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Self-Concepts, Self-Esteem, and Academic Achievement of Minority and Majority North American Elementary School Children

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Minority and majority elementary school students from a Native American reservation (N = 188; K–fifth grade; 5- to 10-year-olds) completed tests of academic self-concepts and self-esteem. School grades, attendance, and classroom behavior were collected. Both minority and majority students exhibited positive self-esteem. Minority students demonstrated lower academic self-concepts and lower achievement than majority students. Two age-related patterns emerged. First, minority students had lower academic achievement than majority students, and this effect was stronger in older (Grades 3–5) than in younger (Grades K–2) students. Second, children's actual achievement was related to their academic self-concepts for older students but more strongly linked to self-esteem in younger students. The authors offer a developmental account connecting students' developing self-representations to their school achievement.

How adults and children perform on a variety of tasks, including at work and in school, is intertwined with how they think about themselves—their "self-representations." Social-developmental psychologists have found it useful to differentiate (at least) two aspects of self-representations that relate to children's academic achievement. Children's *academic self-concepts* include representations about the self with respect to school, such as how strongly one identifies with being a student (*me = student*; Marsh, Ellis, & Craven, 2002). Academic self-concepts are related to children's choices in school (e.g., the types of classes taken) and to their level of commitment to those choices (Eccles, Wigfield, Harold, & Blumenfeld, 1993). Another important aspect of children's self-representations is often described under the construct of *self-esteem* (Rosenberg, 1965). This includes valenced evaluations of the self (*me = good*), and is measured along a "good–bad" dimension (Amodio, 2014; Cvencek, Greenwald, & Meltzoff, 2016; Greenwald et al., 2002). Researchers have long been interested in the degree to which these valenced self-evaluations are related to children's school-related behaviors, including their academic motivation and performance (Eisenberg et al., 2000; Ryan & Grolnick, 1986; Schonert-Reichl, Smith, Zaidman-Zait, & Hertzman, 2012). In the current work, we explore how self-concepts and self-esteem are related to academic performance in majority and minority elementary school students living on a Native American Reservation in the northwestern United States.

Children's developing academic self-concepts and self-esteem emerge within a larger context of cultural images and depictions about what is possible for themselves and others in their social group (Oyserman & Fryberg, 2006; Oyserman & Markus, 1993). When children's social groups (e.g., race, ethnicity, gender, or social class) are represented negatively or are rarely shown as successful in a domain (e.g., school), then young children may find it difficult to envision themselves belonging or performing well in that domain (Fryberg & Townsend, 2008; Walton & Cohen, 2007). This tends to occur more often for racial–ethnic minority children than for their majority

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peers, both in the media (Mastro & Greenberg, 2000) and in the classroom (Coopersmith & Gruber, 2009; Leavitt, Covarrubias, Perez, & Fryberg, 2015). For example, the prevalent cultural views of Native American students subtly, and sometimes not so subtly, convey to Native American students that the school context is not for them and that they do not "belong" there (Bang & Medin, 2010; Covarrubias & Fryberg, 2015), which can lead to disengagement from school (Strambler & Weinstein, 2010). Research has shown that children pick up social biases that are directed to individuals and groups not only from explicit verbal statements but from subtle nonverbal hints and cues as well (Skinner, Meltzoff, & Olson, 2017).

Racial–Ethnic Group Differences in Academic Self-Concepts and Self-Esteem

To our knowledge, no research has examined racial–ethnic group differences in academic self-concepts in elementary school students and compared this to their performance on measures of success in school. The extant research has focused on older students including adolescents (Cokley, 2002; Okeke, Howard, Kurtz-Costes, & Rowley, 2009).

