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Ethnic Stigma, Academic Anxiety, and Intrinsic Motivation in Middle Childhood

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Abstract

Previous research addressing the dynamics of stigma and academics has focused on African-American adolescents and adults. The present study examined stigma awareness, academic anxiety, and intrinsic motivation among 451 young (ages 6–11) and diverse (African-American, Chinese, Dominican, Russian, and European-American) students. Results indicated that ethnic-minority children reported higher stigma awareness than European-American children. For all children, stigma awareness was associated with higher academic anxiety and lower intrinsic motivation. Despite these associations, ethnic-minority children reported higher levels of intrinsic motivation than their European-American peers. A significant portion of the higher intrinsic motivation among Dominican students was associated with their higher levels of school belonging, suggesting that supportive school environments may be important sources of intrinsic motivation among some ethnic-minority children.

Keywords

middle childhood; ethnic-minority children; stigma awareness; academic anxiety; intrinsic motivation

Stigmatization occurs when one’s social identity is devalued in a particular context, and members of stigmatized groups are at risk for a variety of negative outcomes (e.g., access to housing and jobs; Link & Phelan, 2001). In academic contexts, individuals from ethnic-minority backgrounds are often stigmatized and, as a result, face increased risk for negative academic outcomes such as lower motivation (Major & O’Brien, 2005). Yet, many students successfully cope with stigmatization and maintain their academics (Eccles, Wong, & Peck, 2006). Despite our understanding of the academic risks associated with stigma and the coping mechanisms that protect from stigma, most research has focused solely on African-American adolescents and adults, leaving these issues relatively unexplored among younger and more diverse students.

One reason why stigma research has focused on older students is that some models posit that younger students have a limited understanding of stigma. These models, however, focus on certain dimensions of stigma (e.g., bias and explicit stereotypes) and not on others (e.g., status and implicit stereotypes). With a broader definition of stigma, elementary-age

children do demonstrate awareness of ethnicity-based stigma (Bigler, Averhart, & Liben, 2003). As a result, young students may not be immune from the effects of stigma, as has often been assumed (Quintana, 2008). Furthermore, middle childhood (elementary-age children's developmental period) is a time when knowledge about social groups and attitudes are emerging concurrently (Ruble et al., 2004). Elementary-age children, therefore, provide a unique opportunity for examining the interplay of stigma awareness, academic anxiety, and intrinsic motivation.

In addition to primarily focusing on older students, stigma research has also primarily focused on African Americans. Recent immigrants are particularly absent in this research, yet these groups may have unique experiences with the dynamics of stigma and academics. Dominican immigrants, for example, are often racial minorities and may face both racial and ethnic stigmatization (Lay & Safdar, 2003). Chinese immigrants are also racial minorities and report stigmatization in some arenas, yet with "model minority" stereotypes, Chinese students may face qualitatively different issues of stigma than other students (Rosenbloom & Way, 2004). Finally, Russian children are part of the United States' racial majority, but as immigrants, may face stigmatization due to cultural differences (Vinokurov, Trickett, & Birman, 2002).

The current study examined stigma awareness, academic anxiety, and intrinsic motivation among younger (middle-childhood) and more diverse (African-American, Chinese, Dominican, Russian, and European-American) students than previous research. Specifically, we sought to answer three questions: (1) are elementary-age children aware of ethnicity-based stigma, and are there group differences (i.e., developmental or ethnic differences) in this awareness?; (2) is stigma awareness associated with academic anxiety and intrinsic motivation among elementary-age children, as it is for adolescents and adults?; (3) what resources do elementary-age children have to maintain low academic anxiety and high intrinsic motivation regardless of stigma?

Development of Children's Awareness of Ethnicity-Based Stigma

In order to understand certain aspects of stigma, children must first develop particular cognitive abilities. Understanding prejudice and discrimination, for example, is only possible after the development of cognitive skills such as social perspective-taking and the capacity to integrate observations of the social world with notions of ethnicity (Brown & Bigler, 2005; Quintana, 2008). Given that these cognitive skills mature throughout elementary school, understanding these aspects of stigma may not be widespread until adolescence (Selman & Byrne, 1974). For other aspects of stigma, however, there is evidence that even with immature social-cognitive skills, elementary-age children can be aware of ethnicity-based stigma. For example, young children with limited social-cognitive abilities indicate implicit awareness of culturally-held stereotypes (Hirschfeld, Bartmess, White, & Frith, 2007). Furthermore, young children demonstrate awareness of ethnic differences in social status. When novel occupations were depicted with either pictures of only European Americans, pictures of both European and African Americans, or pictures of only African Americans, elementary-age children perceived the occupations depicted with any European Americans as higher in status than occupations depicted with only African Americans (Bigler et al., 2003). For some aspects of stigma, therefore, immature cognitive abilities may not prevent an understanding of ethnic stigma.

Given that commonly-assessed aspects of stigma (e.g., prejudice and discrimination) may be beyond children's cognitive development, the current study focused on societal aspects of ethnic stigma to which even young children may be sensitive. Specifically, we focused on public regard (how positive or negative individuals perceive societal evaluations of their ethnic group to be; Sellers, Smith, Shelton, Rowley, & Chavous, 1998) and on group status

(the general social or professional position of an individual's ethnic group in relation to others; Bigler et al., 2003).

In addition to cognitive development, group membership is likely to play a role in children's understanding of stigma. In general, children who are members of stigmatized groups are more aware of stigma. Compared with children from non-stigmatized ethnic backgrounds, for example, young children from stigmatized ethnic backgrounds are twice as likely to report awareness of broadly-held ethnic stereotypes (McKown & Weinstein, 2003). To date, research has not examined group differences in children's awareness of other aspects of stigma. Among adolescents and adults, however, individuals with ethnic-minority backgrounds tend to report lower public regard and more perceptions of their group as having low or stigmatized status (Johnson, Kurpius, Rayle, Arredondo, & Tovar-Gamero, 2005).

The first goal of our study was to examine developmental and ethnic differences in children's reports of ethnic public regard and group status. We expected that even our youngest participants (second graders) would report awareness of stigma. Due to cognitive development, however, we expected that the older participants (fourth graders) would report more stigma awareness. Finally, we expected that, on average, ethnic-minority participants of both age groups would report more stigma awareness than ethnic majority participants.

