and academics may relate to elements of academic persistence, such as not dropping out of school (e.g., Rigali-Oiler & Robinson Kurpius, 2013), even in discriminatory contexts (e.g., Neblett et al., 2012; Wong et al., 2003). We did not test for experiences with discrimination in

post-high school contexts. However, it is possible that, in the event of college-based discrimination, Fully Identified youth are more protected by their joint identities from the negative effects of discrimination, while their counterparts are more susceptible to discrimination; this is a ripe area for future research. Still, the current findings are particularly compelling, given that much research focuses on educational attainment *goals* rather than actual attainment, and goals do not strongly predict attainment (e.g., Hwang et al., 2016).

**Psychosocial outcomes.** Our interest in joint identity profile membership predicting psychosocial outcomes was more exploratory in nature, given the overall lack of research emphasizing elements of both racial and academic identities in relation to non-academic outcomes. Still, we hypothesized that having strong, positive joint identities or strong racial identity and weak academic identity would be related to higher self-esteem than having weak or negative joint identities. Additionally, we hypothesized that having a positive racial identity, academic identity, and in particular joint racial-academic identity would confer protective effects for wellbeing, such that any fully-identified typology would have better psychosocial outcomes than any fully-deidentified typology, with any degree of racial and/or academic identification falling between these two extremes.

Efficacy to combat discrimination, an indicator tapping into youth's sense of their ability to deliberately avoid discriminatory experiences in a variety of different contexts, did not differ by profile membership at either one or three years after high school. At both times, there were some pairwise differences between individual profiles which suggested that Academically Disengaged youth reported being least able to avoid discrimination of all profiles, particularly in relation to Fully Identified (one year after high school) and Alienated/Ambivalent youth (three years after high school); however, overall effects were not significant. In a study of African

American middle and high school students, discrimination efficacy was unrelated to individual indicators of academic identity (i.e., self-concept, school importance; Brittian & Gray, 2014); the findings in the current study corroborate those results. Further, of all identity indicators, efficacy to combat discrimination at either time point was only significantly correlated with public regard, such that youth who felt less able to avoid discriminatory situations also thought that others viewed Black people more negatively; no profile differed significantly from the sample mean on public regard. Thus, while there may be some identity-linked association with discrimination efficacy, it was not evident within the full profile models.

Self-esteem did not vary by profile one year after high school. However, three years after high school, Alienated/Ambivalent youth had significantly lower self-esteem than their Fully Identified and Academically Disengaged counterparts; this is consistent with racial identity profile findings by Seaton (2009) and somewhat consistent with academic identity findings by Roeser and colleagues (2002). Identification, particularly with race, is generally thought to be protective of self-esteem (e.g., Fisher, Zapolski, Sheehan, & Barnes-Najor, 2017; Phinney & Chavira, 1992; Rowley, Sellers, Chavous, & Smith, 1998; Seaton et al., 2006); thus, the profile characterized by strong, positive racial and academic identities, as well as the profile characterized by the comparatively next-least-negative racial identity being linked to higher self-esteem makes sense. Specifically, Academically Disengaged youth have higher racial centrality than all profiles but Fully Identified, though it is not significantly different from the overall sample; they also had higher private regard than all profiles but Fully Identified youth. Rowley and colleagues (1998) found that racial centrality is weakly related to self-esteem and moderates the association between private regard and self-esteem (i.e., private regard related to higher self-esteem when centrality was higher). Additionally, Seaton (2009) tested self-esteem differences

among profiles of racial identity, and found that any degree of identification was protective compared to full racial disidentification. Thus, the higher centrality of Fully Identified and Academically Disengaged youth coupled with the higher private regard may be informing their relative higher self-esteem than Alienated/Ambivalent youth, who are racially disidentified.

Overall sense of chance for positive life outcomes varied significantly across profiles both one and three years after high school. This association was exploratory and we did not have specific hypotheses for the pattern of differences; overall, research just tends to suggest that positive identification is generally protective of psychosocial wellbeing (Baldwin, 1984, Cross et al., 1998; Hardeman et al., 2016; Lanier et al., 2016; Roeser et al., 2002; Wong et al., 2003). That said, trends in youth's beliefs in their chance for positive life outcomes one year after high school suggested that the more positive and strong indicators and dimensions of identity and individual had, the more positive their outlook on life, such that Fully Identified youth, who held two positive, strong identities, had the most positive outlook. They were followed by Education-Focused/Racially Distant youth, who had a strong, positive academic identity, then Academically Disengaged youth who were only *disidentified* for academic identity. Alienated/Ambivalent youth, with two negative identities, had the least positive outlook on the future.

This provides exciting preliminary evidence about the role of positive identification in psychosocial wellbeing; future research should unpack what, specifically, about identity is protective of youth's sense of their chances for positive life outcomes. For example, it is possible that positive identification has an additive effect, such that the more positive identities or sense of identification that an individual has, the greater their optimism for the future. However, findings from three years after high school may complicate this hypothesis. Specifically, while overall future optimism trends were consistent across both time points, at three years after high

school, the only significant pairwise difference was between Fully Identified youth and Alienated/Ambivalent youth. Still, findings overall suggest that jointly identifying with racial and academic identities during high school was protective of long-term positive outlook, particularly in relation to a joint *disidentification* with both identities. Research overall suggests that having a strong, positive identity can buffer against the negative effects of discrimination or other challenging environments (e.g., Alfaro et al., 2009; Hackett et al., 2018; Syed et al., 2011), and resilience research suggests positive racial identity is linked to greater educational involvement (Miller & MacIntosh, 1999; Wong et al., 2003), less stress and depression, and greater wellbeing even in the face of discrimination (e.g., Banks & Kohn-Woods, 2007; Sellers et al., 2006). Given the association between elements of the middle school context and youth's belief in their chances for positive life outcomes, as well as the profile differences in both school climate and optimism for the future, the findings of the present study can be considered further supporting evidence of this trend. To provide further supporting evidence of this trend, future research should test whether the association between middle school climate and belief in chance for positive future outcomes after high school varies by profile.

Of note, mean self-esteem and chance for positive life outcomes also increased between one year and three years after high school. While developmental trends in psychosocial wellbeing was not a central question of interest in this project, this observation reflects findings by other researchers who noted that self-understanding increases across adolescence and emerging adulthood, relating to psychosocial improvements and coherence in responding to self-report scales (e.g., Soto, John, Gosling, & Potter, 2008). Also, developmental trends of self-esteem in particular reflect a drop in adolescence, followed by a gradual rise throughout adulthood (Robins, Trzesniewski, Tracy, Gosling, & Potter, 2002). Thus, the change in

significance of eleventh-grade identity profile membership on self-esteem across one to three years after high school may also reflect this developmental trend.

