Academic identification as a mediator of the relationship between parental socialization and academic achievement

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ABSTRACT

This study examines whether academic identification, or one's psychological and emotional investment in academics, mediates the association between child-reported parental educational socialization and standardized achievement test scores among a predominantly ethnic minority sample of 367 urban middle school students. We predicted that academic identification would mediate the relationship between five forms of perceived parental academic socialization (future-oriented, teaching-oriented, effort-oriented, shame-oriented, and guilt-oriented) and achievement when controlling for prior achievement. We found confirmation for this effect among analyses involving *teaching, future, and guilt* forms of socialization. For *teaching,* this effect was not present for Black boys. Direct effects indicated that *teaching* and *future* socialization was inversely related to student achievement, but when mediated by academic identification it was positive. *Guilt* was only related to achievement through academic identification. Results suggest the importance of the manner in which parental educational socialization is engaged.

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1. Introduction

Academic identification, or how much students are emotionally invested in academic learning, has been found to be an important aspect of academic engagement and a correlate of academic achievement (Finn, 1989; Fredricks, Blumenfeld, & Paris, 2004; Strambler & Weinstein, 2010). Much attention has also been paid to academic identification with respect to ethnic minority students as it has been theorized to be a significant contributor to the ethnic achievement gap (Fordham & Ogbu, 1986; McWhorter, 2000; Ogbu, 1991). Additionally, some empirical research has supported such theories in that it has found Black and Latino students to be less academically identified than White students (Cokley, 2002; Major, Spencer, Schmader, Wolfe, & Crocker, 1998; Morgan & Mehta, 2004; Osborne, 1995, 1997b; Wickline, 2003). Despite our growing knowledge of the importance of this construct, little is known about the factors that contribute to academic identification among this population. Given that much of what youth learn about the meaning and value of education is influenced by parents (Hill & Tyson, 2009), it seems relevant to question how parental social interactions play a role in the promotion of academic identification. The current study examines how various forms of educational parental socialization predict academic identification and how this in turn influences achievement among a diverse sample of middle school students.

1.1. Academic identification

In the field of psychological and educational research, the concept of academic identification has often been used to describe a psychological or emotional dimension of academic engagement (Finn, 1989; Fredricks et al., 2004; Strambler & Weinstein, 2010). Osborne and Jones (2011) define academic identification as, "Selectively valuing an academic domain as central to the self-concept." This concept is also in line with Steele's (1992) definition of academic *disidentifcation* as a low correlation between academic self-esteem and overall self-esteem. Both of these definitions assume that an academically identified student considers the academic domain to be an important component of their self-concept and self-worth. Thus, academic identification can generally be understood as one's level of investment in academics that consists of emotional (e.g. caring) and psychological (e.g. self-concept, self-esteem) dimensions. As Osborne (1997) and Osborne and Jones (2011) notes, this construct is theoretically distinct from academic self-concept which consists of students' self-evaluation of their academic skill. It also differs from academic self-esteem which is a specific component of overall self-esteem.

A motivational construct that is similar but distinct from academic identification is the attainment value subscale of Eccles and Wigfield's (1995, 2002) perceived task value. This measure concerns how important one believes an academic task is and how much it is worth pursuing. Attainment value and academic identification are similar in that they both involve perceived value of learning, but they differ in that academic identification places more of an emphasis on the importance of this value to one's sense

of self. Accordingly, high attainment value (e.g. "It's important to me to do well in school") may not necessitate psychological and emotional investment (e.g. "Doing well in school is an important part of who I am") since students may value learning for various reasons, some, or all of which may not involve self-investment. For example, a student may value academics because she cares primarily about pleasing family members or teachers rather that it being a function of her own investment in academics.

Academic identification is an important link to academic achievement in so far as one's psychological investment in learning is linked to one's level of academic motivation and effort (Finn, 1989). Further, as it pertains to ethnic minorities, lack of academic identification has been theorized to be a contributing factor to the underperformance of ethnic minority students relative to Whites. For example, Steele (1997) theorized that in response to negative racial stereotypes about the intelligence of certain ethnic groups, members of these groups may begin to disengage their self-esteem from the domain of academics as a means of self-esteem protection. Osborne (1997b) has found empirical confirmation of this theory through a nationally representative longitudinal analysis of Black, Latino, and White students across 8th to 12th grades. The results suggest that of these students, Black boys were most disidentified as indicated by a low correlation between self-esteem and academic achievement.