Consequences of Stigma Awareness: Academic Anxiety and Intrinsic Motivation

At any age, awareness of stigmatization in a particular domain is likely to affect attitudes towards that domain (Pinel, 2002). Given that children spend significant amounts of time in school, academics is a particularly relevant domain for children. Most of the research linking stigma awareness and academics has focused on stereotype threat and has demonstrated that stigma awareness can impede academic performance among students of all ages, including elementary-age children as young as 6 (McKown & Weinstein, 2003). Thus, although stereotype awareness increases across middle childhood, as soon as children develop this awareness, the processes by which it impacts academic behavior may be similar among young children as they are among adolescents and adults. Whether more broadly-defined stigma awareness is associated with academic attitudes in middle childhood, however, is yet to be determined. In the current study, we focused on two potential academic consequences of stigma that are relevant for elementary students: academic anxiety and intrinsic motivation (Gottfried, 1985). Because few studies have specifically examined these academic consequences of stigma in middle childhood, we largely drew our hypotheses from studies conducted with adolescents and adults.

Perceiving that one's group is stigmatized can be a stressful experience (Miller & Major, 2000). For example, African-American ninth graders who reported low public regard tended to report more symptoms of stress over the preceding 12 months (Sellers, Caldwell, Schmeelk-Cone, & Zimmerman, 2003). In academics, the stress associated with stigma can manifest as academic anxiety. Female and ethnic-minority participants, for example, who are reminded that their group is stigmatized for a certain task (e.g., a math test), tend to report more anxiety about completing that task than do participants who are not reminded of their group's stigmatization (Spencer, Steele, & Quinn, 1999).

In addition to causing academic anxiety, stigma can affect intrinsic motivation (motivation driven by enjoyment or interest; Lepper, Corpus, & Iyengar, 2005). Two strategies adolescents and adults use to cope with academic stigmatization are disengaging (withdrawing effort from academics) and striving (redoubling efforts to overcome stigma; Major & O'Brien, 2005). Regardless, intrinsic motivation for academics is likely to be reduced, either because students' interest in academics declines (disengagement) or

because their academic efforts are now motivated by overcoming obstacles rather than interest (striving). Indeed, awareness of ethnic stigma is generally associated with lower intrinsic motivation (Crocker & Major, 1989; Reyna, 2000). Middle- and high school students who report low public regard or experiencing ethnic discrimination, for example, report decreases in many aspects of intrinsic motivation: academic self-concept, curiosity, and persistence (Chavous et al., 2003; Eccles et al., 2006).

The second goal of this study was to examine the associations between stigma awareness, academic anxiety, and intrinsic motivation among elementary-school students with diverse ethnic backgrounds. Heretofore, these associations have been demonstrated only among adolescents and adults. There is reason to believe, however, that when children become aware of stigma, this awareness will have similar consequences as in adolescents and adults (McKown & Weinstein, 2003; Rowley, Burchinal, Roberts, & Zeisel, 2008). Thus, we predicted that low public regard and feelings of low status would, in general, be associated with more academic anxiety and less intrinsic motivation. Although we predict stigma awareness to generally be associated with higher academic anxiety and lower intrinsic motivation, these associations may be different for different groups. In one study, for example, Deaux and colleagues (2007) found that college students who were first-generation immigrants from the West Indies were less susceptible to the academic effects of stigma, possibly because they did not actively identify with the groups that they perceived to be stigmatized. Thus, we also examined the extent to which these associations differed by ethnic background, but did not make any a priori hypotheses.

Protection from the Consequences of Stigma Awareness

With sufficient coping resources, individuals may be protected from the academic consequences of stigmatization (Major & O'Brien, 2005). In fact, a growing amount of research has demonstrated that many ethnic-minority students maintain positive academic outcomes in the face of stigmatization (Conchas, 2006). Although we expected that stigma awareness would generally be associated with academic anxiety and intrinsic motivation, we also expected that there would be many children who, regardless of feeling stigmatized, would have low academic anxiety and high intrinsic motivation. Building from adult and adolescent research, the third goal of this study was to examine whether one aspect of school identity (school belonging) and two aspects of ethnic identity (centrality and private regard) helped elementary students maintain low academic anxiety and high intrinsic motivation.

School belonging—students' emotional connection with their school and the people at their school—is consistently associated with positive academic outcomes for students of all ages and backgrounds. Students who report more school belonging tend to have lower academic anxiety and higher intrinsic motivation (Battistich, Solomon, Kim, Watson, & Schaps, 1995; Close & Solberg, 2008). It is not clear, however, how school belonging interacts with stigma awareness. On the one hand, school belonging may compensate for stigma by contributing directly to academic anxiety and intrinsic motivation. As a compensator, school belonging would not eradicate stigma's effects, but would directly help stigmatized students maintain low academic anxiety and high intrinsic motivation. On the other hand, school belonging may buffer against stigma. As a buffer, school belonging would diminish the associations between stigma awareness, academic anxiety, and intrinsic motivation. In the current study, we examined elementary student's school belonging from both a compensating and a buffering perspective.

Centrality is the extent to which people tend to define themselves in terms of ethnicity, and private regard is their evaluative beliefs about their ethnicity (Sellers, Smith et al., 1998). Among older students, centrality and private regard are both associated with positive academic outcomes such as self efficacy and attainment (Chavous et al., 2003; Sellers,

Chavous, & Cooke, 1998). Among younger children, associations between centrality, private regard, and academic outcomes have yet to be determined. Like stigma awareness, however, centrality and private regard are relevant aspects of identity in middle childhood. Many elementary-age children report that ethnicity is central to their identity and that they regard their ethnic in-group positively (Cameron, Alvarez, Ruble, & Fuligni, 2001; Ruble et al., 2004). This is especially true among children from ethnic-minority and immigrant backgrounds, for whom developing centrality and private regard is often a focus of parents' racial socialization (Hughes et al., 2006). Finally, centrality and private regard seem to operate similarly among children, adolescents, and adults. As with adolescents and adults, children's ethnic centrality is associated with discrimination expectations and social preferences, and children's ethnic private regard is associated with their choice of ethnic self-descriptions (Marks, Szalacha, Lamarre, Boyd, & García Coll, 2007; Rowley et al., 2008). Thus, we predicted that centrality and private regard would be associated with lower academic anxiety and higher intrinsic motivation. Like school belonging, however, it is not clear how ethnic identity interacts with stigma awareness. Although there is some evidence that centrality and private regard provide an academic buffer from stigma (e.g., Eccles et al., 2006), there is also evidence that ethnic identity may not be an effective buffer, especially for certain ethnic groups (Rivas-Drake, Hughes, & Way, 2008). As with school belonging, therefore, we examined ethnic identity from both a compensating and a buffering perspective.