### **Limitations and Future Directions**

While profile analysis does allow us to tap into the heterogeneity of a given population on a specific set of indicators (e.g., identity) and provide great descriptive capacity for groups of individuals within a given population, there are some limitations to this approach. First, there are methodological concerns such as the potential to mis-identify the correct solution, particularly when models are more complex (e.g., greater number of profiles, inclusion of multiple predictors or covariates; Lanza, Collins, Lemmon, & Schafer, 2007). However, there are steps to work around this potential concern through the analytic stage by testing multiple starting values and checking for convergence in results of these multiple models (Lanza et al., 2007). Second, while profiles provide meaningful descriptive information about sub-populations and serve as a useful heuristic for representing heterogeneity, when there is model mis-specification, the conclusions drawn about the importance of multiple heterogeneous subgroups can result in substantive interpretive error (Lanza & Rhoades, 2013). Related, latent profile models are very sensitive to sample characteristics, and the subtypes identified within any given analysis can differ when samples differ in composition (Hallquist & Wright, 2014). Thus, generalizability of such an analysis is limited. For example, if we identified profiles of male Black students and female Black students separately in the present study, the results may have yielded distinct solutions for each gender. Additionally, while numerous publications in recent years have broached the issue of power in latent profile and class analyses, thus far the only clear-cut “solution” is to test the model with simulated data (e.g., Monte Carlo simulations; Dziak, Lanza, & Tan, 2014; Gudicha et al., 2016; Gudicha et al., 2017; Muthén & Muthén, 2002; Wang, Deng, Bi, Ye, & Yank, 2017;

Wurpts & Geiser, 2014). Thus, though publications using simulated data to test power suggest that we have sufficient power in the current sample to detect and interpret effects of both profile membership and the role of auxiliary (i.e., predictor and outcome) variables (e.g., Gudicha et al., 2017), given that we have conceptual distinction between profiles, strong class separation, and an appropriate (per rule of thumb) sample size and number of indicators used to identify our profiles, the only way to be certain of achieved power is through the use of simulated data; this was beyond the scope of the current project and is an important next step in such work.

There may be an issue of reverse directionality in the present study. In particular, the assumption here is that middle school context shapes identity profiles, which later predict academic and psychosocial outcomes. The thrust of justification for the argument, presently, is the time-sequence of data points. However, some variables were collected at the same time as identity information. Therefore, it is possible that certain outcomes (e.g., GPA) may predict profile membership as well, rather than profile membership predicting GPA. For example, students who consistently get good grades may have their academic identities reaffirmed and strengthened by their grades, whereas bad grades may negatively impact academic identity. Next steps should consider the possible effect of directionality in several ways, including testing whether grades inform profile membership, such as by including GPA a predictor rather than an outcome, or by testing how 8<sup>th</sup> grade GPA predicts profile membership, and how profile membership in turn predicts 11<sup>th</sup> grade GPA. Other steps to address potential issues with directionality (i.e., beyond GPA) include testing to see whether information on the same constructs, provided by other individuals (e.g., teachers, parents, siblings; objective indicators of racial-ethnic diversity in schools) show a similar association with profile membership.

Similarly, in the present study, middle school context was argued to inform high school joint identities. Evidence does suggest that early exposure to discriminatory contexts – including the mere presence of racial segregation in schools – can have long-reaching implications for later identity and both academic and psychosocial outcomes (e.g., Benner & Graham, 2007; Morris, 2007; Okeke et al., 2009). Further, a body of work by Benner and Graham (e.g., Benner & Graham, 2007; Benner & Graham, 2009; Benner & Graham, 2011) implicates changes in school climate across the transition from middle to high school in shifts in academic and psychosocial outcomes. For example, Black youth are profoundly affected by changes in school ethnic incongruence across the middle to high school transition. Thus, additional school climate indicators should be incorporated in subsequent analyses. For example, high school climate could be used instead of middle school climate; alternately, in order to better capture the middle-high school transition, difference scores from middle to high school could be used to assess the effect of change in school climate on identity profile membership. Earlier, we spoke of the possibility that joint identities (i.e., being Fully Identified) may protect against negative (e.g., discriminatory) climates in their relation to positive psychosocial and academic outcomes; thus, it may also be interesting to test whether the association between high school or post-high school climates (e.g., college environment; work environment) and outcomes differ by profiles as well. Doing so will also inform our ability to clarify the directionality of associations in our results.

Further, the current sample consists of data collected in the 1990s. In the ensuing decades, there has been a conversational shift surrounding Blackness (i.e., in conjunction with and separately from academics) in broader American culture (e.g., Chernega, 2017; Tukachinsky, Mastro, & Yarchi, 2015), such that there is now somewhat greater attention paid to barriers to success among people of color in general and Black populations in particular across



groups (e.g., Howard & Navarro, 2016). That said, self-disclosed awareness of the realities of racism does not necessarily translate to substantive changes in experience, such that there has been a reduction in self-reported prejudice but not in experiences with discrimination (Pager & Shepherd, 2008); teachers continue to hold stereotypes against Black students (e.g., Zirkel & Johnson, 2016), and services targeting structural racism and segregation have been scaled back over the past twenty years though there has not been strong evidence to suggest that these services are no longer needed (Tatum, 2017). Still, contemporary race-related activist movements such as Black Lives Matter have been linked to changes in racial attitudes (Godsay & Brodsky, 2018; Sawyer & Gampa, 2018). As such, it is possible that data collected more recently may yield different patterns of identities. That said, one of the strengths of the current data set is in the socioeconomic diversity of the sample. Within the present sample, there is representation of Black youth from families ranging from abject poverty to upper-middle-class affluence. In the current project, we controlled for SES and did not have specific directional hypotheses for its influence on identity and later outcomes, partly because a large proportion of existing research tapping into similar constructs focuses on low-SES youth. However, trends suggested that SES directly related profile membership and to a number of outcomes. Thus, it is possible that the association between SES and outcomes (e.g., educational attainment) varies by profile. An important next step is to test the interaction of profile membership and SES on outcomes in order to explore whether SES predicts academic and psychosocial outcomes more strongly for some youth than others.