Cokley, 2002 found similar results suggesting racial and gender differences as it pertains to disidentification among Black and White college students. In a cross-sectional study comparing Black and White underclassmen (freshmen and sophomores) to upperclassmen (juniors and seniors), Cokely examined disidentification as the correlation between academic self-concept and grade point average (GPA). Cokely found that while the association remained significant across upperclassmen and lowerclassmen for Black and Whites as a whole, only Black males demonstrated a non-significant association between self-concept and GPA as upperclassmen. Consistent with findings from older students, Graham, Taylor, and Hudley (1998) have found patterns of disidentification in a study of Black, Latino, and White middle schoolers (6th through 8th graders). The authors found that while White boys and girls and Black girls tended to most value their high achieving peers, Black and Latino boys least valued high achieving peers.

In summary, academic identification has been found to be an important factor for achievement and some evidence exists for ethnic and gender differences among youth. More specifically, ethnic minority boys appear to be particularly at risk of academic disidentification. However, what is lacking within the literature is an understanding of contributors to academic identification and how such contributors may lead to academic performance through academic identification. Further, it has yet to be examined how such indirect pathways to academic performance may differ for boys and girls. Although there currently exists a substantial body of research on how social phenomena such as stereotypes affect such outcomes, our understanding of more proximal social predictors remains underdeveloped. Since parents play a key role in the development of their children's views on academic education, improving our understanding of how the ways in which parents communicate with their children about schooling impacts academic identification and achievement would provide important information about how to promote youths' academic development.

1.2. Educational socialization

Educational socialization is an aspect of parental involvement with learning that concerns the messages parents convey to their children about education. Meta-analyses on this topic have found parental involvement, in general, to have a positive effect on student academic achievement (Fan & Chen, 2001; Hill & Tyson, 2009; Jeynes, 2007). Of the parental involvement practices contributing to achievement, it has been found that socialization is one of the most powerful (Fan & Chen, 2001; Hill & Tyson, 2009; Jeynes, 2007). For example, Fan and Chen (2001) found that when compared to practices involving communication, supervision, and participation, parental educational aspirations had the strongest association with achievement among a general population of students. Jeynes (2007) found similar results among urban secondary students, in that parental expectations had the strongest association with achievement when compared to parental style and communication and that these results held across race/ethnicity. The most recent meta-analysis by Hill and Tyson (2009) among middle school students is also consistent with these results. These authors found that across 50 studies, practices involving educational socialization had the strongest association with achievement when compared to school and home-based involvement.

However, communicating expectations and aspirations are not the only socialization practices that might influence academic identification and achievement. Helping with schoolwork is another common practice in which parents engage and socialize their children to value academics. However, in Hill and Tyson's (2009) meta-analysis, they found that this practice was inconsistently associated with academic performance and in some cases was negatively linked with achievement. This begs the question as to what factors may account for such inconsistencies in these findings.

Other educational socialization practices might involve how much parents emphasize the role of effort in achievement. Research has shown that students who possess an effort-oriented approach to achievement, as opposed to an orientation focused on innate intelligence, tend to be more academically persistent and have higher academic performance (Dweck, 1999; Dweck, 2002). How much parents actively help their children with their school work may also influence this process as meta-analyses have found some support (albeit, mixed) for its link to achievement (Fan & Chen, 2001; Hill & Tyson, 2009; Jeynes, 2007). Finally, educational socialization practices that elicit negative reactions such as shame and guilt may also be associated with academic identification and achievement (Mordkowitz & Ginsburg, 1987). While it may not be emotionally desirable for the child, concern over shaming one's parents when underperforming may act as a motivating factor for demonstrating high academic performance.

Although there is strong evidence for the importance of parental educational socialization on student outcomes, there is less knowledge about the mechanisms by which socialization influences achievement. Assuming that part of the goal of parents is to socialize their children to invest in learning, academic identification may be an important piece to this socialization process. One possible chain of events is that educational socialization impacts academic achievement through students' level of academic identification. If parents' messages of educational expectations and aspirations become adopted by their children, it is likely that their children will also become more invested in the endeavor of learning. This, in turn, may ultimately result in greater academic effort and involvement leading to higher achievement. Further, if it is the case that academic identification mediates the relationship between socialization and academic performance, is this mediation process the same or different with respect to ethnicity and gender? As far as we are aware, this question has yet to be examined.

1.3. The current study

The research reviewed above suggests that academic identification is important for achievement and that the educational messages students receive from their parents would be important predictors of academic identification. The current study tests whether academic identification mediates the relationship

between aspects of parental educational socialization academic achievement among a predominantly ethnic minority sample of middle school students. Our primary hypothesis is that parental socialization practices (teaching, teaching, effort, shame, and guilt) will be indirectly associated with achievement through academic identification. Further we predict that among the mediation effects, aspects of parental socialization will be associated with greater academic identification. Additionally, we hypothesize that academic identification will be positively associated with academic achievement. In addition to the above hypotheses, we explore whether ethnicity and gender is associated with the mediation process (whether it is conditional upon ethnicity and/or gender).