Self-esteem also has primarily been tested in older children; and moreover, the extant results pertaining to racial–ethnic group differences in self-esteem are inconsistent. For example, using verbal self-report measures, past studies have reported that minority students (e.g., Native Americans and Hispanics) have lower self-esteem than their White peers (Twenge & Crocker, 2002). The opposite pattern, however, has been reported with Black high school students (Bachman, O'Malley, Freedman-Doan, Trzesniewski, & Donnellan, 2011; Verkuyten, 2005). One explanation for these divergent findings may be the susceptibility of self-report measures to social desirability or "impression management" effects (Paulhus, 2002). Yamaguchi et al. (2007) demonstrated that Chinese and Japanese participants report lower self-esteem than White participants on explicit measures but found no differences with implicit measures (i.e., measures not relying on self-report). The authors proposed that explicit measures may be influenced by cultural factors (e.g., how permissible it is to "say favorable things" about oneself). Using an implicit measure of self-esteem with elementary and middle school Hispanic students, Dunham, Baron, and Banaji (2007) found evidence for positive self-esteem in Hispanic children.

Developmental Differences in Academic Self-Concepts and Self-Esteem

Children's academic self-concepts change with age and experience (Cvencek, Meltzoff, & Greenwald, 2011; Eccles et al., 1993; Harter, 1999; Marsh et al., 2002). In young children, academic self-concepts are often not highly correlated with "external indicators" such as actual student achievement (Marsh & Ayotte, 2003). By late elementary and middle school, their academic self-concepts align more closely with external indicators, and this is often thought to be due to their greater reliance on social comparison processes (Guay, Marsh, & Boivin, 2003; Harter, 1999).

In terms of self-esteem, prior work has only been able to test its relation to academic indicators in older children (preadolescents and older), because the standard measures of self-esteem are not suitable for young elementary school children (Harter, 2012). More specifically, young children (ages 3–7) can verbally report domain-specific evaluations about the self (e.g., "I am a good runner") but not global self-esteem (e.g., "I am a good person" or *me = good*; Harter, 2006; Marsh et al., 2002; see also Supporting Information). This has curtailed researchers from testing how self-esteem may be linked to school performance in elementary school. Recently, several teams have developed child friendly adaptations of the Implicit Association Test (IAT; Baron & Banaji, 2006; Cvencek, Greenwald, & Meltzoff, 2011). The variant used in the current study was a Child IAT that was validated for measuring implicit self-esteem in young children (Cvencek, Greenwald, & Meltzoff, 2016).

Explicit and Implicit Mental Processes

It is beneficial to distinguish between two types of mental processing, often labeled explicit and implicit cognition. Explicit processes are slow, deliberate, and accessible to introspection. Implicit processes are usually characterized as fast, automatic, and not available to introspection (Amodio, 2014; Gawronski & Payne, 2010; Greenwald & Banaji, 1995). Both explicit and implicit measurement techniques are sensitive to individual differences in children's beliefs about school (Cvencek, Nasir, O'Connor, Wischnia, & Meltzoff, 2015; Cvencek et al., 2011). When students first start school, their self-esteem already has a firm basis, at least as tapped with implicit measures (Cvencek et al., 2016), but their academic self-concepts—how they think of themselves in relation to school—are still underdeveloped (Marsh, Trautwein, Lüdtke, Köller, & Baumert, 2005).

Rationale of the Current Study

We examined the relation among academic self-concepts, self-esteem, and academic achievement for minority and majority elementary school students. Specifically, we explored three converging issues. First, we tested for *racial–ethnic group differences* in academic self-concepts and self-esteem measures. Second, we examined whether combining an *explicit measure of academic self-concept* and an *implicit measure of self-esteem* yielded a more comprehensive view of students' achievement than either taken alone. Third, we tested for *grade-level differences* in the relation among academic self-concepts, self-esteem, and achievement in school.

In this study, children were removed from their classrooms and tested individually. Because there was a constraint on the time the school would allow children to be out of the classroom, this led to strategic choices about the measures used. We wanted to test both academic self-concepts and children's self-esteem but did not have time to collect all possible versions of these two constructs (i.e., both implicit and explicit versions of both constructs). Thus, we opted to (a) use tests that were already published and validated in the literature, and (b) use the two best tests available. For the self-esteem measure we had little choice, because there are no explicit measures of self-esteem before preadolescence (see above), and so we used a validated implicit measure based on the Child IAT approach. For the measure of academic self-concept we used an explicit measure, because to date there is no implicit measure of academic self-concepts (e.g., *me = student*) that has been published. For these reasons, coupled with the time constraints on testing, we opted for the best bets for data collection: We assessed self-esteem using a validated implicit measure and academic self-concepts using an established verbal interview approach. (A full description of the tasks is provided in the Method section, and a further description of the rationale for the implicit self-esteem task selection is given in the Supporting Information.)