Goals

We had three main goals in this study. The first goal was to examine diverse elementary-age children's awareness of ethnicity-based stigma, specifically focusing on developmental and ethnic differences in perceived public regard and group status. To the extent that elementary-age children were aware of stigma, the second goal was to examine associations between stigma awareness, academic anxiety, and intrinsic motivation. Finally, the third goal was to examine whether school belonging and/or ethnic identity compensated for stigma by directly contributing to academic anxiety and intrinsic motivation, or if they buffered the effects of stigma by diminishing the associations between stigma, academic anxiety, and intrinsic motivation.

Method

Participants

Study participants were drawn from 624 children from New York City who took part in a larger study on social development. Our sample included the 451 children who met our ethnicity and grade requirements. Our sample included slightly fewer boys ($n = 195$) than girls ($n = 256$) and included 48 African-American, 127 Chinese, 109 Dominican, 77 Russian, 90 European-American children who were in second ($n = 193$) or fourth grade ($n = 258$). The complete age range of our participants was 6 to 11 years old ($M = 8.56$, $SD = 1.13$), but our sample only included one 6-year-old and eight 11-year-olds; over 98% of our participants were between the ages of 7 and 10. We had fewer African-American participants because their schools were more restrictive in the number of days on which we could conduct interviews. Although we use the ethnic labels *Chinese* and *Russian*, the Chinese sample included one child from Hong Kong, and the Russian sample included children from countries that were part of the former Soviet Union (e.g., Ukraine). We did not have enough participants from these individual countries to explore differences among these more specific groups. We did, however, conduct between-subjects analyses of variance and found no mean differences between these groups on any key measures.

In order to achieve our ethnically-diverse sample, we recruited participants from several neighborhoods that had large populations of African-American, Chinese, Dominican, and Russian families. Participants were drawn from 16 different school sites. Six of these schools had ethnically homogenous student bodies: two were majority African-American, two were majority Chinese, and two were majority Dominican. The remaining 10 schools had ethnically heterogeneous student bodies: seven schools had large percentages of Russian and European-American students, and three schools had no majority group. All of the schools served lower to lower-middle class families; the percentage of the students receiving free lunch at each school ranged from 21% to 99%. Representative of the neighborhoods in which they lived, the African-American, Chinese, and Dominican children were more likely to attend schools with a high percentage of free lunch recipients and schools in which their own ethnic group was the majority. The Russian and European-American children were more likely to attend schools with a lower percentage of free lunch recipients and schools with a more ethnically diverse student population. Finally, our ethnic subsamples differed by immigrant background. Most of the African- and European-American children were (89 and 95%, respectively) third-generation or later (i.e., they and both of their parents were born in the United States). The remaining 11% of the African-American and 5% of the European-American children were second-generation (i.e., they were born in the United States, but at least one of their parents was not). The Chinese, Dominican and Russian children, on the other hand, were primarily first- (i.e., they and their parents were born outside the United States) or second-generation. Of the Chinese children, 24% were first- and 76% were second-generation; of the Dominican children, 21% were first- and 79% were second-generation; and of the Russian children, 72% were first-, 26% were second-, and 1% were third-generation.

We defined the African-American, Chinese, Dominican, and Russian children as ethnic minorities and the European-American children as ethnic majorities. Although the Russian children were part of the racial majority, they were ethnically distinct from the majority. In addition to being first- or second-generation immigrants, many of the Russian children in our sample had cultural characteristics that distinguished them from majority Whites (e.g., different dominant language, nationality, and/or religion). Second, the children themselves did not identify as members of a majority group; 87% of the Russian children chose a non-majority national or religious label (e.g., *Russian-American*, or *Jewish*) as the ethnicity that best described them.

Procedure

The study consisted of three 40-minute sessions that took place during school hours. Participants were individually interviewed in a private room on the school's campus. Each interview was conducted by a female researcher who had the same racial background as the participant. In addition to the measures presented here, the interview questionnaires also included a variety of measures assessing children's social identities and attitudes.

Measures

Stigma awareness—Stigma awareness was assessed with two measures: public regard (the extent to which children felt societal evaluations of their ethnic group were positive) and group status (children's perception of their ethnic group's social status).

Public regard—This measure was similar to Sellers' and colleagues' (1998) public regard measure, but was adapted for use with younger children. Previous research with similar populations has demonstrated the validity of similar adaptations—higher public regard is associated with fewer expectations of discrimination and higher physical well-being (Rivas-Drake, Hughes, & Way, 2009; Rowley et al., 2008). Using a 5-point scale (1 = *none* and 5 =

all), participants responded to five questions: How many Americans do you think are nice to [child's ethnicity] people? How many Americans do you think feel that [child's ethnicity] people are important in America? How many Americans do you think want to live near [child's ethnicity] people? How many Americans do you think do not like [child's ethnicity] people? How many Americans do you think feel that [child's ethnicity] people are not as good as other people? After reverse coding the last two questions, we averaged all five of children's responses. Internal consistency (Cronbach's alpha) for the sample was 0.59. Using the method proposed by Hakstian and Whalen (1976), we examined whether this measure was equally reliable across ethnic group, grade, and gender. These tests indicated that our measure of public regard was more reliable for the Russian subsample than it was for the African-American subsample. There were no other ethnic, grade, or gender differences in the reliability of this measure.

Group status

This measure was adapted from Bigler, Averhart and Liben (2003), who demonstrated that, as young as first grade, children are sensitive to correlations between ethnicity and occupational status and that perceived occupational status is associated with children's occupational aspirations. We read participants descriptions of six different jobs: three high-status jobs (business executive, doctor, and *milner*) and three low-status jobs (fast food worker, janitor, and *tenic*), and we asked them which ethnicity usually held each job. We coded children's responses to indicate whether or not they chose their own ethnicity, and then we summed the number of times each child chose their own group for high- and for low-status jobs.

