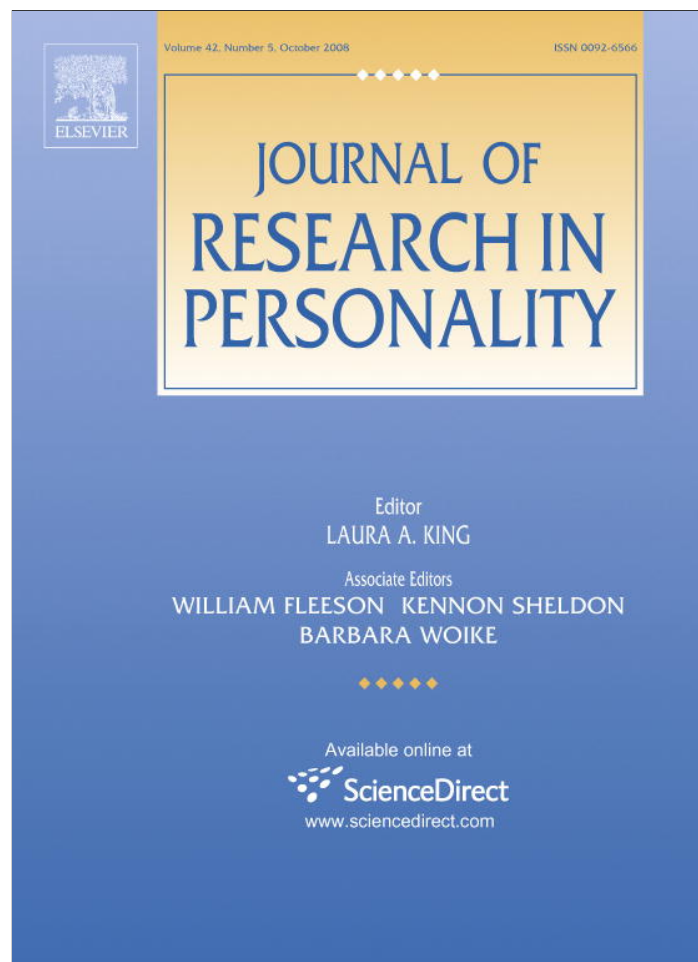


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journal homepage: www.elsevier.com/locate/jrpRacial-ethnic self-schemas: Multidimensional identity-based motivation [☆]Daphna Oyserman ^{*}*The Institute for Social Research, The University of Michigan, 426 Thompson Avenue, Room 5240, Ann Arbor, MI 48106-1248, USA*

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ABSTRACT

Prior self-schema research focuses on benefits of being schematic vs. aschematic in stereotyped domains. The current studies build on this work, examining racial-ethnic self-schemas as multidimensional, containing multiple, conflicting, and non-integrated images. A multidimensional perspective captures complexity; examining net effects of dimensions predicts within-group differences in academic engagement and well-being. When racial-ethnicity self-schemas focus attention on membership in both in-group and broader society, engagement with school should increase since school is not seen as out-group defining. When racial-ethnicity self-schemas focus attention on inclusion (not obstacles to inclusion) in broader society, risk of depressive symptoms should decrease. Support for these hypotheses was found in two separate samples (8th graders, $n = 213$, 9th graders followed to 12th grade $n = 141$).

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1. Introduction

We hear and apprehend only what we already half know. If there is something which... is out of my line... however novel and remarkable it may be, if it is spoken we hear it not, if it is written, we read it not, or if we read it, it does not detain us..." (Henry David Thoreau, *Journal*, 5 January 1860, XIII: 77–78).

As described by Thoreau, the sense we make of an on-going experience is critically influenced by the sense we have made of past experiences. Cognitive schemas, the cognitive scaffolding created by interpreted past experiences, scaffolds current perception, organizes ambiguous information, and focuses attention, motivation and resources (e.g., Fiske & Linville, 1980; Markus, 1977). While prior self-schema research (outlined below) have focused on the benefits of having a schema, the benefits (and costs) of particular content or structure of a self-schema has been less examined. Yet, it seems reasonable to assume that schema content and structure matter. Like other aspects of self-concept, self-schemas are likely to be multidimensional, containing potentially conflicting content, not all of which will be accessed at any point in time (e.g., Markus & Wurf, 1987). In the present paper, I focus on racial-ethnic minority youth subject to negative stereotypes about their academic performance and ask about the multidimensional self-schemas they construct to make sense of themselves as members of a racial-ethnic group. Building on Oyserman, Kimmelmeier and colleagues (2003), I term these self-schemas racial-ethnic self-schemas and examine the impact of four dimensions of racial-ethnic self-schemas (detailed below) on school engagement and well-being.

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^{*} Fax: +1 734 647 3652.

E-mail address: daphna.oyserman@umich.edu

It is not fully clear where schemas come from; while based in experience, not all experiences are used to form schemas so that individuals differ in the domains in which they become schematic as well as the specific content of their schemas. Take gender, age, and race-ethnicity for example. Not all men and women have gender self-schemas (Markus, Crane, Bernstein, & Siladi, 1982), not everyone is self-schematic for their age (Montepare & Clements, 2001) or their race-ethnicity (Oyserman, Kimmelmeier, Fryberg, Bosch, & Hart-Johnson, 2003). However, the evidence is clear that once formed, schemas matter; individuals are more likely to challenge, disbelieve or misremember information that is inconsistent with their schemas (Markus, 1977; Markus & Wurf, 1987), and are faster and more efficient at processing information that is relevant to their schemas (Markus, Smith, & Moreland, 1985). Ambiguous information is assimilated into existing schemas and so remembered in a schema-consistent manner (Catrambone & Hazel, 1987). By structuring how on-going social information is perceived, schemas can create a subjective sense of consistency and meaning over time; in this sense, schemas are psychological resources since meaning-making facilitates coping with threatening and difficult situations (Taylor, Kemeny, Reed, Bower, & Gruenewald, 2000).

While prior racial-ethnic identity research has documented both positive and negative associations between racial-ethnic identity and academic outcomes, depending on content of racial-ethnic identity (Oyserman, Bybee, & Terry, 2003; Oyserman, Gant, & Ager, 1995; Sellers, Smith, & Shelton, 1998), research to date has been less successful in predicting why effects are not consistently positive or negative. As is outlined below, integrating self-schema and social-identity approaches sets up predictions for content of racial-ethnic self-schemas, allows for a multidimensional operationalization of racial-ethnic self-schemas, and predicts when these self-schemas will promote school engagement and well-being (for a review, see Oyserman, 2007).

Being aschematic can be vulnerability-increasing. Whether focused on gender, age, or weight, aschematic individuals have more difficulty fending off negative stereotypes in the stereotyped domain (e.g., stereotypes against the elderly, Montepare & Clements, 2001; gender, Markus et al., 1982; weight, Markus, Hamill, & Sentis, 1987). Taken together, this research suggests that because they lack an organizing framework in the stereotyped domain, aschematic individuals are less likely to recognize negative feedback as potentially stereotype-driven and more likely to simply assume it is self-relevant. In this way, being race-ethnicity aschematic should increase vulnerability to group-relevant negative stereotypes such as stereotypes one's racial-ethnic group.