Method

Setting and Participants

The study took place at an elementary school on the Tulalip Indian Reservation in the Puget Sound region of Washington State. Due to the Allotment Act (1887), which divided up tribal lands into individual tribal member allotments, a number of nonnative, White individuals live on the reservation. The majority of teachers and staff at the school were White.

The elementary school housed two K–5 (kindergarten to Grade 5) learning communities, Quil Ceda neighborhood school and Marysville Co-op, that utilize the same district curriculum, but vary significantly in parental involvement. Parents at Co-op agree to volunteer at the school at least 3 hr/week. Students who attended Quil Ceda live within the district boundary, whereas students who attend Co-op come from nearby communities. In 2010–2011, when the data were collected, Quil Ceda had an enrollment of 248 students (49.2% female; 33% White, 27% Native American, 24% Latino, 12% multiracial, 1.6% Black, and 0.4% Asian; 76.4% free and reduced lunch) and Co-op had a student enrollment of 298 students (49% female; 72.5% White, 10.7% Latino, 4.4% Native American, 1% Black, and 0.7% Asian; 18.2% free and reduced lunch). At the time of data collection, Co-op students test scores were similar to those of the other elementary schools in Marysville with similar racial–ethnic and social class demographics. We could not control for social class differences because (a) individual-level free and reduced lunch information is, by policy, private and (b) there is a strong statistical relation in the community between being a minority group member and receiving free and reduced lunch. English was the language spoken at home for all but a handful of Latino families.

Parent letters, consent forms, and minor assent forms were sent home with students. Only students with signed parent consent and minor assent forms were invited to participate in the study. Participants included 188 K–5 students. School records indicated the following racial–ethnic composition: 106 (56.4%) White, 56 (29.8%) Native American, 13 (6.9%) Latino, 6 (3.2%) Asian, 2 (1.1%) Black, and 5 (2.7%) multiracial. The detailed Grade Level × Gender × Ethnicity breakdown for the test sample is presented in the Supporting Information. The mean age for kindergarten children was 5.18 years (SD = 0.41) and for Grade 5 children was 10.26 years (SD = 0.45). Based on the missing student data, incomplete school record keeping, and previously published exclusion criteria for the Child IAT (i.e., excessively fast or slow responding, excessive error rates), the final sample included 149 participants (see Supporting Information for details).

Procedure

Participants completed both self-report (explicit) and Child IAT (implicit) tasks. For the self-report

assessments, two procedures (role playing and paper questionnaire) were utilized to accommodate for developmental differences (see below). In a classroom used for small group instruction, K–2 grade-level students were interviewed one on one utilizing role-playing techniques adapted from previous research (Heyman, Dweck, & Cain, 1992; Kamins & Dweck, 1999). Students answered questions that assessed their academic self-concepts by play-acting the main character in a narrated scenario using "little people" (i.e., dolls; see below). In another classroom, also used for small group instruction, 3–5 grade-level students participated in groups of up to six students.

After completing these explicit measures, both kindergarten to second-grade students and third- to fifth-grade students moved to a desk with a laptop computer and were tested one on one utilizing the Child IAT procedure (Cvencek et al., 2016). Once finished, they were debriefed, thanked for their participation, and returned to class. We collected student data in early May and obtained student records on school grades, teachers' ratings of student behavior, and absenteeism in late June (at the end of the school year).