Similarly, we found significant gender variation within and between profiles. Further, there were significant gender differences in most predictors, such that boys generally reported more negative elements of their school climates. This may relate to the over-representation of

boys in the Alienated/Ambivalent and Academically Disengaged profiles; we controlled for gender when assessing profile differences in predictors, but not in the creation of the profiles. Though fewer outcomes varied by gender, gender marginally predicted profile membership in the final models, and significantly predicted several outcomes within the final models. Thus, it is also important to test whether there are gender differences in the association between profile membership and outcomes. For example, it is possible that there are gender differences in grades among some, but not all, profiles. Also, it is possible that there are profile differences in the association between middle school context predictors and outcomes; the present study provides preliminary evidence that education-related experiences may vary by racial-academic identity subgroup, and that these differences in experience may inform long-term academic and psychosocial outcomes. However, we did not test this directly. In the present study, we tested the link between predictors and profile membership, and then tested the association between profile membership and outcomes controlling for predictors. In order to capture the full pattern of associations, full path models should be tested such that both the direct effect of predictors on outcome and the indirect effect of predictor on outcome via profile membership are tested. Then, we will be better able to characterize and understand whether certain aspects of the middle school climate are particularly beneficial or harmful for academic and psychosocial outcomes for some profiles, but not others. Such tests will improve the applicability of the present study and provide preliminary evidence whether certain academic and/or identity interventions will benefit all youth, or just youth who happen to hold specific identities.

Other identities may also be important and interrelated with joint racial-academic identities. For example, several models of Black academic identity (e.g., Whiting, 2006) suggest that gender identity is equally important to the development of a positive scholar identity. Future

research may do well to consider gender identification in conjunction with racial and academic identities. The present study also focused on the joint racial-academic identities of Black youth. However, there may be interesting and different patterns of racial-academic identity among different groups. For example, common stereotypes of Black students suggest academic disidentification may be the norm (a stereotype which was overall not supported by the current study); such stereotypes are often related to weakened academic identity (e.g., Okeke, Howard, Kurtz-Costes, & Rowley, 2009). Related, research tends to suggest that Black and Latino students fall behind their White and Asian American peers with respect to academic outcomes and identification (Fashola, 2011; Fuligni, 1997; Matthews, 2014), identity profiles and the association between profile and outcomes may vary in different racial/ethnic groups. For example, academic disidentification may be linked to comparatively worse academic outcomes among Asian American populations if “model minority” stereotypes of academic excellence are internalized and not met (e.g., Dávila, 2011). Additionally, White youth tend to have weaker and less meaningful racial identities (e.g., Bobo & Johnson, 2000; Croll, 2007); it would be interesting to test whether they experience similar patterns of joint racial-academic identities.

Related, most (> 98%) of the present sample did not identify a clear family history of immigration. Thus, testing the effect of immigrant or “foreigner” status on joint racial-academic identities, as well as their association with school climate and outcomes, was not within the scope of the present study. However, this may be a ripe area for future research. Youth from other ethnic groups more strongly tied to immigration may have qualitatively different racial or academic experiences. Latino youth experience similar academic disparities as Black youth, compared to their White and Asian peers, on most indicators (Musu-Gillette et al., 2017). However, immigration-related experiences can complicate aspects of academic identity. For

example, Latino immigrants often report that language brokering (i.e., translating for parents) is associated with viewing their school climates as more negative (Benner & Graham, 2011).

Research on the immigrant paradox (i.e., length of residence in U.S. associated with declines in academic and health outcomes), suggests that length of U.S. residence is associated with declines in academic identity and performance among multiple ethnic groups (e.g., Latino, Asian; Suárez-Orozco, Rhodes, & Milburn, 2009) but that this effect is ameliorated by cultural identity (Aretakis, Ceballo, Suarez, & Camacho, 2015). Therefore, a similar investigation to the present study may benefit research on immigrant populations. Data collected recently (e.g., since the 2016 election) on these populations may yield additional, critical information on the effects of joint identities, given shifts in public treatment (e.g., ICE raids) of immigrants of color; popular media reports suggest that academic toll of this shift is considerable (López & Matos, 2018).

Despite its limitations, the present study extends our existing knowledge base by demonstrating that joint racial-academic identity profiles provide useful and detailed information on the experiences of Black youth. Specifically, we were able to identify content-based, conceptually-meaningful and theoretically-substantiated profiles of joint racial-academic identity; these profiles were shaped by racial and academic experiences in middle school and informed by gender and family socioeconomic status. In turn, profile membership informed academic performance and attainment beyond high school; it also related to psychosocial wellbeing in a variety of ways. Although preliminary and, occasionally, exploratory in nature, the present study provides some evidence that Black youth may experience joint racial-academic identities in distinct ways; these identities should be taken into consideration when designing academic and/or racial identity interventions for Black students.

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Table 1

*Multiple Identity Models in the Context of Ashmore, Deaux, and McLaughlin-Volpe (2004)'s Collective Identity Framework*

<i>Approach</i>	<b>Self- categorization</b>	<b>Evaluation</b>	<b>Importance</b>	<b>Attachment/Sense of Interdependence</b>	<b>Social Embeddedness</b>	<b>Behavioral Involvement</b>	<b>Content and meaning: Ideology</b>	<b>Content and meaning: Narrative</b>	<b>Other</b>
<i>Definition</i>	Identifying self as member of (or otherwise linking self to) a particular social grouping, including degree to which an individual categorizes themselves in	Positive or negative attitude that an individual has toward social group/category in questions, include personal judgement towards group (private regard)	Degree of importance a particular group membership is to overall self-concept; includes explicit appraisal of importance of membership to sense of self and	Emotional involvement felt with a group, including perception of commonalities in way the group is treated by society (mutual fate), emotional involvement with/toward the group (attachment), and degree to which sense of self is	Degree to which a particular identity is embedded in everyday ongoing social relationships	Degree to which individual engages in actions that directly relate to a particular identity	Beliefs about group's experience, history, and position in society	Internally-represented story an individual has developed regarding both the self and the identity in question	

	terms of said grouping	and perception of others' attitudes towards the group (public regard)	implicit location of group membership in individual's self-system hierarchy	merged with group (interconnection)					
<b>Academic Identity (Matthews)</b>	No defined parallel	Academic self-worth (private regard)	Utility and intrinsic value of education	School belonging	No defined parallel	Self-regulated learning	No defined parallel	No defined parallel	Academic self-efficacy (may represent "identity agency")
<b>Academic Identity (Whiting)</b>	No defined parallel	Academic self-confidence (private regard)	Implicated in model but not explicitly linked	Implicated in model but not explicitly linked	No defined parallel	Future orientation and need for achievement (contribute to behaviors; are not behaviors in	No defined parallel	No defined parallel	Academic self-efficacy; internal locus of control, willing-



and of  
themselves)  
ness to  
make  
sacrifices;  
other  
identities  
(gender,  
race)