While self-schema research has not focused on schema content so much as the schematic–aschematic distinction, social-identity research has been content focused (e.g., Tajfel & Turner, 1986, for reviews, Blanton, Christie, & Dye, 2002; Branscombe & Ellemers, 1998). Racial-ethnic identity content has been a particular focus of social-identity research (Brewer, 1991; Cross, 1991; Ellemers, Spears, & Doosje, 2002; Frable, 1997; Verkuyten, 2005). Perhaps because the social-identity perspective foregrounds groups and inter-group relations, theorists influenced by the social-identity framework describe content of racial-ethnic identity in terms of connection to in-group and connection between in-group and broader society (e.g., Brewer, 2007; Verkuyten, 2005).¹

Indeed, a number of research streams highlight the negative effects of not articulating a connection between in-group and broader society. For example, a number of studies using the Nigrenence model suggest that for African-Americans, being fully immersed in one's own racial-ethnic culture but isolated from broader society increases risk for depressive mental health problems (Cross, 1991; Pyant & Yanico, 1991). Segmented assimilation theory (Portes & Rumbault, 2001) makes a similar argument for immigrants. In this framework, strong identification with the culture of origin to the exclusion of connection to broader society is posited to be a response to discrimination that acts as a risk factor by keeping youth from engaging with school as a broader societal institution. A similar conclusion can be drawn following status characteristics theory (Lovaglia, Lucas, Houser, Thye, & Markovsky, 1998), which posits that excluding the in-group from representations of larger society marks the in-group as lower status and reduces chances of success because success is seen as incongruent with group status among both low and high status group members. Ferguson (2001) comes to a similar conclusion based on national trends in academic attainment, study time, and student beliefs about education among African-American, Latina/o, and White youth (using the National Assessment of Educational Progress data). He argues that if school engagement is seen as engaging with an out-group institution, minority students may come to believe that fitting in with their in-group requires acting in ways that are incongruent with school engagement even when they themselves value school.

The social-identity framework also draws attention to the prevalence of negative stereotypes about the academic abilities of low-status racial-ethnic minority youth and the potential negative impact of these stereotypes (e.g., Birenbaum & Kramer, 1995). Low-status (e.g., Lovaglia et al., 1998) and race-ethnicity based stereotypes threaten social identities (Major & O'Brien, 2005) and can have debilitating effects on academic performance (e.g., Steele, 1997). Taken together, social-identity-based research implies high risk for low-status, minority, and stigmatized groups when racial-ethnic identity focuses only on the in-group.

On the other hand, from a self-schema perspective, it is clear that targets of stereotypes do not simply incorporate stereotyped attributes into their social-identity and behavior. On the contrary, targets of stereotypes actively attempt to combat these negative images through the construction of adaptive meaning-making lenses (Oyserman & Swim, 2001). As outlined in a racial-ethnic schema model, this can be done by explicitly incorporating fit between in-group and broader society into racial-ethnic identity (Oyserman, Kimmelmeier, et al., 2003).

¹ For recent reviews of social identity influenced models of racial identity as applied to adolescence, see Worrell and Gardner-Kitt (2006), for a review of Cross' Nigrenence model; Chavous et al. (2003) and Yip, Seaton, and Sellers (2006), for a review of Sellers' Multidimensional Model of Racial Identity.

Emerging research on racial-ethnic self-schemas replicates and extends self-schema research on gender, age, and weight by demonstrating negative effects of aschematicity and demonstrating content-based effects of racial-ethnic self-schemas (Altschul, Oyserman, & Bybee, *in press*; Oyserman, Brickman, & Rhodes, 2007; Oyserman, Kimmelmeier, et al., 2003). The racial-ethnic self-schema framework builds on research demonstrating that African-American and Hispanic youth are exposed both to negative stereotypes about their in-group's academic abilities and to the stereotype that school success is part of mainstream norms to make directional hypotheses. A first hypothesis is that youth with no racial-ethnic schema with which to make sense of school and academic experiences will be left vulnerable to the stereotype that school success is not an in-group norm (termed stereotype threat by Steele, 1997) and will, therefore, have lower academic achievement. A second hypothesis is that simply having a racial-ethnic schema is not sufficient; feeling connected to one's in-group motivates one to act like an in-group member, but does not necessarily provide effective strategies to work toward academic success. These strategies may be more readily available as part of what it means to be a member of broader society. This leads to a third hypothesis, that racial-ethnic self-schemas that include both sense of connection to in-group and to larger society are likely to be associated with positive academic achievement. Connection to broader society may be articulated as a positive connection, what has been termed by a dual racial-ethnic self-schema, or as something to be fought for, with barriers to be overcome, what has been termed a minority racial-ethnic self-schema (Oyserman, Kimmelmeier, et al., 2003). Both foci are posited to be associated with better academic performance, but the vigilant focus on barriers entailed in minority racial-ethnic self-schema focus is posited to be costly, increasing risk of mental health problems such as anxiety or depression (Oyserman, Kimmelmeier, et al., 2003). Specifically, when racial-ethnic self-schemas include both in-group and positive connection between in-group and broader society, ambiguous information will be interpreted as demonstrating positive connection to broader society and engagement with school. This meaning-making lens is likely to be associated with emotional and behavioral engagement with school and therefore with better grades and more well-being.² Conversely, when racial-ethnic self-schemas include both positive connection to in-group and barriers to connection between in-group and broader society, ambiguous information will be interpreted as demonstrating the need to reject stereotypes and overcome barriers. This meaning-making lens is likely to be associated with rejection of anti-effort norms in school as well as behavioral engagement (paying attention in class, staying after class to ask questions) and therefore with better grades but focus on barriers, while energizing effort, may also be stressing, increasing risk of depressive symptoms.

Emerging evidence in support of the racial-ethnic self-schema model comes from research across a variety of samples utilizing different methodologies and measures. Two studies used open-ended probes to ask African-American, Hispanic, and American Indian middle school students to describe their racial-ethnic identity, content-coded responses and categorized them into one of four salient racial-ethnic self-schema dimensions (Oyserman, Kimmelmeier, et al., 2003). In both studies, racial-ethnic self-schemas significantly predicted change in school grades over the school year. Race-ethnicity aschematic youth and youth whose racial-ethnic self-schema focused only on the in-group and not on the nature of the connection between in-group and broader society had lower grades over time than youth whose racial-ethnic self-schema focused on both in-group and in-group's connection to broader society.