Explicit Academic Self-Concept Measure

An eight-item measure was developed to measure academic self-concepts (Covarrubias, Herrmann, Pauker, & Fryberg, 2016). The role-playing and paper techniques were adapted from the procedures used with kindergarten (Kamins & Dweck, 1999) and elementary school students (Heyman et al., 1992) in previous research. Using eight dolls, K–2 students were asked to "Pretend that one of these small people is you. Pick the one you want to be you." The experimenter, using a preselected "teacher Debbie" doll (i.e., a White, adult female figure that reflected the demographic of the majority of teachers at the school), engaged in roleplay with the student (see Supporting Information for further details on individual items). The third- to fifth-grade students were asked the same questions overtly (i.e., no roleplay) and selected from three potential responses on a card in front of them. Students were instructed to answer questions by circling "the answer that seems best for you" on the questionnaire (see Supporting Information for precise wording). The experimenter noted their responses. Across the two different procedures, the academic self-concept measure was reliable ($\alpha s \geq .73$).

Implicit Self-Esteem Measure

The Child IAT is an easy-to-administer sorting task in which stimuli are presented on a computer screen (Cvencek et al., 2016). Children are asked to rapidly sort the stimuli belonging to four categories using two response keys. The Child IAT is based on the principle that it is easier to give the same response to items that are associated than if they are not. For example, children with high self-esteem should find it easier to respond when the stimuli representing the self ("me") and positive words ("good") are paired together (*me* = *good*) than when the stimuli representing the self and negative words ("bad") are paired together (*me* = *bad*; see Cvencek et al., 2016 for an extended discussion of the technique and Supporting Information for more details). An IAT response score (*D*) was calculated using the scoring algorithm developed by Greenwald, Nosek, and Banaji (2003), which constrains the resulting IAT measure to have bounds of −2 and +2. Numerically positive scores on the self-esteem Child IAT indicated stronger association of *me* with *good* than with *bad*. Cronbach's alpha was calculated from two *D* measures computed for matched 24-trial subsets. The self-esteem IAT was reliable ($\alpha = .78$).

Behavioral Measures

Absenteeism

Rates of absenteeism from school records were computed as a total number of excused absences, unexcused absences, and "tardies" for each student.

Teachers' Ratings of Student Behavior

The measure of teachers' ratings was adapted from the Child Behavior Checklist (Achenbach, 1991). The specific items used in the current study constitute a small subset that past research has found to be most useful for this age group and sample in prior research. On a scale from 0 (*not really/never*) to either 4 (*all of the time* for some items) or 5 (*more than once or twice a week* for other items), teachers rated each student in their class on four items (see Supporting Information). Internal consistency for this measure, as indicated by Cronbach's alpha, was $\alpha = .77$.

Academic Achievement

End-of-year report cards were obtained for all participants. Grades were averaged for K–5

students on a scale from 1 (*area of concern*) to 4 (*exceeds standards*) in the following subjects: mathematics, reading, writing, science, social studies, art, music, and physical education ($\alpha = .92$).

Results

The sample consisted of racial–ethnic majority (i.e., White) and racial–ethnic minority (i.e., Native American, Black, Latino, Asian, or multiracial) children. Preliminary analyses examined whether significant differences were evident between subgroups of our racial–ethnic minority, non-White sample. The analyses revealed no significant differences (see Supporting Information). Moreover, if we limit the results to the two largest racial–ethnic groups—Native American and European American (White)—the pattern of results reported below was virtually identical (see Supporting Information). Thus, the data will be reported in terms of "minority" and "majority" students.

We grouped students from Grades K, 1, and 2 into one, younger grade level (K–2), and students from Grades 3, 4, and 5 into another, older grade level (3–5). These groups are comparable to age groupings that have been used previously in research on children's social cognition (Baron & Banaji, 2006; Raabe & Beelmann, 2011). Notably, when we used age as a continuous variable, the pattern of results was comparable to the one reported below (see Supporting Information).

Racial–Ethnic and Developmental Differences

In all analyses below, a 2 (grade level: K–2 vs. 3–5) × 2 (racial–ethnic group: minority vs. majority) between-subjects analysis of variance was conducted on each dependent measure.

Explicit Academic Self-Concept

Analyses revealed a significant main effect of racial–ethnic group, $F(1, 145) = 10.59$, $p = .001$, $d = 0.54$. Majority students reported higher academic self-concepts ($M = 2.77$, $SD = 0.22$) than minority students ($M = 2.62$, $SD = 0.31$). No main effect of grade level or interaction was found ($ps > .71$). Follow-up t tests revealed that both majority, $t(81) = 32.04$, $p < .001$, and minority, $t(66) = 16.43$, $p < .001$, students reported an explicit academic self-concept significantly greater than the midpoint value (2.00) of the scale.