<b>Racial Identity (Sellers)</b>	No defined parallel	Perception of attitudes others hold of your group (public regard); personal attitudes toward other members of your group (private regard)	Centrality (importance of group membership to sense of self)	No defined parallel	No defined parallel	No defined parallel	Ideology: Nationalist, Oppressed Minority, Assimilation, Humanist (philosophy regarding the way you think group members should act or	No defined parallel -
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otherwise  
think about  
their group  
membership)

<b>Other Racial Identity approaches</b>	Racial/ethnic self-labeling (Phinney; others)	-	Ethnic affirmation and belonging (Phinney); sense of one-ness with group (Kinket & Verkuyten)	Engagement in identity-related groups (e.g., peer groups with same-race representation)	Race-related behaviors such as traditions (Phinney, others)	-	-	-
<b>Additional contentions:</b>	Youth perception of peer academic climate (AI public regard)	-	Sense of shared fate	-	-	-	-	-

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Table 2

*Identity Variables by Identity Type and Domain*

	<b>Importance</b>	<b>Evaluation</b>	<b>Attachment</b>
<b>Academic identity</b>	School importance	Academic self-concept	Intrinsic motivation; Extrinsic motivation
<b>Racial identity</b>	Racial centrality	Private regard; Public regard	Sense of shared racial fate

Table 3

*Scale Descriptives*

<b>Construct</b>	<b>Wave(s)</b>	<b>N of participants responding</b>	<b>M(SD)</b>	<b>Reliability <math>\alpha</math></b>
<i>Profile indicators</i>				
<b>Racial Centrality</b>	11 <sup>th</sup> grade	489	3.73 (.79)	.72
<b>Private Regard</b>	11 <sup>th</sup> grade	489	4.24 (.57)	.77
<b>Public Regard</b>	11 <sup>th</sup> grade	489	3.01(.63)	.57
<b>Shared Fate</b>	11 <sup>th</sup> grade	488	3.79 (.65)	.75
<b>School Importance</b>	11 <sup>th</sup> grade	447	4.15(.72)	.78
<b>Academic self- concept</b>	11 <sup>th</sup> grade	491	4.99(1.00)	.72
<b>Academic – Intrinsic</b>	11 <sup>th</sup> grade	441	4.56 (1.47)	.84
<b>Academic – extrinsic</b>	11 <sup>th</sup> grade	441	3.63 (1.54)	.70
<i>Predictors</i>				
<b>School learning culture</b>	8 <sup>th</sup> grade	488	3.97 (.80)	.72
<b>School ability culture</b>	8 <sup>th</sup> grade	488	2.57 (.88)	.78

<b>Meaningful Curriculum</b>	8 <sup>th</sup> grade	489	3.15 (.73)	.82
<b>School racial climate</b>	8 <sup>th</sup> grade	487	1.70 (.74)	.82
<b>Race-based performance</b>	8 <sup>th</sup> grade	488	1.69 (.88)	.88
<i>Outcomes</i>				
<b>GPA</b>	11 <sup>th</sup> grade	421	2.79 (.69)	-
<b>Educational attainment</b>	3 years post-high school	323	4.71 (2.12)	-
<b>Efficacy to combat discrimination</b>	1 year post-high school	321	2.46 (.72)	.84
	3 years post-high school	310	2.61 (.69)	.85
<b>Self-esteem</b>	1 year post-high school	327	3.66 (1.17)	.81
	3 years post-high school	313	3.89 (.93)	.78
<b>Chance for positive life outcomes</b>	1 year post-high school	294	4.14 (.63)	.90
	3 years post-high school	211	4.21 (.63)	.93
<i>Covariates</i>				

<b>Annual family income (parent- report)</b>	11 <sup>th</sup> grade	448	11.92 (5.70)	-
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Table 4

*Correlations Between Variables of Interest*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Centrality	—															
2. Private regard	<b>0.53**</b>	—														
3. Public regard	-0.05	<b>0.08<sup>†</sup></b>	—													
4. Shared fate	<b>0.52**</b>	<b>0.55**</b>	<b>-0.08<sup>†</sup></b>	—												
5. School importance	<b>0.17**</b>	<b>0.43**</b>	<b>0.14**</b>	<b>0.33**</b>	—											
6. Academic self-concept	-0.01	<b>0.15**</b>	0.03	0.01	<b>0.23**</b>	—										
7. Intrinsic motivation	0.01	<b>0.10*</b>	0.07	0.08	<b>0.44**</b>	<b>0.31**</b>	—									
8. Extrinsic motivation	0.06	0.00	0.06	0.01	-0.04	<b>0.12*</b>	<b>0.22**</b>	—								
9. School race climate	0.03	<b>-0.20**</b>	<b>-0.11*</b>	-0.05	<b>-0.27**</b>	-0.04	<b>-0.10*</b>	0.04	—							

10. Race-based performance	-0.02	<b>-0.23**</b>	<b>-0.12**</b>	<b>-0.12**</b>	<b>-0.38**</b>	<b>-0.12**</b>	<b>-0.12**</b>	0.07	<b>0.71**</b>	—						
11. School learning culture	0.05	<b>0.11*</b>	<b>0.12*</b>	0.04	<b>0.16**</b>	0.05	<b>0.15**</b>	-0.02	<b>-0.34**</b>	<b>-0.37**</b>	—					
12. School ability culture	0.02	-0.06	-0.07	0.03	<b>-0.22**</b>	-0.05	<b>-0.16**</b>	0.02	<b>0.40**</b>	<b>0.45**</b>	<b>-0.36**</b>	—				
13. Meaningful curriculum	<b>0.11*</b>	0.04	<b>0.13**</b>	0.06	<b>0.14**</b>	<b>0.12**</b>	<b>0.34**</b>	<b>0.09†</b>	-0.06	<b>-0.11*</b>	<b>0.41**</b>	<b>-0.18**</b>	—			
14. Educational attainment 3 years post-HS	0.05	<b>0.18**</b>	0.01	<b>0.14*</b>	<b>0.27**</b>	<b>0.19**</b>	<b>0.13*</b>	0.09	<b>-0.16**</b>	<b>-0.18**</b>	0.07	<b>-0.10†</b>	0.03	—		
15. GPA - 11th grade	0.08	<b>0.20**</b>	0.01	<b>0.19**</b>	<b>0.29**</b>	<b>0.35**</b>	<b>0.20**</b>	0.00	<b>-0.08†</b>	<b>-0.16**</b>	0.07	<b>-0.12**</b>	0.04	<b>0.45**</b>	—	
16. Efficacy to combat discrimination (1-year)	0.07	-0.08	<b>-0.15**</b>	-0.01	<b>-0.10†</b>	-0.08	-0.05	0.02	<b>0.12*</b>	0.09	-0.06	0.01	-0.04	<b>0.11†</b>	-0.02	—
17. Efficacy to combat	0.03	0.00	<b>-0.12*</b>	0.09	-0.02	<b>-0.10†</b>	-0.07	0.05	0.09	0.08	<b>-0.14**</b>	<b>0.15**</b>	-0.05	0.04	0.00	<b>0.34**</b>