To demonstrate causality, Oyserman, Kimmelmeier and colleagues (2003) also manipulated salience of racial-ethnic self-schemas in two additional studies with junior high and high school students who were either American Indian or Palestinian Israeli. In both studies racial-ethnic self-schema content influenced persistence on a math task. Using the same content-coding method described above, they found poorer performance when racial-ethnic self-schema was salient and schema content focused only on the in-group (termed an 'in-group' racial-ethnic self-schema) and not on the nature of the connection between in-group and broader society or when content coding suggested an aschematic focus. In contrast, performance improved when schema content included connection between in-group and broader society, either in the form of positive inclusion in broader society (termed a 'dual' racial-ethnic self-schema) or barriers to inclusion that needed to be overcome (termed a 'minority' racial-ethnic self-schema).

While open-ended probes have a number of important advantages—they allow youth to articulate their own subjective experience, they also have disadvantages, in particular, if self-concept is assumed to be multi-faceted, they do not allow for an explicit examination of the relative impact of each facet of racial-ethnic self-schemas. To address this issue, in a study Mexican American immigrant youth eighth graders, Oyserman and colleagues used a close-ended rating scale format to assess each facet of racial-ethnic self-schemas, again using school-reported academic grades as the dependent variable (Altschul et al., *in press*). Exploratory factor analyses and structural equation measurement models supported the four subscale structure. Results provided a conceptual replication and advance from prior findings. Racial-ethnic self-schema factor scores had their hypothesized impact on grades, controlling for effects of other factors (the exception was dual racial-ethnic self-schema for which no further impact of dual racial-ethnic self-schema scores was found). Specifically, the authors report a net negative effect of higher aschematic and in-group racial-ethnic self-schema scale scores and a net positive effect of higher minority racial-ethnic self-schema scale scores.

Taken together, racial-ethnic self-schema research to-date has both replicated and advanced prior self-schema research but gaps still remain in our understanding of how content of racial-ethnic self-schemas matters. First, prior research focused on academic outcomes, emphasizing effects on grades but not examining effects on well-being and engagement with school.

² The assumption that when racial-ethnic self-schema content focuses on positive meaning-making, well-being is likely to be higher is congruent with other lines of research demonstrating associations between positive or optimistic meaning-making and well-being, including Taylor and Brown (1988) and Taylor et al. (2000).

Second, although the model posits that how connection between in-group and broader society is incorporated into racial-ethnic self-schema matters for outcomes other than grades in school (e.g., for the nature of engagement with school and risk of depressive symptoms), this hypothesis has not been tested. Third, prior research has relied primarily on unitary rather than multidimensional measures of content of racial-ethnic self-schema. However, there is no reason to assume that racial-ethnic identity is a unified integrated whole. Much as self-concept itself is described as multidimensional rather than as a unified integrated whole (e.g., Markus & Wurf, 1987; Oyserman & Markus, 1993), it seems likely that individuals have multidimensional and potentially contradictory racial-ethnic self-schemas. A multidimensional perspective would suggest that individuals endorse varying degrees of aschematicity, varying degrees of in-group only focus, and varying degrees and kinds of beliefs about connection between in-group and broader society. A multidimensional measure would thus provide more accurate assessment and, by allowing for analysis of effects of each dimension while controlling for effects of the others, would facilitate more accurate estimates of the overall effects of each of these dimensions on outcomes of interest.

2. Current studies

The present studies build from prior racial-ethnic self-schema research, addressing prior gaps by using a multidimensional measure. Three hypotheses are tested. (1) Higher aschematic and in-group only self-schema dimension scores will be associated with worse outcomes: lower school grades, less engagement with school and less well-being (operationalized as depressive symptoms). (2) Higher dual and minority racial-ethnic self-schema dimension scores will be associated with better school outcomes: higher school grades and more engagement with school. (3) Minority and dual racial-ethnic self-schema dimension scores will be differentially associated with well-being: higher minority racial-ethnic self-schema dimension scores will be associated with more symptoms of depression and higher dual racial-ethnic self-schema dimension scores will be associated with fewer symptoms.

These hypotheses are tested in two studies. In Study 1, the hypotheses about school grades and engagement with school are examined among a sample of youth in early adolescence. In Study 2, a different sample is used to extend findings to older adolescents and examine the hypotheses about engagement and depressive symptoms. Although there is evidence for stability in racial-ethnic identity from the beginning of 8th grade through the end of 9th grade (Altschul, Oyserman, & Bybee, 2006), there is also evidence of an age-related shift in content of racial-ethnic self-schemas as students end their high school years (Oyserman, Kimmelmeier, et al., 2003). From 9th to 12th grade, likelihood of being aschematic declined as did likelihood of dual racial-ethnic self-schema focus; conversely, likelihood of minority racial-ethnic self-schema focus increased. These studies do not suggest different effects of these self-schema dimensions so in the current studies, both younger (8th grade, Study 1) and older (12th grade, Study 2) adolescents are included. Gender is included in all analyses because of previously reported main-effects of gender on school engagement and grades (e.g., Orfield, 2004) as well as on depressive symptoms (though gender differences are less clear for African-American and Latina/o youths, see Oyserman, 2003, for a summative review). Both Latina/o and African-American youth are included because prior research has suggested that racial-ethnic identity has similar influences on academic outcomes for both groups (Altschul et al., 2006; Oyserman, Kimmelmeier, et al., 2003).

3. Study 1

3.1. Method

3.1.1. Sample and procedures

Participants were 8th graders attending two similarly sized Detroit middle schools ($N = 213$; $n = 117$ female, $n = 95$ male, $n = 1$ chose not to respond). About equally represented were students who self-described as African-American ($n = 98$, $n = 60$ female) and Latina/o ($n = 115$, $n = 57$ female), less than 20% of respondents in either school self-described as white or another racial group so these students were not included in analyses. Schools differed somewhat in relative proportion of African-American (48% in School A, 22% in School B) and Latina/o (28% in School A, 60% in School B) students. About 80% of the student populations received free/reduced price lunch in both schools.

As part of a larger study, students filled out questionnaires in class with parental permission. Less than 3% of youth were excluded because parents refused permission, all students who received consent participated. To enhance confidentiality, teachers were not in class while questionnaires were completed. Research staff circulated in the classroom to answer queries about the questionnaire. School records were obtained from schools or the school district. A core subject teacher filled out a brief in-class behavior scale about each student (with a \$5 reimbursement). After data were matched, identifying links were destroyed.

3.1.2. Measures

3.1.2.1. Racial-ethnic self-schema (RES) dimension scores. So that relative effect of each RES dimension could be assessed, a separate 4-item 5-point scale (1 = *strongly disagree*; 5 = *strongly agree*) was used for each RES dimension. Items were derived from content analyses of responses to open-ended questions about what it means to be African-American (or Latina/o) (Altschul et al., 2006; Oyserman, Kimmelmeier, et al., 2003). Rather than insert a researcher-derived identity label, student-derived labels were derived by asking each student how he or she described his or her race or ethnicity and then asking each student to insert this self-derived label in each of the items. The items presented below use Latino as the label.