2. Method

2.1. Participants

Participants were drawn from a group of 7th grade students selected to participate in an educational enrichment, school-based program. A group of 662 students were randomly selected from classrooms in seven middle schools. Students were administered surveys prior to the commencement of the program and at its completion. Although the outcome data is subsequent to the program, since all students were exposed to the program, the likelihood of results being confounded with program effects is minimal. We restricted our sample to 367 students for whom were we were able to acquire both state standardized test scores and pretest scores. This final sample consisted of 201(54%) females and 171 (46%) males. Regarding race/ethnicity, 139 (37.4%) were Black, 131 (35.2%) were Latino, 38 (10.2%) were identified as "other", 26 (7.1%) were Biracial, 24 (6.5%) were White, 7 (1.9%) were Asian, 4 (1.1%) were unknown, and 3 (0.8%) were Native American.

The school district enrolls 1100 7th graders and 22,000 students in grades PK-12 and is located in an underprivileged, working class city where the annual per capita income is approximately $17,000. City-wide, the average educational attainment level for adults aged 18 and older is 13 years. Forty-three percent of participants reported living in single parent households (37% female-headed; 6% male-headed households).

2.2. Measures

2.2.1. Academic identification

The Academic Identification Scale (IAS) developed by Osborne (1997a) was used to assess academic identification. This instrument measured the extent to which students' self-esteem is linked to their academic achievement. The measure consists of 11 items with a 5-point response set ranging from *disagree strongly* (1) to *agree strongly* (5). Sample items include, "Getting good grades makes me feel good about myself," "Being a good student is an important part of who I am," and "How I do in school is really not important to me." Cronbach's coefficient for this measure in this study was $\alpha = 0.78$.

2.2.2. Educational socialization

Perceived parental educational socialization was assessed with an adapted version of the Educational Socialization Scale (ESS; Bempechat, Mordkowitz, Wu, Morison, & Ginsburg, 1998; Mordkowitz & Ginsburg, 1987). This measure assesses students' perceptions of messages their parents communicate to them about education and their academic performance. It consists of 17 items and five subscales with subscales assessing how much students perceive their parents do the following: (1) discuss future career choices (4 items, e.g., "My parents talk about the different types of jobs I can have when I grow up"); (2) support with schoolwork (3 items, "My parents (or someone else at home) helps me with my math homework"; My parents (or someone else at home) help me with homework (not math); "My parents give me math problems that the teacher hasn't taught yet"); (3) emphasize the role of effort in the process of achievement (4 items, e.g., "My parents say you can get good grades in school as long as I always try hard"); (4) make them feel ashamed when performing poorly academically (4 items, e.g., "My parents make me feel ashamed when I do badly in school"), and (5) inspire a sense of guilt in them due to how hard their parents need to work to provide them an education (2 items, e.g., "I feel badly because my parents work so hard to give me a good education"). Hereafter, we respectively refer to these scales as *future, teaching, effort, shame,* and *guilt-oriented socialization.* Cronbach coefficient values for the first four scales in this study were $\alpha = 0.85, 0.67, 0.74, 0.68$, respectively. The correlation for the two items of the guilt scale is .47.

2.2.3. Academic achievement

Since our goal was to assess a general construct of academic achievement, we created a composite measure consisting of a mean value for math, reading, and writing from state-developed standardized test scores. Tests were administered statewide to students in 4th, 6th, and 8th grades and similar to other states, it was developed by a testing company and designed to align with the state's curriculum standards. This study utilizes scaled scores from 6th grade scores (as a control variable) and 8th grade scores (as a dependent variable). The scale scores range for this assessment is 100–400.

2.3. Data analytic plan

2.3.1. Simple mediation

The primary goal of the study was to examine direct effects of parental educational socialization variables on academic identification and the indirect effect (or mediation—we use the terms interchangeably), of these variables on achievement through academic identification. Often, tests of mediation employ the recommended four-step process discussed in Baron and Kenny's (1986) classic publication. However, more current examinations of mediation approaches have discovered a number of weaknesses of this approach and there is now wide agreement regarding revised recommendations for best practices in testing mediation (Hayes, 2009; MacKinnon, Fairchild, & Fritz, 2007; Shrout & Bolger, 2002; Zhao, Lynch, & Chen, 2010).

Based on advances in mediation analysis, Zhou, Lynch and Chen (2010) recommend a single step of testing mediation and provide a guide for interpreting the nature of the mediation effect. We followed Zhou et al.'s recommendation of establishing mediation by conducting a single step of testing the indirect effect with a bootstrap re-sampling procedure ($n = 1000$). We also assessed for the five possible patterns of effects discussed by Zhou et al., (direct-only nonmediation, no-effects nonmediation, complementary mediation, competitive mediation, and indirect-only mediation).