Implicit Self-Esteem

Analyses revealed a significant positive intercept, $F(1, 145) = 18.58$, $p < .0001$, $d = 0.72$, showing that children in this sample displayed positive self-esteem. Follow-up t tests revealed a significant link between *me* and *good* in the positive direction (*me* = *good*) for both majority ($M = 0.09$, $SD = 0.33$), $t(81) = 2.52$, $p = .01$, $d = 0.28$, and minority ($M = 0.13$, $SD = 0.24$), $t(66) = 4.36$, $p < .0001$, $d = 0.53$, students. Analyses revealed no other significant effects or interactions (all $ps > .45$).

Achievement

Analyses revealed a main effect of racial–ethnic group, $F(1, 145) = 24.72$, $p < .00001$, $d = 0.83$. Majority students attained higher achievement ($M = 3.45$, $SD = 0.35$) than minority students ($M = 3.11$, $SD = 0.36$). There was also a significant Racial–Ethnic Group × Grade Level interaction, $F(1, 145) = 5.06$, $p = .03$, $d = 0.37$. Follow-up t tests revealed that in K–2, the achievement of minority students ($M = 3.15$, $SD = 0.32$) was not significantly different from that of majority students ($M = 3.31$, $SD = 0.28$), $t(53) = 1.97$, $p = .06$, $d = 0.53$. However, in 3–5, minority students had significantly lower achievement ($M = 3.08$, $SD = 0.39$) than majority students ($M = 3.51$, $SD = 0.36$), $t(92) = 5.53$, $p < .001$, $d = 1.16$.

Teachers' Ratings of Student Behavior

Analyses revealed a main effect of racial–ethnic group, $F(1, 145) = 7.51$, $p = .01$, $d = 0.46$. Majority students attained more positive behavior ratings ($M = 3.99$, $SD = 0.64$) than minority students ($M = 3.57$, $SD = 0.79$). There was a main effect of grade level, $F(1, 145) = 12.69$, $p < .001$, $d = 0.59$. Students in grade level 3–5 attained more positive behavior ratings ($M = 3.97$, $SD = 0.71$) than K–2 students ($M = 3.51$, $SD = 0.71$). Finally, there was a significant Racial–Ethnic Group × Grade Level interaction, $F(1, 145) = 4.77$, $p = .03$, $d = 0.36$. Follow-up t tests revealed that for K–2 students, there were no significant differences in positive ratings ($p = .74$). However, for 3–5 students, majority students attained more positive behavior ratings ($M = 4.21$, $SD = 0.49$) than minority students ($M = 3.64$, $SD = 0.83$), $t(92) = 4.17$, $p < .0001$, $d = 0.87$.

Absenteeism

Analyses revealed a main effect of racial–ethnic group, $F(1, 145) = 11.28$, $p = .001$, $d = 0.58$. Minority

students had more absences (M = 20.62, SD = 19.79) than majority students (M = 12.11, SD = 9.74). A main effect of grade level was also obtained, $F(1, 145) = 5.96$, $p = .02$, $d = 0.42$. Students in K–2 had more absences (M = 20.31, SD = 18.42) than 3–5 students (M = 13.62, SD = 13.49). The interaction effect was not significant ($p = .36$).

Relations Among Self-Concepts, Self-Esteem, and Academic Achievement

Table 1 includes correlations among our measures. Two hierarchical regressions were conducted with students in grade levels K–2 and 3–5. Both regressions tested a "demographic–behavioral–social" model in which demographic (race) and behavioral (absenteeism, behavioral ratings) variables were first used to explain variance in students' achievement, followed by tests of whether social-cognitive variables (explicit academic self-concepts, implicit self-esteem) could account for additional variance. In each regression, achievement was entered as a criterion, racial–ethnic group was entered as a predictor at Step 1, absenteeism and teachers' ratings of behavior were added as predictors at Step 2, explicit academic self-concept was added as a predictor at Step 3, and implicit self-esteem was added at Step 4. The approach of entering the explicit measure before the implicit measure examines whether the implicit self-esteem measure can add explanatory power *after* accounting for the explicit self-concepts. Table 2 presents the results of the two regression analyses.