discrimination																
(3-years)																
18. Self-esteem	0.05	<b>0.12*</b>	0.07	0.01	0.09	<b>0.09†</b>	0.08	0.06	<b>-0.13*</b>	<b>-0.12*</b>	0.02	<b>-0.10†</b>	0.02	<b>0.16**</b>	0.02	0.00
(1-year)																
19. Self-esteem	<b>0.09†</b>	<b>0.20**</b>	0.00	<b>0.12*</b>	<b>0.12*</b>	<b>0.16**</b>	0.09	0.09	<b>-0.11†</b>	<b>-0.17**</b>	0.08	<b>-0.16**</b>	0.07	<b>0.13*</b>	0.05	-0.06
(3-years)																
20. Positive life	<b>0.10†</b>	<b>0.24**</b>	0.08	<b>0.15*</b>	<b>0.23**</b>	<b>0.19**</b>	<b>0.37**</b>	<b>0.10†</b>	<b>-0.11†</b>	<b>-0.13*</b>	<b>0.10†</b>	-0.07	<b>0.24**</b>	<b>0.17**</b>	<b>0.14**</b>	<b>-0.11†</b>
outcomes (1-																
year)																
21. Positive life	<b>0.17*</b>	<b>0.24**</b>	0.07	<b>0.26**</b>	<b>0.24**</b>	<b>0.12†</b>	<b>0.25**</b>	<b>0.10</b>	-0.01	<b>-0.16*</b>	0.10	-0.05	<b>0.15*</b>	<b>0.18**</b>	0.06	-0.06
outcomes (3-																
years)																
22. Annual	<b>.17**</b>	<b>.15**</b>	0.03	<b>.13**</b>	<b>.10*</b>	0.00	-0.04	0.07	-0.07	-0.08	0.01	0.05	<b>-.09*</b>	<b>.36**</b>	<b>.15**</b>	<b>.15**</b>
family income																

Note: \* = correlation is significant at the .05 level; \*\* = correlation is significant at the .01 level; † = correlation is marginal at  $p < .1$

Table 5

*Gender Differences in Variables of Interest, as Indicated by Independent-Samples T-Test*

Indicator	Male		Female		t-test
	M	SD	M	SD	
Centrality	3.79	0.79	3.67	0.80	1.67 <sup>†</sup>
Private Regard	4.23	0.60	4.26	0.54	-0.66
Public Regard	3.01	0.65	2.99	0.60	0.30
Sense of Shared Fate	3.81	0.65	3.77	0.66	0.67
School Importance	4.03	0.76	4.27	0.66	-3.53 <sup>***</sup>
Academic Self-Concept	5.01	1.01	4.99	1.01	0.19
Intrinsic Motivation	4.45	1.47	4.71	1.47	-1.81 <sup>†</sup>
Extrinsic Motivation	3.94	1.47	3.34	1.56	4.14 <sup>***</sup>
School Racial Climate	1.80	0.75	1.59	0.70	3.12 <sup>***</sup>
Race-Based Performance	1.81	0.91	1.57	0.84	3.02 <sup>**</sup>
School Learning Culture	3.88	0.81	4.08	0.78	-2.75 <sup>**</sup>
School Ability Culture	2.67	0.86	2.46	0.89	2.62 <sup>**</sup>
Meaningful Curriculum	3.14	0.71	3.16	0.75	-0.33
Educational Attainment Three Years Post-HS	4.49	2.08	4.87	2.14	-1.61
GPA - 11th Grade	2.66	0.67	2.94	0.68	-4.33 <sup>***</sup>
Efficacy to Combat Discrimination (1-year)	2.46	0.75	2.46	0.71	0.07
Efficacy to Combat Discrimination (3-years)	2.75	0.68	2.50	0.68	3.09 <sup>**</sup>
Self-Esteem (1-year)	3.78	1.21	3.58	1.14	1.55
Self-Esteem (3-years)	3.93	0.97	3.87	0.91	0.54

Positive Life Outcomes (1-year)	4.09	0.70	4.17	0.57	-0.96
Positive Life Outcomes (3-years)	4.28	0.64	4.18	0.63	1.11
Annual Family Income	12.17	5.64	11.66	5.76	0.96

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Note: \* = correlation is significant at the .05 level; \*\* = correlation is significant at the .01 level;

\*\*\* = correlation is significant at .001 level; † = correlation is marginal at  $p < .1$

Table 6

*Model Fit Information and Selection Criteria for Latent Profile Analyses*

No. of profiles	No. of Free Parameters	Log Likelihood	AIC	BIC	a-BIC	LMRT	BLRT	Entropy	Group < 10%
One	16	-5239.85	10511.71	10578.45	10527.67	-	-	-	N
Two	25	-5033.95	10117.91	10222.20	10142.85	<.000	<.000	0.77	N
Three	34	-4973.71	10015.43	10157.26	10049.35	0.08	<.000	0.78	N
<b>Four</b>	<b>43</b>	<b>-4906.94</b>	<b>9899.88</b>	<b>10079.27</b>	<b>9942.79</b>	<b>0.15</b>	<b>&lt;.000</b>	<b>0.76</b>	<b>N</b>
Five	52	-4885.66	9875.32	10092.25	9927.21	0.13	<.000	0.76	Y
Six	61	-4855.63	9833.26	10087.73	9894.12	0.21	<.000	0.77	Y
Seven	70	-4837.31	9814.62	10106.64	9884.47	0.52	0.003	0.77	Y
Eight	79	-4815.91	9789.81	10119.37	9868.64	0.62	<.000	0.76	Y
Nine	88	-4799.23	9774.47	10141.58	9862.27	0.68	0.008	0.75	Y

*Note.* N = 491. Dashes indicate criterion was not applicable. Bold font indicates selected model.