For the current study, we conducted five simple mediation models (one for each socialization indicator) using Hayes (2012) SPSS PROCESS dialog to conduct the mediation analyses. In each model, socialization was entered as an independent variable, academic identification was entered as a mediator, achievement was entered as an outcome, and prior achievement was entered as a covariate (for the outcome only). To assess the indirect effect, we used a bootstrap procedure ($n = 1000$) and statistical significance was assessed using a 95% confidence interval. Our hypotheses regarding the direction of effects for the socialization to academic identification pathway and the academic identification to achievement pathway were evaluated by inspecting the direct effects of the mediation models.

2.3.2. Moderated mediation

We also examined whether the mediated (indirect) pathway differed by gender and race (Fig. 1). Whether a mediated pathway varies with respect to another variable or differs for certain groups versus others is a question of moderated mediation. When such a difference is found for one group and not the other it is often referred to as a *conditional indirect effect*, in that the indirect effect depends on group membership. Further, the moderating effect of group membership can occur at different points of the mediation process. For example, it may impact the association between the independent variable and mediator, between the mediator and dependent variable, or both (see Preacher, Rucker, & Hayes, 2007 for a more thorough explanation of moderated mediation). In this study, our interest was in assessing whether the association between parental socialization and academic identification varied by group membership (gender and ethnicity) and if so, whether the indirect effect of socialization on achievement through academic identification also differed by group membership. A conceptual model of this proposed process is illustrated in Fig. 1.

To conduct this analysis, we used the PROCESS SPSS dialog developed by Hayes (2012). We conducted two models for each form of socialization. In one model, we entered "male" and "Black" as moderators and in the other we entered "male" and "Latino" as moderators. In all models, indirect effects were only interpreted if the socialization × gender and socialization × ethnicity interaction terms were significant.

3. Results

3.1. Descriptives and direct effects

The sample of 367 was a subset of all surveyed students ($n = 662$) for whom we acquired test scores. To assess how representative this subset of students was of the larger randomized sample of students who also completed study measures, we examined differences on parental socialization measures and academic identification between the groups of students with and without test scores. One-way ANOVA analyses revealed that there were no significant differences between the groups on any measures suggesting that the sample is representative of the larger group of 662 students.
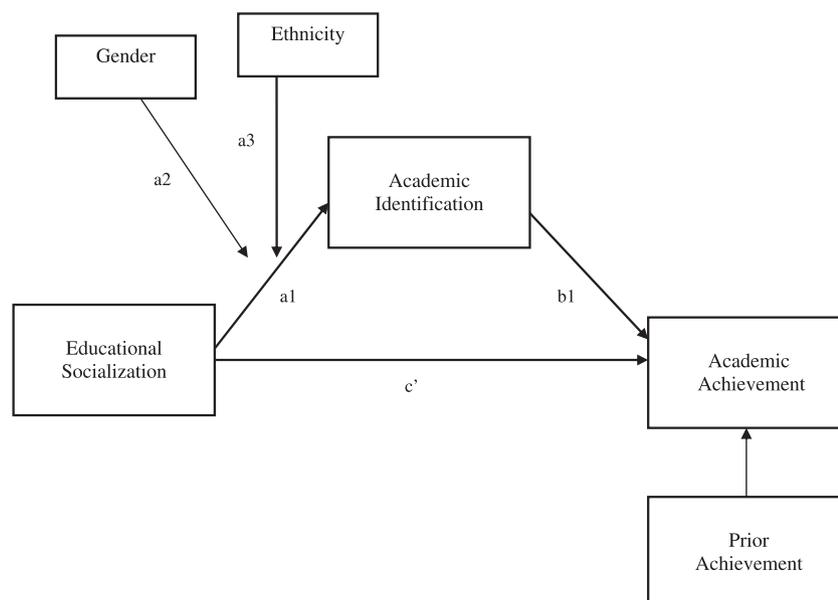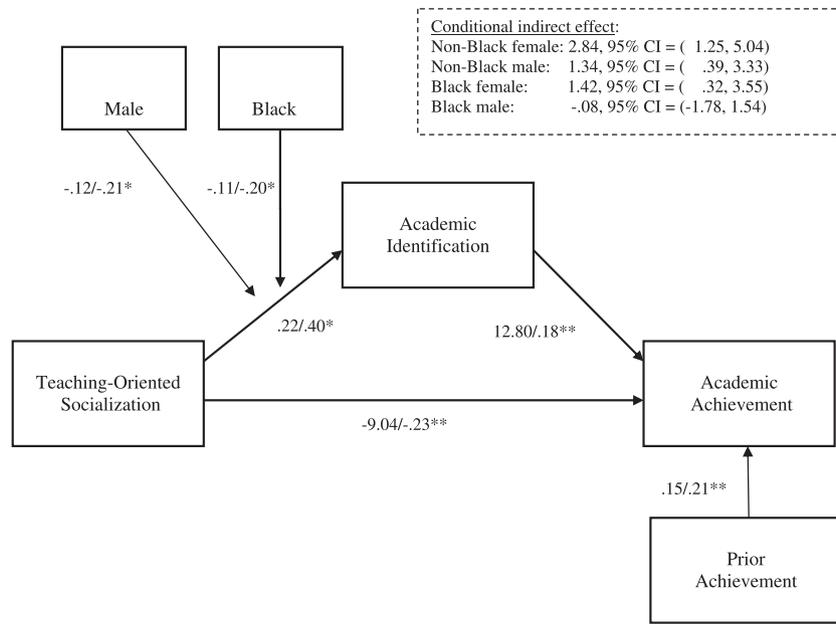
Correlations, means, and standard deviations for key variables are reported in Table 1. With respect to academic identification, bivariate correlations indicated that girls were more identified than boys while Blacks and Latinos were not differently identified with academics. Identification was also positively associated with teaching, future, and guilt aspects of educational socialization. Further, identification was positively associated with academic achievement (as noted, a necessary step for proceeding with testing mediation).