Table 1
Correlations Among Measures

Measure	Self-esteem	Behavior	Absences	Achievement
Academic self-concept	.06	.30***	−.21*	.38***
Self-esteem		−.01	−.01	.03
Behavior			−.27**	.61***
Absences				−.40***

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

Grade Level K–2

The overall model explained 42.6% of the variance in student achievement (adjusted $R^2 = .358$). The main effect of racial–ethnic group was statistically significant at Step 1 ($\Delta R = .30$, $t = 2.11$, $p = .04$) but not at any of the three remaining steps (ps > .11). Thus, majority students had higher achievement than minority students, but this difference did not persist once additional factors were considered. The main effect of absenteeism was not significant at Step 2 or any step thereafter ($|t|$s < 1.46, ps > .15). The main effect of behavior ratings was significant at Step 2 ($\Delta R = .30$) and the two steps afterward (ts > 3.58, ps < .001). The main effect of explicit academic self-concept was not significant at Step 3 or Step 4 ($\Delta R = .001$, $|t|$s < 0.26, ps > .79). The main effect of implicit self-esteem was significant at Step 4 ($\Delta R = .06$, $t = 2.34$, $p = .02$), suggesting that positive implicit self-esteem related to higher achievement and accounted for more of the variance in achievement than did explicit academic self-concept.

Grade Level 3–5

The overall model explained 63.7% of the variance in student achievement (adjusted $R^2 = .615$).

Table 2
Beta Weights From Hierarchical Regressions Predicting Achievement of K–2 and 3–5 Minority and Majority Students

		Grade level							
		K–2 (N = 55)				3–5 (N = 94)			
Regression step	Predictor	β	t	ΔR^2	p	β	t	ΔR^2	p
Step 1	Race	.297	2.11	.09	.041	.512	5.56	.26	.0001
Step 2	Absence	−.178	−1.39	.26	.173	−.226	−3.07	.33	.003
	Teachers' ratings of behavior	.467	3.81		.0001	.520	6.68		.0001
Step 3	Academic self-concept (explicit)	−.035	−0.26	.00	.794	.246	3.37	.05	.001
Step 4	Self-esteem (implicit)	.276	2.34	.07	.024	.018	0.26	.00	.793

Note. The ΔR^2 at Step 2 refers to both predictors entered at that step.

The main effect of racial–ethnic group was significant at Step 1 (ΔR = .51) and in all three steps afterward (ts > 2.61, ps < .01). Majority students attained higher achievement than minority students, and these differences persisted even after considering additional factors. The two behavioral predictors at Step 2 jointly explained additional variance (ΔR = .25). The main effect of absenteeism was significant at Step 2 and both steps thereafter ($|t$s$|$ > 3.01, ps < .01), suggesting that higher absenteeism was related to lower achievement. The main effect of behavior ratings was also significant at Step 2 and two steps afterward (ts > 5.99, ps < .00001). The main effect of explicit academic self-concepts was significant at both Step 3 (ΔR = .03) and Step 4 (ts > 3.25, ps < .01), suggesting that students with more positive explicit academic self-concepts had higher achievement. The main effect of implicit self-esteem was not significant at Step 4 (ΔR = .001, t = 0.26, p = .79). Thus, in Grades 3–5, explicit academic self-concept was related more strongly to achievement than implicit self-esteem.

Discussion

The present study examined the relation between explicit academic self-concepts, implicit self-esteem, and achievement for minority and majority elementary school students. Importantly, we found that minority and majority students demonstrated similar high levels of implicit self-esteem. In elementary school, children's implicit self-esteem was in the positive direction regardless of minority–majority status. Although both minority and majority students reported positive explicit academic self-concepts (i.e., both groups reported values higher than the scale median), minority students reported significantly less positive academic self-concepts than majority students.