Some of the RES dimension scores were correlated, Minority RES correlated with Dual RES ($r = .27, p < .001$), In-group RES ($r = .36, p < .001$), and Aschematic ($r = -.13, p = .05$), and In-group RES correlated with Aschematic ($r = -.18, p < .01$), Dual RES was not significantly correlated with either In-group or Aschematic RES ($ps > .10$). Scores were not highly correlated and exploratory factor analyses (varimax rotation) revealed a four-factor solution, items loaded most strongly onto the expected scales in all but one case. The item “I am proud to be a member of my group because we as a people have made many contributions to society.” loaded both on the Minority and the Dual scales but was incorporated only into the Dual scale for theoretical reasons. Reliability, listed below, was adequate for the Aschematic and In-group scales, low for Minority and Dual scales. Reliability at comparable levels is reported for other racial-ethnic identity subscale scores (e.g., Yip et al., 2006 report α reliability of two subscale scores as .55, .58 for one subscale, and between .68 and .77 for the three most reliable subscales).

Aschematic. Items were “Belonging to a particular group is not important to me; we are all human,” “Everyone is an individual, so being Latino does not matter to me,” “It does not mean anything to me to be part of an ethnic group,” “I don’t feel part of any ethnic group” ($M = 2.69, SD = .89, \alpha = .77$).

In-group RES. Items were “It is better to be with Latinos because sometimes other people don’t get how we are,” “I like to be mostly with Latinos because we understand each other best,” “There is not much good in American culture, so I try to stick mostly to my own culture,” “It is hard to be American and true to my home culture” ($M = 2.79, SD = .84, \alpha = .73$).

Dual RES. Items were “As a Latino it is important to me to share my culture and traditions with others,” “I am proud to be Latino because we as a people have made many contributions to society,” “I am proud to be Latino and to be a part of this great country,” “I am both a Latino and an American like everyone else” ($M = 4.03, SD = .51, \alpha = .47$). An exploratory factor analyses suggested that the first item loaded least well on this factor, deleting this item however only marginally increased scale reliability, to $\alpha = .52$, and results are substantively the same whether the 3- or 4-item version of the scale are used, therefore it was decided to retain this item in subsequent analyses.

Minority RES. Items were “We have to try harder than others because it is not easy for Latinos to make it in America,” “It is important for me to show others that when we set our mind to it, Latinos can do as well as anyone else,” “It is important for me to represent Latinos in the best possible way because not everyone sees Latinos positively,” “Even though others may not expect much Latinos, there are Latinos who have shown America that we can accomplish a lot” ($M = 3.94, SD = .65, \alpha = .55$). An exploratory factor analyses suggested that in addition to these 4-items, an item from the Dual RES scale loaded as well on this factor, however, including this item in the Minority RES score was neither theoretically warranted nor did it improve reliability (reducing α to .53), therefore it was decided to retain this item in the Dual RES scale only.

3.1.2.2. *Grade point average (GPA).* Grades were obtained and averaged from school records for the semester the youth questionnaire was administered (4 = A and 0 = F; $M = 2.36, SD = .86$).

3.1.2.3. *Behavioral engagement with school.* A core subject teacher rated behavioral engagement on a 14-item, 5-point scale (1 = never, 5 = always, Finn, Panno, & Voelkl, 1995; eighth grade revision) using equal numbers of positive (e.g., “This student completes homework and in-class assignments”) and (reverse coded) disruptive (e.g., “This student needs to be reprimanded or sent to the office”) items. Higher scores represent positive engagement ($M = 3.46, SD = .64, \alpha = .90$). Grades and engagement correlated ($r = .76, p < .001$) as expected.

3.1.2.4. *Emotional engagement with school. Bonding.* Students rated their emotional bonding with school on a 6-item, 5-point scale (1 = strongly disagree, 5 = strongly agree, Cernkovich & Giordano, 1992), e.g., “I feel I really belong at school.” Higher scores represent more bonding ($M = 3.92, SD = .63, \alpha = .74$).

Rejection of anti-effort norms. Students rated their rejection of anti-effort norms on a 3-item 5-point scale (1 = strongly disagree, 5 = strongly agree, Arroyo & Zigler, 1995), e.g., “I act less intelligent than I am so other students won’t make fun of me” (reverse coded). Higher scores represent rejection of anti-effort norms ($M = 4.29, SD = .84, \alpha = .84$). The two emotional engagement with school scales were correlated ($r = .25, p < .01$), though not enough to warrant averaging the two scales to create a composite.

3.2. Results

3.2.1. Analyses plan

Effects of each RES dimension score on the four school-related dependent variables: grade point average, behavioral engagement, and two measures of emotional engagement, were examined by performing a hierarchical multiple regression analysis for each dependent variable. In each equation, the demographic model was tested at block one (gender, race-ethnicity, and school) and the RES model was tested at block two (Aschematic, In-group, Dual, Minority). Examination of the data suggested eight possible outliers (responses three or more standard deviations from the mean); consisting of five outliers on rejection of anti-effort norms (responses above the mean), two outliers on Minority RES (responses below the mean), and one outlier on Dual RES (responses below the mean). Effects when these eight outliers were included as raw data were compared to effects when these outliers were recoded to the next most extreme response. Neither main nor two-way interaction effects changed so analyses present all data, including outliers without recoding. Possible two-way interactions between race-ethnicity (Latina/o, African-American) and RES (Aschematic, In-group, Dual, Minority) and between gender

and RES were tested for but not found, suggesting that effects of RES are not moderated by race-ethnicity or gender. Sample size did not provide sufficient power to test for potential three-way interactions between race-ethnicity, gender, and RES.

3.2.2. Effects of RES dimension scores

The pattern of RES dimension score main effects was consistent with hypotheses; all results are presented in Table 1 (information on variance explained by demographic and RES models is presented in Table 2). Across all dependent variables, adding the RES scores significantly increased variance explained, with increases in R^2 ranging from .04 to .12 and total variance explained ranging from R^2 .08 to .19. Least variance was explained both overall and by the RES model for the rejection of anti-effort norms construct. Below, for sake of brevity, only significant specific effects are detailed.

Negative effects of in-group and aschematic dimension scores. After taking into account demographic and school context variables, and controlling for other RES dimension effects, higher aschematic dimension scores were associated with worse outcomes on three of the four-dependent variables: school-reported GPA ($B = -.17, p = .007$), (marginally) teacher-rated behavioral engagement with school ($B = -.09, p = .07$) and self-reported rejection of anti-effort norms ($B = -.15, p = .03$). The same pattern held for In-group RES though significant only for GPA ($B = -.14, p = .05$).