Regarding achievement, girls and boys did not differ nor did Black or Latino students. Academic identification was also found to be significantly associated with academic achievement ($r = .14$, $p < .01$). Unexpectedly, of the socialization indicators, *teaching* ($-.20$, $p < .01$), *future* ($-.15$, $p < .01$), and *effort* ($-.28$, $p < .01$) were all negatively associated with academic achievement along with *shame* ($-.17$, $p < .01$). *Guilt* was not associated with achievement.

3.2. Tests of mediation

3.2.1. Simple mediation

As noted above, all parental educational socialization variables were examined in separate simple mediation models and each model controlled for prior achievement on the outcome. Our primary hypothesis of academic identification mediating parental socialization and achievement was partially confirmed in that we found support for academic identification mediating the relationship between *teaching* and achievement (1.58, 95% CI = [0.71, 3.14]), the relationship between *future* and achievement (1.24, 95% CI = [0.45, 2.67]), and the relationship between *guilt* and achievement (.93, 95% CI = [0.23, 2.00]). Direct effects of socialization of academic identification in the models also partially confirmed our secondary hypothesis in that *teaching, future,* and *guilt* were positively associated with academic identification ($b = .12$, $p < .01$, $b = .11$, $p < .01$; $b = .09$, $p < .01$, respectively). Additionally, academic identification was found to be positively associated with achievement ($b = 12.80$, $p < .01$ in *teaching* model; $b = 11.17$, $p < .01$ in *future* model, $b = 9.78$, $p < .01$ in *guilt* model). However, examining the direct effects of each model, findings indicate negative associations with achievement for teaching ($b = -7.45$, $p < .01$) and future ($b = -5.46$, $p < .01$), and a non-significant association between achievement and guilt-oriented socialization.

Fig. 1. Conceptual model of gender and ethnicity moderating the indirect pathway of educational socialization to academic achievement through academic identification.

Conditional indirect effect:
Non-Black female: 2.84, 95% CI = (1.25, 5.04)
Non-Black male: 1.34, 95% CI = (.39, 3.33)
Black female: 1.42, 95% CI = (.32, 3.55)
Black male: -.08, 95% CI = (-1.78, 1.54)

Note: Unstandardized regression coefficients are reported to the left of slash and standardized coefficients to the right. Black variable was coded as 0 for non-Black and 1 for Black and male variable was coded 0 for female and 1 for male. Bootstrap =1,000.

Fig. 2. Statistical model of black and male membership moderating the indirect pathway of teaching-oriented socialization to academic achievement through academic identification.

Table 1
Intercorrelations and descriptive statistics for study variables.

Measure	1	2	3	4	5	6	7	8	9	10
1. Achievement	–									
2. Academic ID	.14**	–								
3. ESS-teach	−.20**	.22**	–							
4. ESS-future	−.15**	.17**	.37**	–						
5. ESS-effort	−.28**	.10	.40**	.57**	–					
6. ESS-guilt	−.04	.17**	.29**	.27**	.39**	–				
7. ESS-shame	−.17**	.02	.05	.14**	.37**	.19**	–			
8. Male	−.10	−.19**	.03	.01	.06	−.05	.09	–		
9. Black	−.03	.06	.05	−.01	−.05	−.09	.00	.05	–	
10. Latino	−.08	.00	.02	.08	.09	.13*	.06	.04	−.57**	–
M	222.05	4.05	2.82	3.85	4.08	3.72	2.95	–	–	–
SD	41.72	.59	1.08	.99	.85	1.11	.98	–	–	–

N = 367; Male coded as 1 for male and 0 for female; Black coded as 1 for Black and 0 for other; Latino coded as 1 for Latino and 0 for other.
* p < .05.
** p < .01.