Two manipulation checks were included for this measure. First, children rated the status of each job (e.g., How important is a doctor?) on a 5-point scale (1 = *not at all* and 5 = *very*). Second, children responded to both familiar jobs (e.g., doctor) and novel jobs (e.g., *milner*: A person who gets elected to work in the government. They are in charge of the government's money and decide how it will be spent.). Within-subject comparisons of the status ratings indicated that regardless of ethnicity, grade, or gender, children recognized status differences between high- and low-status jobs, $F(1,403) = 630.70, p < .001, \eta^2 = .61$, and they recognized these differences even for novel jobs about which they had no previous knowledge, $F(1,403) = 267.51, p < .001, \eta^2 = .40$. Between-subject comparisons of the status ratings, however, indicated that although all groups tended to rate the high-status jobs very similarly, Russian and European-American children gave significantly lower status ratings to low-status jobs than did children from other backgrounds, $F(4,403) = 8.71, p < .001, \eta^2 = .08$. Since the status ratings were most similar between groups for high-status jobs, later analyses were conducted using only the number of times each child chose their own ethnicity for high-status jobs. Internal consistency for this measure was $\alpha = 0.60$, and this coefficient did not differ by ethnic group, grade, or gender.

Academic anxiety—This measure was adapted from a measure of math anxiety developed by Meece, Wigfield and Eccles (1990), who found that higher math anxiety was associated with lower perceptions of math ability and lower expectancies of math performance. We adapted three items to assess anxiety about school in general: When taking a test, how nervous do you get? How much do you worry about doing badly in school? How much do you worry about what your parents will say if you don't do well at school? Children responded using a 5-point scale (1 = *not at all* and 5 = *very much*), and we averaged responses to all three items. Internal consistency for this measure was $\alpha = 0.53$ and did not differ by ethnicity, grade, or gender.

Intrinsic motivation—This measure was adapted from Eccles and colleagues' studies of elementary students' subject-specific achievement values (e.g., math and music; Eccles, Wigfield, Harold, & Blumenfeld, 1993). Eccles and colleagues found that these measures of intrinsic motivation had excellent psychometric properties and were associated with children's expectations for academic success in each subject. Our measure was adapted to refer to motivation for school in general, rather than for a particular subject. Children responded to four items using a 5-point scale (1 = *not at all* and 5 = *very much*). Two items tapped intrinsic valuing of school: How interesting is school? How much do you like school? And two items tapped intrinsic goals: Why do you do your schoolwork? Is it because you want to learn new things? Is it because it's fun and interesting? We averaged children's responses to these four items. Internal consistency was $\alpha = 0.69$ and did not differ by ethnic group or gender. This measure was, however, slightly more reliable among fourth-graders than it was among second-graders.

School belonging—This scale assessed the extent to which children felt they had close and positive relationships with individuals at school. This measure was a shortened and simplified version of the Psychological Sense of School Membership (PSSM) scale that was originally developed for use with adolescents (Goodenow, 1993). Other researchers have used adapted versions of the PSSM with elementary students and have found that, among these students, higher school belonging is associated with higher intrinsic motivation and achievement (e.g., Anderman & Anderman, 1999). We averaged children's responses to six questions (answered with a 5-point scale: 1 = *not at all* and 5 = *very much*): How much do you like your teacher? How much does your teacher care about you? How fair do you think your teacher is? How much do you feel like you are a part of your school? How well do you get along with people at school? How much do you enjoy doing things with the kids in your class? Internal consistency for this measure was $\alpha = 0.69$, and this measure was more reliable for the European-American and Russian subsamples than it was for the African-American, Chinese, and Dominican subsamples. There were no other group differences in the reliability of this measure.

Ethnic identity—The ethnic identity measure included two subscales that were designed to be similar Sellers and colleagues' (1998) scales of centrality (the extent to which individuals define themselves in terms of their ethnicity) and private regard (individuals' evaluative beliefs about their ethnic group). These measures, however, were adapted specifically for this study with a format similar to Harter's (1990) Self-Perception Profile for Children. Rowley and colleagues (2008) used similarly-adapted measures of ethnic identity with elementary-age participants and demonstrated the validity of these measures with positive correlations between children's reports of ethnic identity, maternal ethnic identity, and maternal reports of ethnic socialization.

Centrality—We read participants two items that each described two contrasting groups: one group for whom ethnicity was central and another group for whom ethnicity was not central (e.g., Some kids feel that being [child's ethnicity] is a big part of who they are, BUT other kids feel that being [child's ethnicity] is a small part of who they are.). The children first chose which group was more self descriptive and then rated whether that description was *really true* or only *sort of true* for them. Responses were scored from -2 to 2 such that higher scores indicated a more central ethnic identity. Given that these two items were significantly correlated, $r = 0.39$, $p < .001$, we averaged children's responses to these two items. Tests of coefficient equivalence indicated that this measure was equally reliable across ethnicity, grade, and gender.

Private regard—This subscale had an identical format to the centrality subscale, but included three items that contrasted one group that felt good about their ethnicity with another group that did not (e.g., Some kids are happy that they are [child's ethnicity], BUT other kids are not happy that they are [child's ethnicity].) We averaged children's responses to the three items. Internal consistency for this measure was 0.69. Tests of coefficient equivalence indicated one group difference in measure reliability: this measure was more reliable for the Chinese and Russian subsample than it was for the European-American subsample.

Results

Group Differences in Awareness of Stigma

To address the first goal of our study, we conducted between subjects analyses of variance (ANOVAs) with three factors: ethnicity (African American, Chinese, Dominican, Russian, and European American), grade level (second and fourth), and gender (boy and girl). Because some participants did not complete some measures, the degrees of freedom varied slightly for different analyses. When sphericity assumptions were not met, we applied the Greenhouse-Gasser correction. Multiple post hoc comparisons were conducted using the Bonferroni correction.