AIC = Akaike information criterion; BIC = Bayesian information criterion; a-BIC = sample size adjusted Bayesian information criterion; LMRT = Lo-Mendell-Rubin Likelihood Ratio Test; BLRT = Parametric bootstrapped likelihood ratio test

Table 7

*Parameter Estimates for the Four-Profile Model*

Indicator	Sample Mean	Alienated/ Ambivalent (N = 51)	Fully Identified (N = 241)	Academically Disengaged (N = 79)	Education- Focused/ Racially Distant (N = 108)
		<i>Latent Profile Membership Probabilities</i>			
		0.11	0.5	0.16	0.23
		<i>Item-Response Means</i>			
Centrality	3.73	-0.90 <sup>a</sup> (3.01)	0.55 <sup>b</sup> (4.17)	0.15 (3.85)	-0.85 <sup>a</sup> (3.05)
Private Regard	4.24	-1.79 <sup>a</sup> (3.22)	0.64 <sup>b</sup> (4.61)	-0.05 (4.21)	-0.46 <sup>a</sup> (3.98)
Public Regard	3.01	-0.03 (2.98)	0.05 (3.03)	-0.21 (2.87)	0.07 <sup>a</sup> (3.05)
Shared Fate	3.79	-1.15 <sup>a</sup> (3.04)	0.56 <sup>b</sup> (4.16)	-0.08 (3.74)	-0.59 <sup>a</sup> (3.41)
School Importance	4.15	-1.43 <sup>a</sup> (3.13)	0.56 <sup>b</sup> (4.56)	-1.09 <sup>a</sup> (3.37)	0.29 <sup>b</sup> (4.37)
Academic Self-Concept	4.99	-0.29 <sup>a</sup> (4.71)	0.22 <sup>b</sup> (5.22)	-0.53 <sup>a</sup> (4.47)	0.09 (5.09)

Intrinsic Motivation	4.56	-0.27 (4.17)	0.31 <sup>b</sup> (5.04)	-1.09 <sup>a</sup> (2.98)	0.30 <sup>b</sup> (5.02)
Extrinsic Motivation	3.63	0.11 (3.82)	0.07 (3.76)	-0.23 (3.29)	-0.03 (3.60)
<i>Gender Distribution (N(%))</i>					
Male		35 (68.6%)	112 (46.5%)	50 (63.3%)	48 (44.4%)
Female		16 (31.4%)	129 (53.5%)	29 (36.7%)	60 (55.6%)

Note: N = 491. Variables were standardized; distance from sample mean is provided first. Un-standardized raw mean of each profile on each variable is provided parenthetically.

<sup>a</sup> = significantly below sample mean.

<sup>b</sup> = significantly above sample mean.

Table 8

*Individual Predictors of Profile Membership*

	<b>Alienated/ Ambivalent</b>	<b>Fully Identified</b>	<b>Academically Disengaged</b>	<b>Education- focused/ Racially Distant</b>	<b>Overall <math>\chi^2</math></b>
Gender	1.29 <sub>a</sub> (.07)	1.54 <sub>b</sub> (.04)	1.34 <sub>a</sub> (.07)	1.59 <sub>b</sub> (.06)	16.29***
Racial Climate	2.13 <sub>a</sub> (.13)	1.57 <sub>b</sub> (.05)	1.94 <sub>a</sub> (.12)	1.54 <sub>b</sub> (.08)	23.98***
Race-Based Performance	2.48 (.16)	1.50 <sub>a</sub> (.05)	2.07 (.14)	1.42 <sub>a</sub> (.09)	47.43***
Learning Culture	3.59 <sub>a</sub> (.13)	4.07 <sub>b</sub> (.06)	3.79 <sub>a</sub> (.12)	4.09 <sub>b</sub> (.09)	15.62***
Ability Culture	2.98 <sub>a</sub> (.14)	2.54 (.06)	2.85 <sub>a</sub> (.13)	2.20 (.10)	24.99***
Meaningful Curriculum	3.08 <sub>ab</sub> (.09)	3.24 <sub>a</sub> (.05)	2.86 <sub>b</sub> (.10)	3.22 <sub>a</sub> (.09)	11.22*
Family SES	10.33 <sub>a</sub> (.82)	12.73 <sub>b</sub> (.43)	12.11 <sub>ab</sub> (.78)	10.89 <sub>ab</sub> (.81)	8.824*

Note. Difference tests are reported with chi-square test statistic resulting from pairwise Wald tests. Means that do not share subscripts differ at  $p < .05$  or greater. Overall global  $\chi^2$  test with  $df = 3$  for the equality of means across the three profile groups. \*\*\*  $p < .001$ , \*  $p < 0.05$ .

Table 9

*Logistic Regression of Predictors on Profile Membership*

		<i>Reference Class</i>			
		Alienated/ Ambivalent	Fully Identified	Academically Disengaged	Education- Focused/Racial- ly Distant
Class Membership	Predictor	Logit B (SE)	Logit B (SE)	Logit B (SE)	Logit B (SE)
Alienated/ Ambivalent	Gender	--	-1.02* (.49)	-0.22 (.59)	-1.20* (.59)
	Racial Climate	--	-0.05 (.34)	-0.10 (.37)	-0.08 (.41)
	Race-based performance	--	0.84** (.30)	0.38 (.32)	1.04** (.42)
	Learning culture	--	-0.24 (.29)	-0.22 (.36)	-0.05 (.35)
	Ability culture	--	-0.09 (.32)	-0.05 (.38)	0.61 (.38)
	Meaningful Curriculum	--	-0.08 (.30)	0.65 <sup>†</sup> (.39)	0.04 (.39)
	Family SES	--	-0.07 <sup>†</sup> (.04)	-0.05 (.04)	0.01 (.05)
	Fully Identified	Gender	--	--	0.80* (.39)
Racial Climate		--	--	-0.15 (.31)	-0.12 (.31)
Race-based performance		--	--	-0.46 (.28)	0.20 (.36)



	Learning culture	--	--	-0.02 (.28)	0.19 (.26)
	Ability culture	--	--	-0.14 (.24)	0.52** (.23)
	Meaningful Curriculum	--	--	0.73* (.36)	0.12 (.28)
	Family SES	--	--	0.02 (.03)	0.06 <sup>†</sup> (.03)
	Gender	--	--	--	-0.98* (.49)
	Racial Climate	--	--	--	0.02 (.36)
	Race-based performance	--	--	--	0.66 <sup>†</sup> (.39)
Academically Disengaged	Learning culture	--	--	--	0.17 (.34)
	Ability culture	--	--	--	0.67* (.31)
	Meaningful Curriculum	--	--	--	-0.62 (.43)
	Family SES	--	--	--	0.04 (.04)
	Gender	--	--	--	--
	Racial Climate	--	--	--	--
Education-Focused/ Racially Distant	Race-based performance	--	--	--	--
	Learning culture	--	--	--	--

Ability culture	--	--	--	--
Meaningful				
Curriculum	--	--	--	--
Family SES	--	--	--	--

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*Note.* Reference groups are reported in columns. Rows represent profile estimates in reference to column profiles.