As the first study to examine implicit self-esteem in both minority and majority elementary school children, the current findings advance our understanding of how implicit self-esteem and explicit academic self-concepts interact during development and are tied to real-world outcomes, such as achievement in school. Both the implicit self-esteem measure and the explicit measure of academic self-concepts displayed incremental predictive validity for students' achievement, but these findings were qualified by age such that taking both together provided a more comprehensive picture than either in isolation. We found that implicit self-esteem related to achievement for K–2 students, whereas explicit academic self-concept related to achievement for 3–5 students. We hypothesize that although young children enter elementary school with a basic sense of self-esteem (*me = good*), they do not have a clearly formed academic self-concept. Hence, in the early years, students rely on how they *feel* about themselves: Children who feel good about themselves are better able to handle both teachers' feedback and the extraneous messages (e.g., stereotypes and expectancies) about their group, and to do better in school than children who do not feel as good about themselves (see Cvencek et al., 2016; Heyman & Dweck, 1998).

As children progress through elementary school, they may learn increasing amounts about their relative academic strengths, based on increased social comparisons with peers (Harter, 1999). The social information students receive in school begins to define their academic self-concepts (Oyserman & Fryberg, 2006). In this way, students' beliefs about their academic potential, rather than how they feel about themselves globally (*me = good*), may become more closely associated with academic outcomes for older children (see below for a further examination of this issue).

We know from research that minority and majority students may be receiving very different social information about their potential as students and that such messages may shape their academic self-concepts and performance. For example, compared to majority students, minority students are more likely to encounter negative stereotypes about their ability and intelligence (Cvencek et al., 2015; Steele, 1997), a scarcity of positive academic representations or role models (Covarrubias & Fryberg, 2015; Zirkel, 2002), and teacher bias regarding perceptions of their classroom behavior (Okonofua & Eberhardt, 2015; Yeager et al., 2014). Research shows that children readily "catch" the social biases they observe and incorporate them into their mental framework (Skinner et al., 2017).

We found that teachers rated minority students' classroom behaviors as more disruptive compared to majority students and that these disruptive behaviors were associated with lower grades 2 months later. Although we did not measure teacher bias, there is a possibility that such bias may come into play in teacher evaluations of the students. Prior research has shown that narrow and biased messaging in school contexts can contribute to different self-representations in the students and different expectations and reactions by teachers to the behavior of minority versus majority students (Simpkins, Fredricks, & Eccles, 2015; Wigfield,

Tonks, & Eccles, 2004). One might speculate that this may contribute, at least in part, to the finding that older (Grades 3–5) minority students had lower academic self-concepts and lower achievement than their majority peers.

Importantly, however, our findings reveal that this disparate messaging does not significantly dampen minority students' implicit self-esteem. The combination of (a) high self-esteem that is not related to academic achievement and (b) lower academic self-concepts that are related to (lower) academic achievement suggests that for minority students' self-esteem may become somewhat detached from academic achievement in elementary school. Prior research with African American and Latino students found disengagement in a sample of elementary school children in first to fifth grades (Strambler & Weinstein, 2010), and we speculate that some minority students may start to disengage as early as kindergarten.

Even though students' self-esteem was detached from their academic achievement in Grades K–2, there was no significant racial–ethnic achievement difference in this younger sample. Yet, for the older students, there was a significant gap in performance between minority and majority students. One possible account of this finding revolves around how the construct of academic achievement was measured—school grades from report cards, which reflect teachers' perceptions. It could be that teachers' perceptions of good student behavior are based on different things as students become older. It is known, for example, that middle school teachers engage in more stringent grading practices than elementary school teachers (Randall & Engelhard, 2009). Even during late elementary school years (Grades 3–5), as grade level increases, teachers place higher importance on homework, extra credit, and constructed response assessments when determining students grades (McMillan, Myran, & Workman, 2002). If teacher bias plays a small or perhaps implicit role in teachers' perceptions of differences between minority and majority students (as speculated above), then more numerous and stringent grading practices that arise in later elementary school may provide increased occasions for such implicit bias to be expressed: Teachers are the ones who evaluate homework, extra credit effort, and so forth. Future research will benefit from more objective and direct measurements of student behavior and work products, thus enabling researchers to compare those measurements with teachers' evaluations of the students and the grades assigned.