Taken together, these findings suggest that teaching and future-oriented socialization is inversely related to achievement but when mediated by academic identification they are positively associated with achievement through its positive association with academic identification (Tables 2 and 3 respectively). Guilt-oriented socialization, on the other hand, only has an association with achievement through its positive association with academic identification (Table 4). The mediation effects involving *teaching* and *future* point to the presence of competitive mediation in that academic identification appears to "compete" with the effect of parental socialization. Specifically, the direct pathways of socialization to academic performance were negative, but the indirect pathways through academic identification were positive. As Zhou et al. (2010) point out, this may also be indicative of the presence of additional unmeasured mediation mechanisms that account for the direction of the direct effect. The mediation effect involving *guilt* indicates "indirect-only" mediation in that a relationship between *guilt* and

Table 2
Effect of teaching socialization on academic achievement through academic identification.

Effect	b	B	SE	t	p
Teach to IAS	.12	.22	.03	4.44	<.01
IAS to achieve	12.80	.18	3.58	3.57	<.01
Total effect	−7.45	−.19	1.94	−3.84	<.01
Direct effect	−9.04	−.23	1.96	−4.61	<.01
Prior to achieve	.15	.21	.03	4.19	<.01
Bootstrapped results for indirect effects					
	Effect		SE	LL 95% CI	UL 95% CI
IAS	1.58		.55	.71	3.14

Note: N = 367. LL = lower limit; UL = upper limit; CI = confidence interval. IAS = identification with academics scale. Teach = Educational Socialization Scale, teaching subscale. Achieve = academic achievement.

achievement only exists through academic identification. This suggests that it is unlikely that there are additional mediator mechanisms accounting for this effect.

3.2.2. Conditional mediation effects

Given the mediation effects found among *teaching*, *future*, and *guilt* socialization independent variables, we tested these models for conditional effects by way of gender and ethnicity. For the model involving the two moderators, Black and male, the Black × *teaching* and male × *teaching* interactions were significant. Tests of the indirect effect indicated that it was present for Black girls but not Black boys (Table 5, Fig. 2). For the models involving the moderators, Latino and male, none of the interaction terms were significant which also indicates a non-significant indirect effect. This indicates that the indirect effects of teaching, future, and guilt are not dependent on Latino male and female group membership. The mediation effects of future-oriented and guilt-oriented socialization on achievement were not found to vary by gender and ethnicity.

4. Discussion

The primary aim of this study was to examine whether various forms of child-reported parental educational socialization are indirectly associated with academic achievement through a mediating factor of academic identification, or how much students invest themselves in academics, among a sample of predominantly ethnic minority 7th graders. Further, we explored whether such indirect effects differed by ethnicity and gender. We found evidence of academic identification mediating the effect of parental socialization on achievement for three of the five measures of parental socialization—teaching (except for Black boys), future, and guilt-oriented socialization. There was no evidence of a direct effect of guilt-oriented socialization on achievement as it was only related to achievement through its positive association with academic identification. The direct associations between teaching and future forms of parental educational socialization and achievement were in the negative direction. That is, the results indicate that the more students report their parents help them with schoolwork (*teaching*) and convey the importance of education for their future (*future*) the *lower* their academic achievement. However, the mediation effects of these forms of socialization on achievement through academic identification were in the direction of *higher* achievement.

The mediation effect for teaching and future described above is referred to as competitive mediation (Shrout & Bolger, 2002; Zhao et al., 2010). From a statistical standpoint, this suggests that there may be other important unmeasured mediators not included in the statistical model that may be accounting for the direction of the total effect (Zhao et al., 2010). In this case, there are probably other factors accounting for the negative association between the teaching and future forms of parental academic socialization and academic achievement. One such factor may concern students' perceptions of how their parents interact with them around education. If the communication style between parents and students is

Table 3
Effect of future socialization on academic achievement through academic identification.