Estimates below the diagonal are not reported as each one is the direct inverse of estimates provided above the

diagonal. Profiles differ significantly at predictors (controlling for other predictors) at \*\*\* =  $p < .001$ , \*\* =  $p < .01$ , \*

=  $p < .05$ , † =  $p < .1$

Table 10

*Equality of Outcomes Across Profiles*

		<b>Alienated/ Ambivalent (N = 51)</b>	<b>Fully Identified (N = 241)</b>	<b>Academically Disengaged (N = 79)</b>	<b>Education-focused/ Racially Distant (N = 108)</b>	<b>Overall Wald test</b>
11th grade GPA	Mean (S.E.)	2.18 <sub>a</sub> (.13)	2.90 <sub>b</sub> (.06)	2.42 <sub>a</sub> (.11)	2.76 <sub>b</sub> (.11)	32.25 (p < .001)
Educational attainment 3 years post-high school	Mean (S.E.)	3.38 <sub>a</sub> (.50)	4.76 <sub>b</sub> (.21)	3.78 <sub>a</sub> (.41)	4.18 <sub>ab</sub> (.36)	11.30 (p = .01)
Efficacy to Combat Discrimination (1- year post HS)	Mean (S.E.)	2.51 <sub>ab</sub> (.13)	2.39 <sub>a</sub> (.09)	2.71 <sub>b</sub> (.14)	2.39 <sub>ab</sub> (.16)	4.14 (p = .25)
Efficacy to Combat Discrimination (3 years post HS)	Mean (S.E.)	2.43 <sub>a</sub> (.21)	2.76 <sub>ab</sub> (.08)	2.95 <sub>b</sub> (.14)	2.68 <sub>ab</sub> (.13)	4.69 (p = .19)

Self-esteem (1 year post-HS)	Mean (S.E.)	3.70 <sub>a</sub> (.21)	3.84 <sub>a</sub> (.14)	3.66 <sub>a</sub> (.27)	3.89 <sub>a</sub> (.24)	0.64 (p = .89)
Self-esteem (3 years post-HS)	Mean (S.E.)	3.43 <sub>a</sub> (.24)	4.09 <sub>b</sub> (.11)	4.25 <sub>b</sub> (.20)	3.87 <sub>ab</sub> (.17)	9.53 (p = .02)
Chance for Positive Life Outcomes (1 year post-HS)	Mean (S.E.)	3.58 <sub>a</sub> (.20)	4.26 <sub>b</sub> (.08)	3.92 <sub>ac</sub> (.15)	4.23 <sub>bc</sub> (.14)	14.97 (p = .002)
Chance for Positive Life Outcomes (3 years post-HS)	Mean (S.E.)	3.97 <sub>a</sub> (.18)	4.48 <sub>b</sub> (.08)	4.07 <sub>ab</sub> (.25)	4.26 <sub>ab</sub> (.15)	11.39 (p = .009)

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*Note.* Difference tests are reported with chi-square test statistic resulting from pairwise Wald tests. Means that do not share subscripts differ at  $p < .05$  or higher. Tests control for gender and middle school context indicators.