As shown in Table 1, there were ethnic differences in both measures of stigma awareness. As expected, ethnic-minority children reported lower levels of public regard than ethnic-majority children, $F(4,391) = 10.10, p < .001, \eta^2 = .09$. There were group differences in public regard. For group status, African-American, Chinese, and Dominican children reported lower status perceptions than European-American and Russian children, $F(4,391) = 55.93, p < .001, \eta^2 = .36$, and fourth graders ($M = 1.36, SD = 1.13$) reported lower status perceptions than second graders ($M = 1.49, SD = 1.11$), $F(1,391) = 5.18, p = .023, \eta^2 = .01$. These main effects were qualified by an interaction between ethnicity and grade on status, $F(4,391) = 3.65, p = .006, \eta^2 = .04$. Follow up tests, in which we examined ethnic differences in status separately for each grade, revealed that the pattern of ethnic differences at each grade level was similar, but the differences were more pronounced in fourth grade. In second grade, Chinese and Dominican children perceived their group to have lower status than did Russian and European-American children, and African-American children perceived their group to have lower status than did European-American children. In fourth grade, African-American, Chinese, and Dominican children perceived their group to have lower status than did Russian and European-American children, and Chinese children further perceived their group to have lower status than did Dominican children.

Group Differences in Academic Measures

We next examined group differences in academic measures by conducting between-subjects ANOVAs with three factors: ethnicity, grade level, and gender. As shown in Table 1, we found ethnic differences for both academic anxiety and intrinsic motivation.

For academic anxiety, Chinese, Dominican, and Russian children reported more academic anxiety than European-American children, $F(4,389) = 5.14, p < .001, \eta^2 = .05$. We further found that fourth graders ($M = 3.79, SD = 0.96$) reported more academic anxiety than second graders ($M = 3.47, SD = 1.10$), $F(1,389) = 15.31, p < .001, \eta^2 = .04$, and girls ($M = 3.81, SD = 1.00$) reported more academic anxiety than boys ($M = 3.42, SD = 1.03$), $F(1,389) = 7.66, p = .006, \eta^2 = .02$. Finally, we found an interaction between ethnicity and gender on academic anxiety, $F(4,389) = 3.08, p = .016, \eta^2 = .03$. Follow up tests, in which we examined ethnic differences in academic anxiety separately for boys and girls, indicated that the main effect of ethnicity on academic anxiety held among both boys, $F(4,174) = 3.39, p = .011, \eta^2 = .07$,

and girls, $F(4,225) = 4.75$, $p = .001$, $\eta^2 = .08$, and ethnic-minority children of both genders reported the highest levels of academic anxiety. The pattern of ethnic differences, however, differed slightly by gender. Chinese boys reported more academic anxiety than European-American boys. Dominican and Russian girls reported more academic anxiety than European-American girls, and Russian girls further reported more academic anxiety than African-American girls.

For intrinsic motivation, African-American, Chinese, Dominican, and Russian children all reported higher intrinsic motivation than did European-American children, $F(4,389) = 9.06$, $p < .001$, $\eta^2 = .08$. Dominican children further reported higher intrinsic motivation than Chinese and Russian children. In addition, second graders ($M = 4.43$, $SD = 0.68$) reported more intrinsic motivation than fourth graders ($M = 4.04$, $SD = 0.82$), $F(1,389) = 19.48$, $p < .001$, $\eta^2 = .05$, and girls ($M = 4.32$, $SD = 0.71$) reported more intrinsic motivation than boys ($M = 4.08$, $SD = 0.85$), $F(1,389) = 12.01$, $p = .001$, $\eta^2 = .03$. None of these main effects were qualified by an interaction.

Associations Between Stigma Awareness and Academic Measures

To address the second goal of our study, we examined stigma awareness' associations with academic anxiety and intrinsic motivation. As shown in Table 2, both lower public regard and lower perception of status were associated with higher academic anxiety. Only lower public regard was associated with lower intrinsic motivation.

In order to determine whether these associations differed by group (i.e., ethnicity, grade, or gender), we conducted a series of analyses of covariance (ANCOVAs) on academic anxiety and intrinsic motivation in which we used tests of equal slopes to test the interactions of stigma awareness and group. For academic anxiety, none of the interaction terms from these analyses were significant at $p < .05$, indicating that there were no group differences in the association between awareness of stigma and academic anxiety. For intrinsic motivation, two of the ANCOVA interaction terms were significant at $p < .05$. First, the association between public regard and intrinsic motivation differed by gender, $F(1,402) = 4.21$, $p = .041$, $\eta^2 = .01$. Separate regressions of intrinsic motivation on public regard for each gender indicated that lower public regard was associated with lower intrinsic motivation for boys ($b = 0.22$, $p = .008$), but not for girls ($b = 0.01$, $p = .926$). Second, the association between group status and intrinsic motivation differed by ethnicity, $F(4,399) = 3.07$, $p = .016$, $\eta^2 = .03$. Separate regressions of intrinsic motivation on perception of status for each ethnicity showed that perception of lower status was associated with lower intrinsic motivation for Chinese children only ($b = 0.28$, $p = .002$; all other $bs = -0.14$ to 0.07 , $ps = .186$ to $.991$). Thus, none of the group variables consistently moderated the associations between stigma awareness and intrinsic motivation.

Mediation of ethnic differences in academic anxiety—Because awareness of stigma was associated with academic anxiety and ethnic-minority children reported both more awareness of stigma and more academic anxiety, we next sought to determine if ethnic differences in stigma awareness were associated with ethnic differences in academic anxiety. We conducted mediation analyses using the procedure outlined by Baron and Kenny (1986), in which we first estimated the magnitude and significance of the total effect of ethnicity on academic anxiety (i.e., the differences in academic anxiety between each ethnic-minority group and European Americans) and then estimated the magnitude and significance of the indirect effect of ethnicity on academic anxiety through public regard and group status. The proportions of the ethnic differences in academic anxiety that could be accounted for by public regard and group status were estimated by dividing each indirect effect of ethnicity on academic anxiety by the total effect of ethnicity.

As shown in Table 3, group status mediated the ethnic differences in academic anxiety for all ethnic-minority groups except Russians. These results suggest that a significant proportion of the ethnic difference in academic anxiety (African-American, Chinese, and Dominican children reporting more academic anxiety than their European-American peers) is accounted for by ethnic differences in perception of group status (African-American, Chinese, and Dominican children reporting lower perceptions of group status than their European-American peers).