Positive effects of dual and minority dimension scores. After taking into account demographic and school context variables, and controlling for other RES dimension effects, higher Dual RES scores were associated with better outcomes on all of the four-dependent variables: school-reported GPA ($B = .24, p = .03$), teacher-rated behavioral engagement with school ($B = .24, p = .006$), and self-reported engagement (more bonding with school, $B = .30, p < .001$, and marginally more rejection of anti-effort norms, $B = .21, p = .07$). Higher Minority RES scores were associated with better outcomes on two of the four-dependent variables: GPA ($B = .27, p = .006$) and (marginally) behavioral engagement with school ($B = .14, p = .06$).

3.3. Discussion

Results with the multidimensional measure replicate prior uni-dimensional results in showing an effect of content of racial-ethnic self-schemas on school grades and no difference in the pattern of effects by race-ethnicity (Oyserman, Kemmelmeier, et al., 2003). Results advance beyond prior research by using multiple measures of school outcomes, not only school records of grades and by using a multidimensional assessment of racial-ethnic self-schemas. Because current results use a close-ended scale to assess RES, allowing participants to obtain scores for each RES dimension, it was possible to examine more carefully the net effect of each aspect of RES. This is a more nuanced test of the effect of each RES dimension because it fits better with the assumed multidimensionality of each component of self-concept, including racial-ethnic self-schemas.

Beyond effect of content of each of the four RES components on school grades, the most consistent net effects were for dual RES scores, which produced net positive effects across all four measures, including the three emotional and behavioral

Table 1
Study 1: the effects of RES scores on grades and engagement with school, summary of final regression equations

| Variable | Grades | | | Engagement with school | | | | | | | | |
|---|------------------------------|---------|------|---|---------|------|---------------------------------------|---------|-------|---|------|-----|
| | GPA (school-report; N = 211) | | | In-class behavior (teacher-report; N = 208) | | | School bonding (self-report; N = 209) | | | Rejection of anti-effort norms (self-report; N = 209) | | |
| | B | β | p | B | β | p | B | β | p | B | B | p |
| Gender (male = 1, female = 0) | -.29 | -.17 | .008 | -.15 | -.13 | .08 | -.15 | -.11 | .08 | -.10 | -.06 | .40 |
| Race (African-American = 1, Latino = 0) | -.11 | -.06 | .37 | -.08 | -.06 | .38 | .14 | .11 | .12 | .04 | .02 | .76 |
| School (A = 1, B = 0) | -.24 | -.14 | .05 | -.19 | -.15 | .04 | .35 | .26 | <.001 | .34 | .18 | .02 |
| Dual RES | .24 | .15 | .03 | .24 | .20 | .006 | .30 | .24 | <.001 | .21 | .13 | .07 |
| Minority RES | .27 | .20 | .006 | .14 | .15 | .06 | -.04 | -.04 | .62 | -.01 | -.01 | .90 |
| In-group RES | -.14 | -.14 | .05 | -.03 | -.03 | .65 | .04 | .06 | .39 | -.06 | -.06 | .46 |
| RES Aschematic | -.17 | -.18 | .007 | -.09 | -.13 | .07 | -.04 | -.06 | .38 | -.15 | -.16 | .03 |

Table 2
Study 1: summary of R^2 and ΔR^2 of blocks in regression equations

| | | GPA (school-report) | In-class behavior (teacher-report) | School bonding (self-report) | Rejection of anti-effort norms (self-report) |
|-----------------------|--------------|---------------------|------------------------------------|------------------------------|--|
| Block 1: demographics | R^2 | .08*** | .06** | .12*** | .04 |
| Block 2: RES | ΔR^2 | .12*** | .09*** | .06** | .04* |
| Final model | R^2 | .19*** | .15*** | .18*** | .08* |

Note. * $p < .05$; ** $p < .01$; *** $p < .001$.

engagement measures. Net other effects, higher Dual RES scores were associated with more teacher-rated bonding with school, more self-reported engagement with school and more self-reported rejection of anti-effort norms. Net other effects, higher Minority RES scores were associated with (marginally) more self-reported engagement with school, but effects were not significant for teacher-rating or self-reported rejection of anti-effort norms. Similarly, while Aschematic and In-group RES scores showed the predicted negative effects on school grades, aschematic scores did not influence reported rejection of anti-effort norms and no effects of In-group RES scores were found for behavior.

Taken together, results suggest Dual and Minority RES may be differentially likely to influence behavior in school but that both have separate and positive effects on school grades while focus on in-group only or an aschematic conceptualization of whether racial-ethnicity identity is self-defining increases behavioral vulnerability as well as increasing risk of worse grades. However, Study 1 had several limitations; it did not include a measure of psychological well-being and the data were from a single point in time. Also, perhaps because the participating youth were early adolescents, reliabilities of at least some of the RES subscales were low. Using a second sample of youth, in Study 2, these limitations were addressed by including a measure of depressive symptoms and assessing youth in the 9th and again in the 12th grade.

4. Study 2

4.1. Method

4.1.1. Sample and procedures

Study 2 participants ($N = 173$; $n = 82$ male, $n = 91$ female) self-described as African-American ($n = 141$, $n = 76$ female) and Latina/o ($n = 32$, $n = 15$ female) and came from different schools than those sampled in Study 1. These schools were part of a larger study that tracked 263 8th graders enrolled in one of three Detroit middle schools from these middle schools to a wide range of high schools through the end of 9th grade. In the current study, a 12th grade follow-up was added. Parents had provided written consent for contact through high school, but the larger study had last interviewed youth in 9th grade, 3 years prior to the 12th grade data collection conducted for this study. After the 3-year interval, 173 of the original 263 youth, now aged 17 or 18 and enrolled in 65 school or educational programs could be located; differential patterns of mobility resulted in greater success in finding African-American (73%) than Latina/o (46%) participants. Because data on depressive symptoms were only available in the 9th and 12th grades, Study 2 included these two time-points (beginning of 9th grade and 4 years later, at which point on-track youth were finishing 12th grade). At both time points, questionnaires were filled out at home or at school; if distance precluded in-person administration, a phone interview was conducted. Sample size varies somewhat because students were free to skip items. Specific n for each analysis is reported in the relevant tables.

Given the timing of the study, students were expected to be in 12th grade and most participants were enrolled in high school ($n = 139$) or an alternative education or GED certificate programs ($n = 15$). A few were not currently in school ($n = 19$) so were not included in analyses examining the relation between RES and academic outcomes. Youth in alternative or GED certificate programs were retained for analyses (though including or excluding them did not change our results.) For clarity, time points are called 9th and 12th grade for all students.

4.1.2. Measures

4.1.2.1. Racial-ethnic self-schemas (RES). RES was assessed in 12th grade using the same four 4-item 5-point subscales used in Study 1. Reliability was adequate: Dual ($M = 4.15$, $SD = .58$, $\alpha = .70$), Minority ($M = 4.14$, $SD = .65$, $\alpha = .69$), In-group ($M = 2.56$, $SD = .79$, $\alpha = .75$), Aschematic ($M = 2.48$, $SD = .95$, $\alpha = .81$). Some subscales were correlated, but correlations were not high. Aschematic RES correlated negatively with both Minority ($r = -.28$, $p < .001$) and Dual RES ($r = -.36$, $p < .001$). In addition, Minority correlated positively with Dual ($r = .48$, $p < .001$) and In-group RES ($r = .21$, $p = .005$). In-group RES was not significantly correlated with Dual RES or Aschematic ($r_s < .1$, $p_s > .20$). An exploratory factor analyses with varimax rotation resulted in a four factor solution, all items loaded best on the theoretically relevant factor.