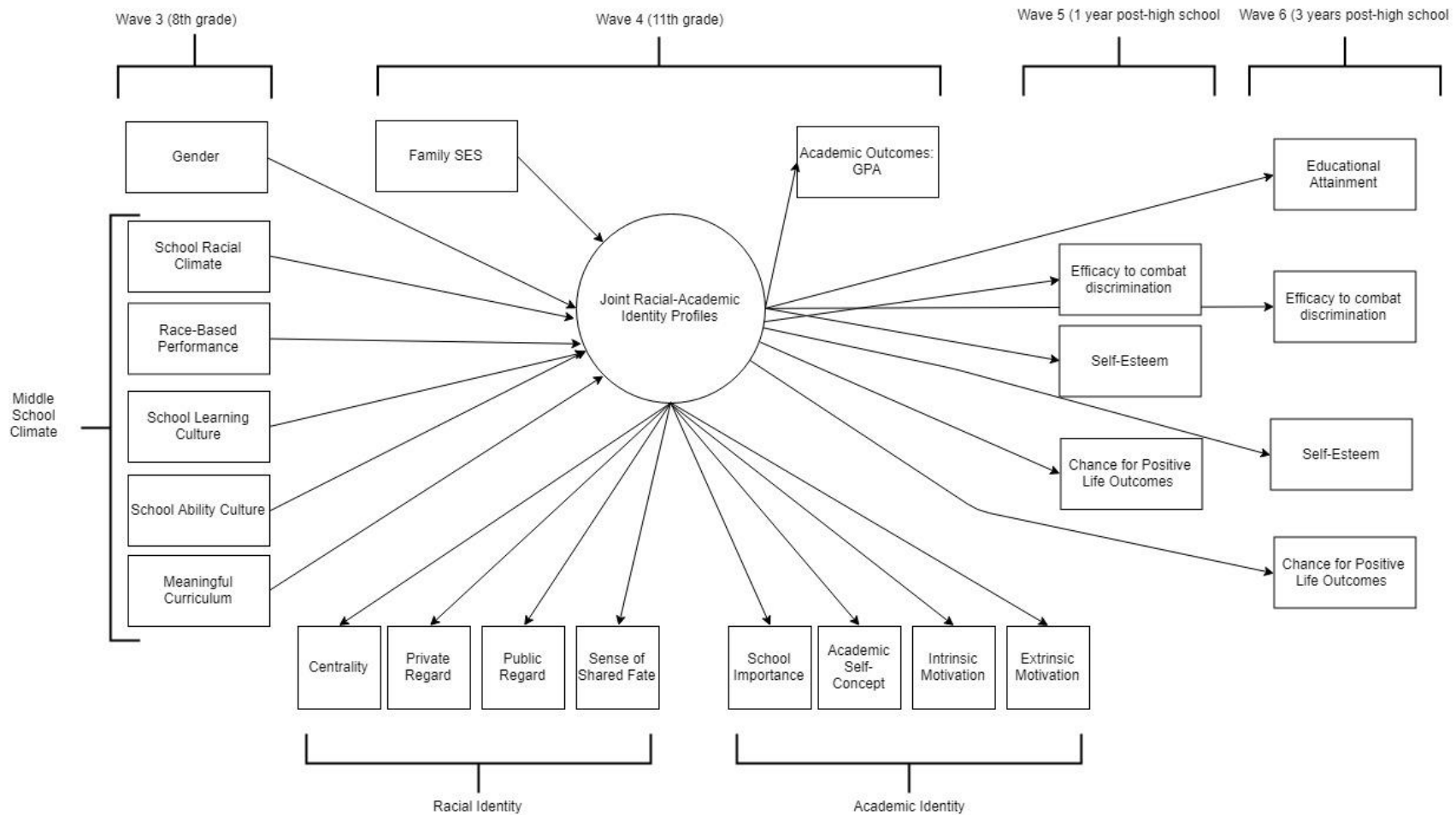


Figure 1. Conceptual analytic model. In the interest of preserving image clarity, not all associations are drawn in this model. For example, all predictor variables are allowed to correlate in the R3STEP analysis and in step 3 of the BCH analysis. We are also not depicting error in our illustration of the profile analysis.

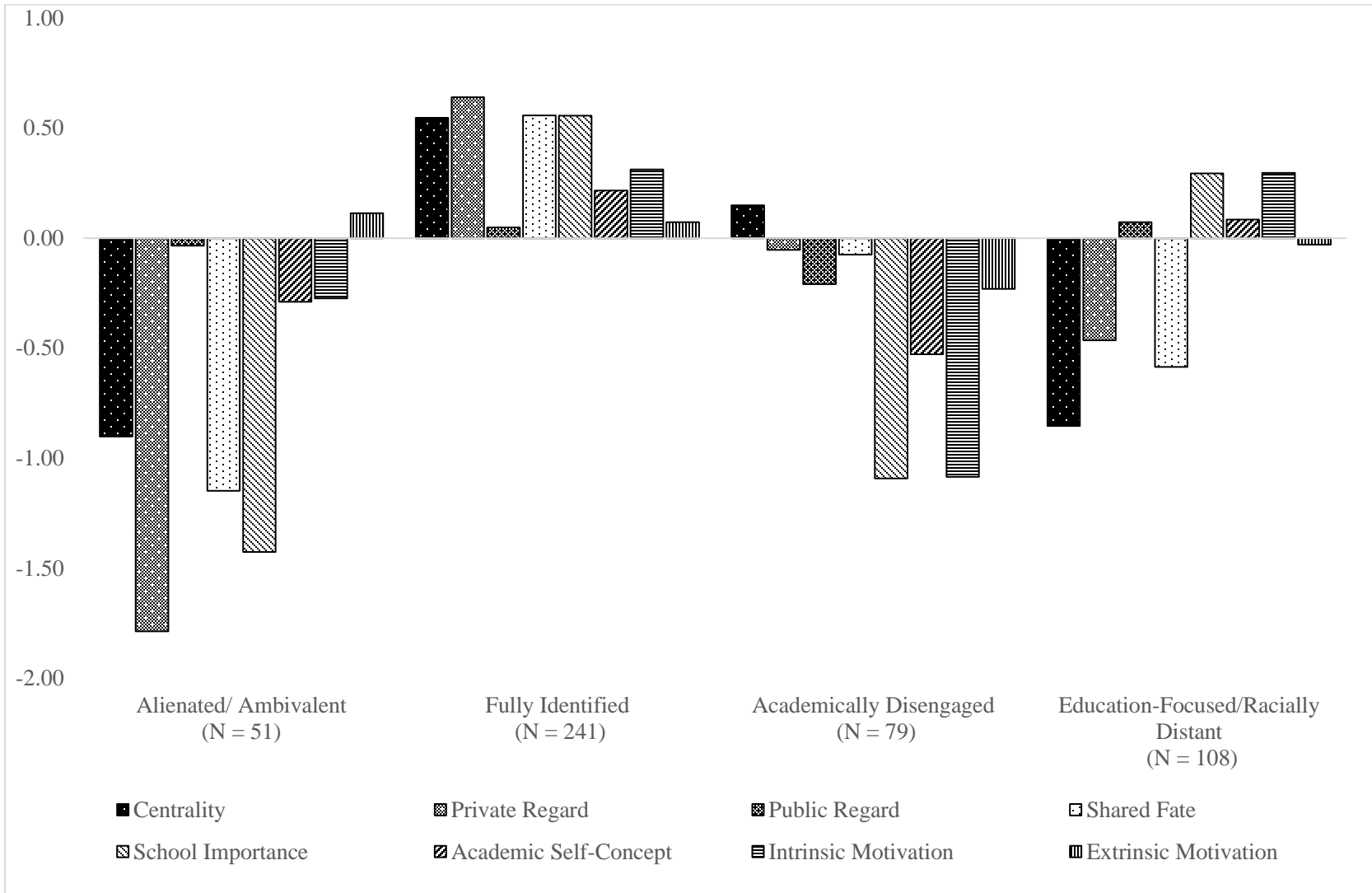


Figure 2. Joint Racial-Academic Identity Profiles of Black 11<sup>th</sup> Graders.

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Curriculum Vitae

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Publications

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Manuscripts Under Review

**Boggs, S.**, & Witherspoon, D. P. (under review). Latino adolescents' acculturation and academic outcomes in neighborhood contexts. *Children, Youth, and Environment*.

Bhargava, S., Witherspoon, D. P., Bámaca-Colbert, M. Y., & **Boggs, S.** (revise & resubmit). Individual and contextual risk factors associated with parental involvement. *Developmental Psychology*.

Zhao, C. May, E. M., Witherspoon, D. P., **Boggs, S.**, & Bámaca, M. Y. (revise & resubmit). Contextualizing parental monitoring among Latino families in a new destination. *Developmental Psychology*.

Manuscripts in Preparation

Witherspoon, D. P., **Boggs, S.**, McDonald, A.R., Wei, W., &, McLoyd, V. C. *Identity and poverty-related academic constraints and supports among rural African American boys and girls*. Manuscript in preparation; target journal(s): Cultural Diversity and Ethnic Minority Psychology **or** Journal of Youth and Adolescence.

**Boggs, S.**, Witherspoon, D. P., Bámaca, M. Y., & McDonald, A. R. *The effect of new-destination residential and cultural context on the ethnic socialization-ethnic identity link among Latino teens*. Manuscript in preparation.

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