Mediation of ethnic differences in intrinsic motivation—Although ethnic-minority children reported lower public regard than ethnic-majority children and low public regard was associated with low intrinsic motivation, ethnic-minority children reported higher intrinsic motivation than ethnic-majority children. Thus, ethnic differences in stigma awareness could not account for the ethnic differences in intrinsic motivation as they did for academic anxiety.

Protective Influences of School Belonging and Ethnic Identity

To address the third goal of our study, we conducted additional analyses to examine whether school belonging and ethnic identity could either compensate for stigma by contributing directly to lower academic anxiety and higher intrinsic motivation, or buffer against stigma by changing the associations among stigma awareness, academic anxiety, and intrinsic motivation.

Compensation—As shown in Table 2, none of the potential compensators were associated with academic anxiety, and therefore, none of these variables could compensate for stigma's association with academic anxiety. Two potential compensators (school belonging and centrality), however, were associated with higher intrinsic motivation. To examine whether school belonging and centrality could account for ethnic-minority children reporting higher intrinsic motivation despite the fact that they reported lower public regard, we first conducted one-way ANOVAs for school belonging, centrality, and private regard with ethnicity as the factor. These analyses determined whether ethnicity was associated with any of these variables and, therefore, whether any of these variables could mediate the ethnic differences in intrinsic motivation. Results from these analyses indicated that ethnicity was associated with school belonging and centrality, but not with private regard (see Table 1). For school belonging, Dominicans reported higher school belonging than all other groups, $F(4,388) = 7.06, p < .001, \eta^2 = .07$. For centrality, all ethnic-minority groups reported higher centrality than European Americans, $F(4,388) = 11.72, p < .001, \eta^2 = .11$. Next, we conducted mediational analyses, again employing the criteria and procedures proposed by Baron and Kenny (1986), as described above. In the first step, we regressed intrinsic motivation on ethnicity and public regard in order to estimate ethnic differences in intrinsic motivation, given comparable levels of public regard. In the second step, we tested whether school belonging or centrality mediated the ethnic differences in intrinsic motivation. As shown in Table 4, only school belonging mediated the difference in intrinsic motivation, and this mediation was only for the difference in intrinsic motivation between Dominican and European-American children. These results suggest that a significant proportion of the higher levels of intrinsic motivation among Dominican children as compared to their European-American peers is associated with Dominican children's higher perception of school belonging. For Dominican students, school belonging partially compensated for stigma by contributing directly to higher intrinsic motivation, despite lower public regard.

Buffering—Finally, we examined if school belonging, centrality, or private regard buffered from the negative effects of stigma awareness by moderating the associations between

stigma awareness, academic anxiety, and intrinsic motivation. Twelve separate multiple regressions were conducted in which either academic anxiety or intrinsic motivation were regressed on one of the measures of stigma awareness (either public regard or perception of status), one of the potential moderators (either school belonging, centrality, or private regard), and the interaction between the measure of stigma awareness and the moderator. Out of the twelve analyses, none of the interaction terms were significant, suggesting that none of these variables moderated the association between awareness of stigma and academic attitudes.

Discussion

Awareness of Ethnicity-Based Stigma in Middle Childhood

This study was designed to examine aspects of stigma to which even the youngest children in our sample (second graders) would be sensitive. As predicted, we found evidence that young children are aware of ethnicity-based stigma. Specifically, we found ethnic differences in stigma awareness among elementary-age children that parallel differences found among adults—in general, ethnic-minority children tended to report more stigma awareness than their ethnic-majority peers. African-American, Chinese, Dominican, and Russian children were less likely than European-American children to feel that their ethnic group is valued by Americans; African-American, Chinese, and Dominican children additionally perceived their ethnic group to have less status than did Russian and European-American children.

Ethnic differences were the only systematic group differences in stigma awareness that we observed; we found no gender differences and no unqualified grade differences. Although we expected the youngest children in our sample to demonstrate some stigma awareness, developmental changes in social cognition that generally occur in middle childhood make it surprising that we found so few grade differences. For public regard, mean levels and ethnic differences were consistent across grade level. For group status, although fourth graders generally reported lower perceived status than second graders, this effect was driven by only by the Chinese and African-American students; even among the younger cohort of participants, ethnic differences in perceived status were significant. Given that the nature of stigma awareness is likely to vary across ethnic groups (McKown & Weinstein, 2003), the present study may have lacked sufficient power to detect developmental differences. More likely, however, the age range of the majority of the sample (7 to 10) may have been too limited to detect such differences. In other words, we were unable to make comparisons to early childhood or to early adolescence when many of the social-cognitive skills associated with stigma awareness (e.g., social perspective-taking and concrete operations) are particularly likely to show differences relative to middle childhood (Ruble, Boggiano, Feldman, & Loebel, 1980).

Although our predictor variable was ethnicity, it is likely that the ethnic differences we observed reflected differences in the social contexts in which these children were immersed. The ethnic differences in perceptions of status, for example, reflected the socioeconomic contexts in which the children lived. In addition to reporting lower perceptions of group status, the African-American, Chinese, and Dominican children in our sample generally attended schools with higher percentages of free lunch recipients and had lower socioeconomic status. In addition to experiences related to socioeconomic status, experiences related to acculturation are likely to be particularly relevant for many of the children in our sample. Although we did not find mean-level differences in stigma awareness between ethnic-minority children with recent immigrant status (i.e., Chinese, Dominican, and Russian) and those without recent immigrant status (i.e., African American), immigrant children may believe that their group is stigmatized because of their

status as newcomers, rather than because of their ethnic or racial background. Future research, therefore, should directly measure contextual factors such as neighborhood economic conditions and individual factors such as acculturation in an effort to identify the experiences by which children come to understand societal perceptions of their group.

Academic Associations with Stigma Awareness

In general, stigma awareness was associated with academic anxiety and intrinsic motivation. Low public regard was associated both with higher academic anxiety and with lower intrinsic motivation. Perception of low status was associated with higher academic anxiety. In fact, perception of status was associated with 31–51% of the higher levels of academic anxiety reported by African-American, Chinese, and Dominican children as compared to their European-American peers. These mediational results suggest that a significant proportion of ethnic-minority students' higher academic anxiety can be accounted for by their lower perceptions of group status. Given that these data were measured concurrently, the causality in the relationship between perception of group status and academic anxiety has yet to be determined. Future research should employ longitudinal or experimental designs to determine whether perceived group status directly affects academic anxiety. Although our findings are not causal, they do indicate that interventions aimed at increasing perception of group status (e.g., community role models) could be a promising area for future academic anxiety research.