Effect	b	B	SE	t	p
Future to IAS	.11	.18	.03	3.59	<.01
IAS to achieve	11.17	.16	3.61	3.09	<.01
Total effect	−5.46	−.13	2.16	−2.53	.01
Direct effect	−6.75	−.16	2.18	−3.10	<.01
Prior to achieve	.14	.21	.04	3.90	<.01
Bootstrapped results for indirect effects					
	Effect		SE	LL 95% CI	UL 95% CI
IAS	1.24		.53	.45	2.67

Note: *N* = 365. LL = lower limit; UL = upper limit; CI = confidence interval. IAS = identification with academics scale. Future = Educational Socialization Scale, future subscale. Achieve = academic achievement.

Table 4
Effect of guilt socialization on academic achievement through academic identification.

Effect	b	B	SE	t	p
Guilt to IAS	.09	.18	.03	3.45	<.01
IAS to achieve	9.79	.14	3.65	2.68	<.01
Total effect	−9.88	−.03	1.92	−.51	.61
Direct effect	−1.92	−.05	1.94	−.99	.32
Prior to achieve	.15	.22	.04	4.32	<.01
Bootstrapped results for indirect effects					
	Effect		SE	LL 95% CI	UL 95% CI
IAS	.93		.45	.23	2.00

Note: *N* = 367. LL = lower limit; UL = upper limit; CI = confidence interval. IAS = identification with academics scale. Guilt = Educational Socialization Scale, guilt subscale. Achieve = academic achievement.

perceived as harsh, for example, it may negatively impact achievement despite the good intentions of the parent. To this point, across two separate studies, Dumont et al. (2012) found that children's perceived parental involvement with homework was harmful to their academic performance and self-concept when it was reported to be an interference and a cause of parent-child conflict. It may be of value for future studies to examine the ways in which parents communicate and interact with their children when assessing parental educational socialization.

Additionally, other research has found evidence of the importance of the ways in which schooling-related practices are implemented with respect to student outcomes. For example, Reyes et al. (2012) investigated the effects of a school-based social emotional program implemented by teachers. The authors found that student outcomes were more positive when teachers were well trained and implemented the program with high quality, but the student outcomes were more negative when there was lower quality implementation by teachers. There is likely a similar dynamic that occurs between parents and children regarding socialization practices in that the degree of skillfulness with which parents engage in these practices can have important implications on student outcomes. Findings from such studies suggest that intervention strategies for increasing student academic engagement and achievement may also consider including components to augment parents' educational socialization skills.

We found that guilt-oriented socialization was not directly related to achievement; rather it was only associated with achievement through its positive association with academic identification. Zhou et al. (2010) refer to this as "indirect-only" mediation given that direct and total effects are not present. At first thought, this mediated effect may seem to be an undesirable outcome for students. How could higher academic identification and achievement be positive outcomes if they are triggered by guilt? However, a review of the construct's items ("I feel badly because my parents work so hard to give me a good education" and "I feel badly that my parents have to work so hard") suggests that what is called "guilt" by the measure developers may include students' desire to appreciate and take advantage of the efforts their parents put into supporting their education. It is possible that students' feelings of guilt or regret about their parents working hard for them to be successful impacts how much they identify with academics and how well they perform in school. Thus, these feelings may not give rise to the same negative emotional experiences one typically associates with feelings of guilt. We are unaware of other studies that have investigated the role of this type of guilt in the academic socialization process within the demographics of this study. However, given that it is possible that this feeling is rather common among low-income communities, results from this study suggest that future examination of this construct with respect to academic identification and achievement may be fruitful.

Table 5
Regression results for conditional indirect effect of teaching on achievement through academic identification.

Effect	b	B	SE	t	p
Academic identification (IAS)					
Constant	3.50	.14	.13	27.24	<.01
Teach	.22	.41	.04	5.13	<.01
Male	.09	−.41	.17	.55	.58
Black	.38	.12	.17	2.24	.03
Teach × male	−.12	−.21	.05	−2.15	.03
Teach × black	−.11	−.20	.06	−1.99	.05
Academic achievement					
Constant	163.31	.00	16.16	10.10	.00
Academic ID (IAS)	12.80	.18	3.58	3.57	.00
Teach	−9.04	−.23	1.96	−4.61	.00
prior achieve	.15	.21	.03	4.19	.00
Conditional indirect effects					
Black	Boot Ind. Effect	Boot SE	Boot LLCI	Boot ULCI	
Non-black female	2.84	.92	1.25	5.04	
Non-black male	1.34	.65	.39	3.33	
Black female	1.42	.74	.32	3.55	
Black male	−.08	.86	−1.78	1.54	

Note: N = 367. IAS = Identification with academics Scale. Teach = Educational Socialization Scale, teaching subscale. BootLL = lower limit 95% CI; BootUL = upper limit 95% CI.