4.1.2.2. Emotional engagement with school. School bonding. Youth completed a 9-item version of the school bonding measure described in Study 1 in 9th ($M = 4.12$, $SD = .43$, $\alpha = .63$) and 12th ($M = 4.04$, $SD = .49$, $\alpha = .70$) grades. As in Study 1, higher scores represent more engagement.

Rejection of anti-effort norms. Youth completed the rejection of anti-effort norms measure described in Study 1 in 9th ($M = 4.47$, $SD = .51$, $\alpha = .78$) and 12th ($M = 4.57$, $SD = .59$, $\alpha = .85$) grades. As in Study 1, higher scores represent more rejection of anti-effort norms. The two engagement scales were moderately correlated (in 9th grade, $r = .25$, $p < .001$; in 12th grade, $r = .31$, $p < .01$).

4.1.2.3. Depressive symptoms. Depressive symptoms in the past week (0 = Not at all or less than one day; 1 = 1–2 days; 2 = 3–4 days; 3 = 5–7 days) were assessed with the 20-item Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977), e.g., “I was happy,” “I felt that everything I did was an effort,” “I thought my life had been a failure.” The CES-D is scored as a sum with positive items reverse coded so that higher scores represent more symptoms (9th grade: $M = 11.82$, $SD = 7.72$, $\alpha = .80$; 12th grade: $M = 13.26$, $SD = 8.05$, $\alpha = .80$).

4.2. Results

4.2.1. Analyses plan

The effects of each RES dimension score on the two emotional engagement scores and the depressive symptom score were examined with two sets of hierarchical multiple regression analyses. First the relation between the RES dimension scores and each dependent variable at a single point of time (at the end of 12th grade) and then the relation between the RES dimension scores and change in levels of each dependent variable over time was assessed by controlling for 9th grade levels of these dependent variables. These latter analyses differed in that in the single point-in-time analyses, gender and race-ethnicity were entered at block one while in the change-over-time analyses, block one also included the 9th grade level of the relevant dependent variable (as well as gender and race-ethnicity). Because students were enrolled in 65 different schools and educational programs and the programs could not be recoded on some clear metric, in Study 2, school effect itself could not be controlled for. In both sets of analyses, the four RES dimension scores were entered at block two.

Data were examined for outliers with responses three or more standard deviations from the mean and three were found; of these, one was an outlier on rejection of anti-effort norms (above the mean), one was an outlier on Dual RES (below the mean), and one was an outlier on Minority RES (below the mean). As in Study 1, including these data points as raw data or recoding these points to the next extreme value did not influence main effects, except that one effect becomes marginal. With regard to the relevant two-way interaction effects, truncating outliers shifted two interaction effects, examination of the data showed that both were shifted due to a single Latino youth. Consistent with Study 1, in both sets of analyses, no gender by RES interactions were found. Because interpretation of race-ethnicity by RES results hinge on responses of a single Latino youth and the most parsimonious reason for this is that the Latino sub-sample is too small for stable sub-sample analyses, it was decided not to report race-ethnicity by RES effects. Sample size also did not allow for tests of the three-way interaction of gender, race-ethnicity, and RES.

4.2.2. Effects of RES dimension scores

Consistent with Study 1, main effects analyses are reported using the raw data, including the three outliers. As in Study 1, the pattern of results were consistent with hypotheses; Tables 3 and 4 present point-in-time analyses and Tables 5 and 6 present results of the change-over-time analyses. Variance explained ranges from R^2 .17 to .25 (Table 4, point-in-time analyses) and from R^2 .20 to .33 (Table 6, change-over-time analyses). For sake of brevity, only significant effects are discussed below.

4.2.2.1. Negative effects of in-group and aschematic dimension scores. After controlling for demographics and other RES dimension effects, higher In-group RES dimension score was associated with worse outcomes on all three of the dependent variables in both point-in-time and over-time analyses: school bonding ($B = -.14, p = .006$), rejection of anti-effort norms ($B = -.21, p < .001$), and depressive symptoms ($B = 2.02, p = .009$) in 12th grade and also related to declines in school bonding ($B = -.11, p = .02$), and increased rejection of anti-effort norms ($B = -.15, p = .006$) and depression ($B = 1.69, p = .03$) over time from 9th to 12th grade. No main effect of Aschematic dimension score was found ($.2 < ps < .4$).

4.2.2.2. Positive effects of dual and minority dimension scores on engagement. After controlling for demographics and other RES dimension effects, higher Dual RES dimension scores were associated with more school bonding both in 12th grade ($B = .23$,

Table 3
Study 2: effect of RES scores on depression, school bonding and anti-effort norms, summary of final regression equations

| Variable | Depression (CES-D; N = 169) | | | School bonding (N = 152) | | | Rejection of anti-effort norms (N = 152) | | |
|---|-----------------------------|---------|-------|--------------------------|---------|------|--|---------|-------|
| | B | β | P | B | β | p | B | β | p |
| Gender (male = 1, 0 = female) | -3.52 | -.22 | .003 | -.04 | -.05 | .56 | -.29 | -.25 | .001 |
| Race (African-American = 1, 0 = Latino) | -2.88 | -.14 | .06 | .12 | .09 | .27 | .21 | .13 | .08 |
| Dual RES | -4.35 | -.31 | <.001 | .23 | .27 | .003 | .04 | .04 | .64 |
| Minority RES | 2.04 | .17 | .05 | .05 | .07 | .40 | .24 | .27 | .001 |
| In-group RES | 2.02 | .20 | .009 | -.14 | -.22 | .006 | -.21 | -.28 | <.001 |
| RES aschematic | .57 | .07 | .40 | -.03 | -.07 | .44 | -.03 | -.04 | .62 |

Table 4
Study 2: summary of R^2 and ΔR^2 of blocks in regression equations

| | Depression (CES-D) | School bonding | Rejection of anti-effort norms |
|-----------------------|---------------------|----------------|--------------------------------|
| Block 1: demographics | R^2 .05* | .02 | .11*** |
| Block 2: RES | ΔR^2 .13*** | .14*** | .14*** |
| Final model | R^2 .18*** | .17*** | .25*** |

Note. * $p < .05$; ** $p < .01$; *** $p < .001$.