Another interesting finding was that absenteeism was negatively related to academic achievement in Grades 3–5 but unrelated to achievement in Grades K–2. One explanation is that, compared to younger grades, instruction in older grades may involve more formal curriculum, so missing class may result in missing specific content necessary for doing well in the class. As we did not explore class curriculum or reasons for absences, future research is needed to understand how these factors impact achievement.

Finally, it should be noted that the lack of a significant correlation between the explicit measure of academic self-concepts and the implicit measure of self-esteem is compatible with other well-known patterns of implicit–explicit dissociation (Baron, 2015; Dunham, Baron, & Banaji, 2008; Dunham, Chen, & Banaji, 2013).

Limitations and Future Research

We acknowledge four limitations to the current study. First, although the findings are compatible with prior research showing (a) positive implicit self-esteem by kindergarten (Cvencek et al., 2016), and (b) children's self-reported academic self-concepts beginning to become linked to achievement by later elementary school (Marsh et al., 2005), future *longitudinal* studies are needed to substantiate the age-related findings and to provide a more rigorous test of developmental ordering.

Second, the methods we used were not systematically crossed with construct type—we assessed explicit academic self-concepts and implicit self-esteem. An alternate interpretation to the finding that self-esteem is linked to how well children do in school in the early grades and academic self-concepts is linked to this outcome in older grades is that this is attributable to differences between explicit versus implicit methods. Future research will profit from studies that use explicit and implicit measures of both academic self-concept and self-esteem in the *same* children at the same ages from kindergarten to fifth grade.

Third, although our sample was large enough to provide sufficient power to detect the grade-level and racial–ethnic group differences, our study was underpowered to permit drawing meaningful conclusions about how gender and racial identities interact during development (Rogers & Meltzoff, 2017; Rogers, Scott, & Way, 2015). Relatedly, the limited sample of other racial–ethnic minority groups besides Native Americans—for example, African Americans—limits the generalizability of this work.

Fourth, in this sample, we were not able to disentangle students' racial–ethnic identity from students' social class, and future research should examine the effects of each, as well as how larger macrovariables such as school type (i.e., majority, minority), may interact with these demographic variables.

Nevertheless, the study makes a contribution in expanding our knowledge of minority and majority elementary school students. It is the first study to examine academic self-concepts, self-esteem, student behavior, and academic achievement in the *same* elementary school students. It highlights that positive self-esteem exists in *both* minority and majority students, even though academic self-concepts and achievement varies, and it points to possible reasons why minority students may experience "psychological disengagement" from academic outcomes.

Broader Implications for Education

Given findings that children internalize cultural expectations and academic stereotypes about their in group at young ages (e.g., Cvencek et al., 2011, 2016; Dunham, Baron, & Carey, 2011; Meltzoff, 2013; Nasir & Bang, 2012), the current results suggest the value of improving the school experiences of all students and of minority students more specifically. One strategy is for schools to be more effortful in providing positive, in-group role models either by hiring more teachers and staff of color or by soliciting the help from minority community members in school activities (Covarrubias & Fryberg, 2015). These positive representations could help to counter the negative stereotypes of minority students that may potentially bias minority students' emerging self-representations and performance (Steele, 1997), teachers' perceptions of school behavior (Okonofua & Eberhardt, 2015), or majority students' perceptions of minority students' behavior (McGlothlin & Killen, 2006). These strategies offer a few ways of improving classroom messages and representations in order to facilitate the development of more positive academic self-representations, both implicitly and explicitly.

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Supporting Information

Additional supporting information may be found in the online version of this article at the publisher's website:

Appendix S1. Sample Characteristics

Appendix S2. Preliminary Analyses and Data Reduction

Appendix S3. Measuring Self-Representations in Young Children

Appendix S4. Results of Regression Analyses Using Age as a Continuous Variable

Appendix S5. Results of Analyses Using Data from Native American and European American Students Only