Despite ethnic differences in stigma awareness, it is important to note that the associations between stigma awareness, academic anxiety, and intrinsic motivation did not differ by ethnicity. Regardless of ethnic group, public regard and perception of group status were similarly associated with academic anxiety and intrinsic motivation. Although the associations were similar across ethnic groups, the qualitative nature of these associations may differ. For children from immigrant backgrounds, for example, the association between stigma awareness and academic anxiety may be a function of acculturative stress—the tension experienced when children attempt to resolve differences between their culture of origin and the dominant culture (Suarez-Morales & Lopez, 2009). Although the consistency of the associations across ethnic groups indicates that stigma awareness is an important issue for all students, future work should explore potential differences in the nature of the meaning of stigma awareness and anxiety among different immigrant and ethnic minority groups.

The associations between stigma awareness, academic anxiety, and intrinsic motivation were also consistent across grade level. To the extent that young students are aware of ethnic stigma, this awareness is associated with higher academic anxiety and lower intrinsic motivation, just as it is for older students. With a broad definition of stigma that includes public regard and group status, even second graders demonstrate academic consequences of stigma. It is possible that, among our young population, the associations between stigma awareness, academic anxiety, and lower intrinsic motivation are representative of changes in children's academic experience. Standardized testing, for example, is now commonplace in K-12 education. This high-stakes environment may have exacerbated the associations between stigma awareness and academic outcomes among younger students. Regardless, our findings suggest that it is critical to study these issues in middle childhood.

Resources to Maintain Low Academic Anxiety and High Intrinsic Motivation

The third goal of this study was to examine whether school belonging or ethnic identity could be resources that help children cope with stigmatization. We were especially interested in examining whether school belonging or ethnic identity might be associated with the higher levels of intrinsic motivation observed among ethnic-minority children.

Although high levels of intrinsic motivation are consistent with a growing body of research demonstrating that ethnic-minority children maintain academic motivation in the face of stigmatization (e.g., Eccles et al., 2006), this finding was somewhat counterintuitive given that stigma awareness was associated with lower intrinsic motivation and ethnic-minority children reported more awareness of stigma.

Our results suggest that, for Dominican students, school belonging contributes directly to intrinsic motivation. Despite stigma awareness, 24% of the higher intrinsic motivation reported by Dominican children as compared to their European-American peers was accounted for by the Dominican children's higher level of school belonging. Given that almost all of our Dominican participants were drawn from two schools, it is possible that this finding was due to school-specific factors. These schools, for example, may have fostered especially positive relationships among the student body and staff. Other school factors, however, are unlikely to fully account for the association between school belonging and intrinsic motivation among our Dominican participants. For example, although the ethnic diversity of a school context can impact school belonging (e.g., Benner & Graham, 2007), the African-American, Chinese, and Dominican participants in our sample all attended schools in which their own ethnic group was the majority. In addition to school factors, it is possible that the association between intrinsic motivation and school belonging represents cultural differences among students from different backgrounds. There is a growing body of research indicating that students from Latin-American backgrounds, in particular, maintain academic motivation despite stigmatization (Fuligni, 2001). Consistent with our findings, much of this research finds that school relationships can account for this positivity among students from Latin-American backgrounds (e.g., Green, Rhodes, Hirsch, Suarez-Orozco, & Camic, 2008). As before, our mediational findings do not imply causality. These findings, however, do suggest that interventions aimed at helping students from Latin-American backgrounds maintain academic motivation may benefit from fostering close interpersonal connections at school.

Unlike school belonging, neither centrality nor private regard mediated ethnic differences in intrinsic motivation. Previous research indicated that even in middle childhood, ethnic centrality and private regard are relevant components of identity, especially for children from ethnic minority backgrounds. Given that the ethnic minority children in our sample reported a significantly more central ethnic identity than did their European-American peers, centrality seemed like a promising factor to account for ethnic-minority children's high intrinsic motivation. However, centrality was not related to intrinsic motivation above and beyond ethnicity, and therefore, could not serve as a mediator for the ethnic differences in intrinsic motivation. Private regard could not account for ethnic differences in intrinsic motivation because all ethnic groups reported similarly high levels of private regard. Although null findings must be interpreted with caution, our results suggest the possibility that the associations between these aspects of ethnic identity and academic motivation have not yet developed in middle childhood. Among adolescents, one study suggests that centrality is associated with academic motivation by moderating the pernicious effects of earlier experiences with ethnic discrimination on later motivation (Chavous, Rivas-Drake, Smalls, Griffin, & Cogburn, 2008). To the extent that elementary age-children's subjective experiences with discrimination may be limited (Brown & Bigler, 2005), centrality may not yet be associated with motivation. For private regard, the children in our sample reported uniformly positive feelings towards their own group, a finding that is consistent with other developmental work (Aboud, 2003). Although research with adolescents and adults indicates that private regard is consistently associated with academic motivation (Chavous et al., 2003), perhaps this association is not observable until there is greater variance in private regard across children. Future work employing longitudinal designs could discern the process by which ethnic identity becomes associated with academic motivation.

Limitations and Future Research

Our study had a few limitations. First of all, the associations between stigma awareness and academic measures, though significant, were relatively small. It is possible that these weak correlations were, in part, due to a second limitation of our study. Many of our measures had relatively low levels of internal consistency (Cronbach's alpha), which may indicate that our variables were influenced by measurement error. As a measure of reliability, low alphas should diminish associations among variables. The fact, therefore, that many of our variables were significantly associated in meaningful ways indicates that the lower alphas were not a serious problem for our results. With more reliable measures, however, we might have been able to discern associations that were non-significant with our current measures.