Table 5

Study 2: effect of RES scores on change over time in depression, school bonding, and anti-effort norms, summary of final regression equations

| Variable | Depression (CES-D; N = 165) | | | School bonding (N = 150) | | | Rejection of anti-effort norms (N = 150) | | |
|-----------------------------|-----------------------------|---------|-------|--------------------------|---------|-----|--|---------|-------|
| | B | β | p | B | β | p | B | β | p |
| Gender (male = 1) | -2.79 | -.17 | .02 | -.06 | -.06 | .45 | -.27 | -.23 | .002 |
| Race (African-American = 1) | -2.39 | -.12 | .11 | .07 | .05 | .53 | .11 | .07 | .35 |
| 9th grade DV score | .21 | .21 | .005 | .23 | .20 | .01 | .35 | .30 | <.001 |
| Dual RES | -4.25 | -.31 | <.001 | .19 | .21 | .02 | -.03 | -.03 | .70 |
| Minority RES | 2.26 | .18 | .03 | .06 | .08 | .38 | .24 | .27 | .001 |
| In-group RES | 1.69 | .16 | .03 | -.11 | -.18 | .02 | -.15 | -.20 | .006 |
| RES aschematic | .39 | .05 | .56 | -.04 | -.07 | .40 | -.05 | -.08 | .29 |

Table 6

Study 2: summary of R^2 and ΔR^2 of blocks in regression equations predicting change over time

| | | Depression (CES-D) | School bonding | Rejection of anti-effort norms |
|------------------------------------|--------------|--------------------|----------------|--------------------------------|
| Block 1: demographics, baseline DV | R^2 | .11*** | .10** | .23*** |
| Block 2: RES | ΔR^2 | .11*** | .10** | .10*** |
| Final model | R^2 | .22*** | .20*** | .33*** |

Note. ** $p < .01$; *** $p < .001$.

$p = .003$) and over time ($B = .19, p = .02$). Minority RES dimension scores were associated with more rejection of anti-effort norms both in 12th grade ($B = .24, p = .001$) and over time ($B = .24, p < .001$). Unlike Study 1, Dual RES scores were not associated with rejection of anti-effort norms and Minority RES scores were not associated with bonding.

4.2.2.3. *Differential effects of dual and minority dimension scores on depression.* The hypothesized reversal of effect for Dual and Minority RES dimension scores on depressive symptoms was also found. Dual RES dimension score was associated with fewer depressive symptoms ($B = -4.35, p < .001$) both in the 12th grade and over time ($B = -4.25, p < .001$). Minority RES dimension score was associated with more depressive symptoms ($B = 2.04, p = .05$) both in 12th grade and over time ($B = 2.26, p = .03$).

4.3. Discussion

In Study 2, the four RES dimensions were assessed with adequate reliability and showed the hypothesized net effects on school bonding, rejection of anti-school norms, and levels of depressive symptoms with consistent effects in point-in-time and change-over-time analyses. As hypothesized, controlling for other factors, the net effect of In-group RES scores was negative, higher scores were associated with more depression, less engagement with school and less rejection of anti-effort norms. Indeed, when predicting depressive symptoms, the net effect of both Minority and In-group RES scores was negative, while the net effect of Dual RES scores was positive. As predicted, net effects of Dual and Minority RES on engagement with school were positive.

However, a number of limitations remain, first, while the pattern of effects for school engagement is broadly consistent across studies, effects were not fully replicated. Thus, in Study 1, Dual scores were associated with both bonding and rejection of anti-effort norms, in Study 2, effects were found only for bonding. In Study 1, Minority scores were associated with bonding, in Study 2 effects were found for rejection of anti-school norms. Moreover, while change-over-time analyses controlled for change in the dependent variables, they did not control for possible change over time in the independent variable because the variable was only assessed at time 2. While in Study 1, no effect of race-ethnicity was found, Study 2 did not contain adequate numbers of Latina/o youth to examine racial-ethnic sub-group effects. Moreover, while in Study 1, the posited negative effects of the aschematic and in-group only dimensions were significant for the aschematic dimension, in Study 2, effects were more pronounced for the in-group dimension. In-group RES dimension scores were associated with more depressive symptoms and less emotional engagement with school whether assessed as bonding or rejection of anti-effort norms.

5. General discussion

In the present paper, I integrated a self-schema approach with prior research using a social-identity perspective to examine how racial-ethnic self-schemas relate to academic outcomes and mental health among African-American and Latina/o adolescents. Moving beyond uni-dimensional focus on being schematic vs. being aschematic, a multidimensional racial-ethnic self-schema model was posited. Within a multidimensional model, individuals are assumed to simultaneously hold competing and even contradictory perspectives about the meaning of race-ethnicity to self-definition and how to conceptualize

connection between in-group and broader society. They conceptualize racial-ethnic identity both in terms of connection to the in-group and in terms of various ways of viewing in-group connection to broader society. Rather than base prediction on a single coding of most central content of racial-ethnic self-schema, this model allows for multidimensional assessment and analyses of effects of each dimension, controlling for competing effects of other dimensions. Thus, in examining racial-ethnic self-schemas, I focused on a few central dimensional axes: (1) the extent racial-ethnic self-schema reflects content about connection between in-group and broader society and (2) how the relation to broader society is perceived.

Two studies with African-American and Latina/o youth in both earlier and later adolescence support specific predictions about impact of racial-ethnic self-schema dimensions. With regard to negative effects, controlling for other effects, higher race-ethnicity aschematic dimension scores had pronounced negative effects among younger but not older adolescents, whereas higher scores on the in-group racial-ethnic self-schema dimension had pronounced negative effects among older, not younger adolescents. That is, aschematic dimension scores were associated with lower grades and less engagement with school in 8th grade (Study 1) but among 12th graders (Study 2), no evidence of this negative effect was found. In contrast, in-group dimension scores were negatively associated with grades but not with any of the three engagement measures in eighth grade but negatively associated with all four (including three engagement and one well-being) dependent measures in 12th grade. These negative effects for in-group dimension scores resonate with research demonstrating negative effects of what is termed a “thick” racial-ethnic identity, an identity which focuses on in-group and excludes connection to larger society (Portes & Rumbault, 2001). While this prior research did not look at age effects, our results may indicate the negative effects of using an In-group racial-ethnic self-schema to make sense of daily experience increases with age. Taken together across our two studies, these findings may suggest that, in earlier years of adolescence, not constructing a schema for race-ethnicity is particularly detrimental and constructing a schema of any sort is important, whereas in older adolescence, the influence of racial-ethnic self-schemas begins to depend more on whether these schemas include or exclude broader society. This possibility will be important to examine directly in future research.