We found two results regarding group differences—first that girls were more academically identified than boys and second that the mediation effect of academic identification on the relationship between teaching socialization and achievement was not present for Black boys. The gender differences in academic identification may be explained by the degree to which boys and girls internalize these academic messages from parents. For example, Kochanska, Padavich & Keonig (1996) observed that girls were more committed to, and concerned about, good behavior and that they more readily internalized parental prescriptions. It is possible that girls also internalize academic messages more strongly than boys resulting in greater academic identification.

One possible explanation for the finding of the indirect effect of *teaching* not being present for Black boys concerns students' peer environment. It may be that parents' attempts to help Black boys with their schoolwork may conflict with what others have referred to as an *oppositional culture* among Black male peers that devalues academic engagement (Ainsworth-Darnell & Downey, 1998; Ogbu, 1991). There has been some evidence to suggest that in certain contexts, Black students who are demonstrably engaged in learning are teased and ostracized by their peers (Fordham & Ogbu, 1986; Fryer, 2006; Ogbu, 1991). For example, in a nationally representative sample, Fryer (2006) found that higher performing Black and Latino students (but not Whites) paid a price in peer popularity. It may be that in this sample, these pressures are more intense for Black boys and/or they have a more difficult time with negotiating this process than other students. Although it was beyond the scope of this study, it would be important for future studies to examine the relative influence of peers in understanding academic identification and other forms of academic engagement among ethnic minority students.

5. Limitations

One limitation of this study is that these results reflect findings from one grade-level in one school district. Ideally, to improve upon the ability to generalize, such a study would involve a sampling of multiple grade levels across schools. However, a strength of our sample was that it was randomly selected which limits statistical error due to sampling procedures and enhances external validity. An additional limitation is the use of cross-sectional data to test our hypotheses. To have greater claim toward causality by way of indirect effects, a stronger design would involve longitudinal data

where educational socialization was assessed at time one, academic identification assessed at time two, and achievement at time three. Future studies should consider the use of longitudinal data to examine such hypotheses.

Another limitation concerns the measurement the parental socialization indicators. Given that some of the socialization subscales consisted of a small number of items (e.g. two items for guilt) these indicators may not capture the constructs as robustly or reliably as longer more diverse subscales might. Although this study was limited in the number of items that could practically be administered to students, future studies of this type might consider "planned missing" designs. These designs utilize missing data analysis for the benefit of increasing the number of survey items without creating undue burden on respondents. Finally, for the *teaching* measure of socialization, three of the items were specific to math school work and one was related to general schoolwork. Given the general and subject-specific nature of these items, we suggest some caution in interpreting this measure as one consisting of a general measure of how much students perceive their parents help them with schoolwork.

Despite these limitations, this study has notable strengths. This study is one of the first to examine academic identification as a mediator of parental educational socialization and academic achievement. Further, it does so while examining specific aspects of socialization on student outcomes. This aspect of the study adds to our understanding of how home environments foster students' academic engagement and achievement. Additionally, the study is conducted among primarily ethnic minority urban youth and offers a basis for future research examining how parental socialization and academic identification interact to reduce or exacerbate the ethnic achievement gap (McKown & Strambler, 2008). It is our hope that future studies will build on this research in samples that allow for comparisons of our findings to other minority and majority racial and ethnic groups.

6. Conclusion

Among a sample of predominantly ethnic minority middle school students, we set out to test whether academic identification, a form of psychological engagement with academics, acted as a mediator of the relationship between various forms of parental educational socialization and academic achievement. We found evidence for academic identification mediating three forms of

parental academic socialization, *teaching, future*, and *guilt*. One form of socialization (*future*) was concerned with how much parents orient their children towards future benefits of education, a second (*teaching*) related to how much parents help their children with their schoolwork, and a third (*guilt*) related to students' regret over their parents having to work so hard to support their success. In the case of *teaching*, the indirect pathway was not present for Black boys. We also found that while academic identification positively mediated the relationship of *teaching* and *future* socialization practices with achievement, the direct effects of these forms of socialization were negative. This suggests that there are other unmeasured mediators that may account for the negative association between these types of socialization and achievement such as parental communication style and child-parent conflict. Guilt-oriented socialization was unrelated to achievement directly, but was positively linked to achievement through academic identification. This may reflect greater student academic identification in response to students' appreciation for the sacrifices their parents have made for their education.

These findings shed light on specific aspects of parental socialization that contribute to academic identification and achievement. These results also highlight the need for further research on ethnic and cultural differences in parental socialization and academic identification that may contribute to academic achievement. Additionally, the study is informative with respect to school programs and policies around parental engagement and involvement. For parents who turn towards schools for help in supporting their children's academic achievement, it is important that schools be able to offer approaches that have been demonstrated to be effective, not only for enhancing achievement, but investment in learning itself.

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