In general, most of our measures were equally reliable for each ethnic group in our sample. Some measures (i.e., public regard, private regard, and school belonging), however, were more reliable for certain ethnic groups than others. Although equivalence in measurement across ethnic groups would be ideal, these particular differences in reliability do not overly concern us for two reasons. First, the ethnic differences that we observed were not systematic (e.g., our measure of private regard was more reliable for Chinese children than it was for European-American children, but our measure of school belonging was more reliable for European-American children than it was for Chinese children). Second, and more importantly, observed associations between these measures did not differ by ethnic group. As mentioned above, low alphas should diminish associations among variables. Given that associations between variables held among groups with more and less reliable measures, we feel that our results were uncompromised by the few ethnic differences in measurement reliability.

Another limitation of our study is that we were not able to include a measure of academic achievement. Whereas overly high academic anxiety is detrimental to academic achievement, moderate levels of academic anxiety are associated with higher achievement (El-Anzi, 2005; Sharma, 1970). Furthermore, whereas much research demonstrates that high intrinsic motivation is critical for academic success, other work indicates that global or abstract attitudes and motivations may not always accurately predict achievement (Lepper et al., 2005). Although we believe that academic anxiety and intrinsic motivation are important measures in their own right, a measure of achievement would augment our findings. We could ascertain, for example, whether the higher levels of anxiety reported by the ethnic-minority children in our study cross the threshold of achievement detriment and whether the high levels of intrinsic motivation are associated with increased achievement.

Conclusions

This study examined the dynamics of stigma and academics among diverse, middle-childhood students. Our findings suggest that, even at early ages, ethnic-minority children are more likely than their ethnic-majority peers to report awareness of stigma, and this awareness is associated with higher academic anxiety and lower intrinsic motivation. Given that lower perceptions of group status partially account for some groups' higher academic anxiety, this study sets the stage for experimental work examining whether perceptions of group status lower academic anxiety. Our findings also demonstrate that ethnic-minority children, despite having higher stigma awareness, maintain high intrinsic motivation. A significant portion of the higher intrinsic motivation among Dominican students was associated with their higher levels of school belonging. This finding suggests that supportive school environments may be important sources of intrinsic motivation among some ethnic-minority children in the face of stigma.

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Table 1

Mean Ethnic Differences for All Measures

	Child's ethnicity					Bonferroni contrasts
	African American	Chinese	Dominican	Russian	European American	
Public regard (SD)	3.44 (0.63)	3.24 (0.65)	3.48 (0.71)	3.29 (0.74)	3.85 (0.62)	AA, C, D, R < EA
Group status (SD)	1.13 (0.97)	0.71 (0.84)	0.95 (1.00)	2.27 (0.78)	2.23 (0.89)	AA, C, D < R, EA
Academic anxiety (SD)	3.58 (1.07)	3.69 (0.94)	3.88 (0.96)	3.74 (1.07)	3.25 (1.06)	C, D, R > EA
Intrinsic motivation (SD)	4.37 (0.69)	4.15 (0.78)	4.54 (0.57)	4.21 (0.70)	3.82 (0.91)	AA, C, D, R > EA D > C, R
School belonging (SD)	4.17 (0.62)	4.13 (0.57)	4.54 (0.47)	4.27 (0.71)	4.23 (0.67)	D > AA, C, R, EA
Private regard (SD)	1.44 (0.98)	1.53 (0.79)	1.66 (0.63)	1.50 (0.80)	1.67 (0.51)	none
Centrality (SD)	0.90 (1.24)	1.02 (1.07)	1.40 (0.99)	1.07 (1.23)	0.21 (1.49)	AA, C, D, R > EA

Note. Public regard, academic anxiety, intrinsic motivation, and school belonging ranged from 1 to 5. Group status ranged from 0 to 3. Private regard and centrality ranged from -2 to 2. Means that were significantly different from one another at a probability level of $p < .05$ are indicated by Bonferroni contrasts: AA = African American, C = Chinese, D = Dominican, R = Russian, EA = European American.

Table 2

Bivariate Correlations Between All Measures

	1	2	3	4	5	6	7
1. Public regard	–						
2. Group status	.17***	–					
3. School belonging	.16**	.06	–				
4. Centrality	-.01	-.07	.17**	–			
5. Private regard	.06	.11*	.18***	.32***	–		
6. Academic anxiety	-.11*	-.20***	.01	.06	.02	–	
7. Intrinsic motivation	.10*	-.07	.47***	.15**	.05	.06	–

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

Table 3

Mediating Ethnic Differences in Academic Anxiety with Stigma Awareness

Child's ethnicity	Total effect (SE)	Indirect effect via public regard (SE)	Percentage of total effect due to public regard	Indirect effect via group status (SE)	Percentage of total effect due to group status
African American	.38* (.19)	.03 (.03)	8.27	.18** (.07)	49.20
Chinese	.50** (.15)	.05 (.05)	9.26	.25** (.09)	50.90
Dominican	.70*** (.15)	.03 (.03)	4.12	.22** (.08)	31.39
Russian	.50*** (.17)	.04 (.04)	8.69	-.00 (.02)	0.36

Note. Total effect refers to the differences in academic anxiety between ethnic-minority and European-American children. Indirect effect refers to the effect of ethnicity on academic anxiety either through public regard or through group status. Percentage of total effect refers to the proportion of the original ethnic differences that were accounted for by the indirect effects.

* $p < .05$.

**

$p < .01$.

$p < .001$.

Table 4

Mediating Ethnic Differences in Intrinsic Motivation with School Belonging

Child's ethnicity	Total effect (SE)	Indirect effect via school belonging (SE)	Percentage of total effect due to school belonging	Indirect effect due to school belonging	Indirect effect via centrality (SE)	Percentage of total effect due to centrality
African American	.59 ^{***} (.14)	.00 (.06)		0.57	.00 (.02)	.02
Chinese	.41 ^{**} (.11)	-.00 (.05)		1.21	.00 (.02)	.03
Dominican	.76 ^{***} (.11)	.18 ^{***} (.05)		24.46	.00 (.03)	.02
Russian	.45 ^{**} (.12)	.06 (.05)		13.92	.00 (.03)	.03

Note. Total effect refers to the differences in intrinsic motivation between ethnic-minority children and European-American children that exist after controlling for public regard. Indirect effect refers to the effect of ethnicity on intrinsic motivation either through school belonging or through centrality. Percentage of total effect refers to the proportion of the original ethnic differences that were accounted for by the indirect effects.

* $p < .05$.

** $p < .01$.

*** $p < .001$.