With regard to positive effects of racial-ethnic self-schemas, I hypothesized and found better school grades and engagement when racial-ethnic self-schema focus attention on connection between in-group and broader society, regardless of whether this engagement is articulated via minority or dual racial-ethnic self-schema dimensions. Among 8th graders, controlling for effects of demographics and other schema dimension scores, higher dual and minority racial-ethnic self-schema dimension scores were associated with higher grade point average and increased school engagement, with effects being more pronounced for dual racial-ethnic self-schema scores. Among 12th graders, using the same controls, dual and minority racial-ethnic self-schema dimension scores were both associated with school engagement, as measured by school bonding and anti-effort norms, respectively. As hypothesized, controlling for other factors, effects of dual and minority racial-ethnic self-schema dimension scores differed with regard to well-being (depressive symptoms). Perceiving the relation between broader society and the in-group as involving positive opportunities for engagement (dual racial-ethnic self-schema dimension) was associated with decreased depressive symptoms, whereas perceiving the in-group as needing to struggle to overcome obstacles to engage in broader society (minority racial-ethnic self-schema dimension) was associated with increased depressive symptoms over time. These results are congruent with an emerging literature highlighting the psychological toll of perceived unfair treatment (Gee, Spencer, Chen, & Takeuchi, 2007; Hudson-Banks, Kohn, & Spencer, 2006) and the association of perceived unfair treatment with vigilance (Oyserman, Uskul, Yoder, Nesse & Williams, 2007).

Our multidimensional analyses did not show differences by race-ethnicity, though in Study 2, sample size was insufficient to test for this, so further research to explore this possibility should be undertaken. While the racial-ethnic self-schema dimensions were correlated, they were not so highly correlated as to suggest a single unified racial-ethnic schema, but rather supported the notion that racial-ethnic self-schemas include a multi-faceted organization of prior experiences related to race-ethnicity. These include dimensions focused on whether race-ethnicity is self-defining, connection to the in-group, and differing perspectives on the nature of the connection between in-group and broader society. Our results show that effects of each dimension of one's racial-ethnic self-schema emerge, even controlling for effects of other dimensions. Thus, high scores in the two dimensions reflecting connection between in-group and broader society each had a unique effect on school engagement and depressive symptoms. Controlling for the effects of all other dimensions, higher dual dimension scores were associated with fewer depressive symptoms; controlling for the effects of all other dimensions, higher minority dimension scores were associated with more depressive symptoms.

Findings are consistent with previous racial-ethnic identity models that propose that feeling connected to one's in-group is an important developmental task for racial-ethnic minority youth in the United States (e.g., Cross, 1991; Oyserman et al., 1995; Phinney, 1989; Sellers et al., 1998). Indeed, connection (also called centrality) is consistently associated with self-esteem (e.g., Parham & Helms, 1985; Rowley, Sellers, Chavous & Smith, 1998; Sellers et al., 1998; Vandiver, Cross, Worrel, Fhagen-Smith, 2002; Worrel, Vandiver, Cross, & Fhagen-Smith, 2004). Present findings contribute to building a more complex model of the implications of this sense of connection. This is an important next step because the link between racial-ethnic identity, mental health, and school outcomes has been less consistently demonstrated (for review of the research with African-American youth, Sellers, Copeland-Linder, Martin, & Lewis, 2006; for a review of the research with Latina/o youth, Supple, Ghazarian, Frabutt, Plunkett, & Sands, 2006). Several authors have reported positive associations between feelings of group connection and academic achievement (Miller & MacIntosh, 1999; Taylor, Casten, Flickinger, & Roberts, 1994) and mental health (Roberts et al., 1999; Seaton, Scottham & Sellers, 2006). But and even larger number of studies using the same models report no direct effect of connectedness (also termed centrality) on these outcomes among African-American or Latina/o adolescents (Caldwell, Zimmerman, Bernat, Sellers, & Notaro, 2002; Chavous et al., 2003; Chavous, Rivas, Green,

& Helaire, 2002; O'Brien, Martinez-Pons, & Kopala, 1999; Sellers et al., 1998; Simons et al., 2002; Supple et al., 2006; Yip et al., 2006). The multidimensional self-schema model suggests a reason for these inconsistent results. Positive connection to in-group alone will not have positive effects on school outcomes and well-being; connection to in-group needs to be accompanied by conceptualization of connection between in-group and broader society. This multidimensional conceptualization is consistent with calls for moving beyond a focus on the direct effect of connection to in-group in models predicting relationship between racial-ethnic identity and academic outcomes (Branscombe, Schmitt, & Harvey, 1999; Caldwell et al., 2002; Oyserman et al., 1995; Sellers et al., 1998; Sellers et al., 2006; Wong, Eccles, Sameroff, & Sameroff, 2003).

Although the current study does not include extensive examination of social context, there is some evidence that social context influences the relation between racial-ethnic self-schema and developmental outcomes. Specifically, in Study 1, school outcomes were better in one school compared with the other, suggesting possible school climate effects. Moreover, negative effects of high aschematicity dimension scores were found in the middle school, not the high school sample. Although the present data do not allow for examination of why being race-ethnicity aschematic was associated with negative outcomes only in early adolescence, one possibility is that this change reflects changes in youths' social context. Specifically, in the present sample, students' middle schools were relatively homogeneous with respect to race-ethnicity. Thus, not feeling identified with one's racial-ethnic in-group may be associated with a broader sense of alienation and disengagement. Alternately, many older students' were in more heterogeneous high schools, in which feeling less identified with one's racial-ethnic in-group may be less important if youth have other social-identity groups (e.g., the band, the students in high academic tracks) with which to identify. Further, because racial-ethnic self-schemas were assessed at the end of 12th grade, when youth are beginning to focus on larger networks beyond the immediate confines of school and home neighborhood, self-schemas based on other social identities may have begun to fill in for and buffer potential vulnerability due to being race-ethnicity aschematic. These self-schemas may have focused on broader social groups also facing stereotypes (e.g., being male, being from a particular neighborhood). A limitation of the current study is that these potential social context effects were not directly assessed.

In spite of these limitations, the current studies make two contributions to the literatures on self-schemas and racial-ethnic identity. First, results consistently demonstrate strong and positive effects of dual racial-ethnic self-schema dimension scores for youth across developmental phase (early and later adolescence) and across important outcomes (including grade point average, behavioral and emotional engagement with school, and risk of depression). Second, results consistently demonstrate the need to move beyond global assessment (i.e., of schematicity or of positive connection to in-group) and to better understand the motivational impact of differing racial-ethnic self-schema dimensions that promote different ways of perceiving connections between racial-ethnic in-group and broader society. Results suggest that though youth can and do conceptualize this connection in a variety of ways, on balance, the strength of different conceptualizations matters for both behavioral and emotional engagement with school, school grades, and well-being. Findings on the differential effects of dual and minority racial-ethnic self-schema dimension scores on depressive symptoms highlight the potential effect of different schema content on well-being. While the current study was not set up to examine antecedents of these differing self-schemas, future research is needed to begin to understand individual difference and social contextual factors contributing to these differing conceptualizations. A growing body of evidence suggests that positivity, feelings of control, and optimism have positive effects on mental and physical well-being (e.g., Taylor et al., 2000). Our research suggests that this extends to content of racial-ethnic self-schemas as well.

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