Latino Adolescents' Academic Socialization, Self-Efficacy, and Identity

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Background

Latino Students
- Latino students are a large and growing population in U.S. public schools (Fry & López, 2012), who have low representation in courses (e.g., advanced math courses; Riegle-Crumb, 2006) that prepare them for educational and economic success (Murphey et al., 2017; Wang & Degol, 2013).

Academic Identity
- Academic identity, or the extent to which students understand their scholastic (e.g., math and science) selves, might play an important role in the type of coursework youth pursue and, in turn, their overall academic adjustment.
- It is important to differentiate between adolescents' academic identity and their self-efficacy, or belief in their academic abilities (Bandura, 2001). For example, in work with undergraduate students, science self-efficacy was found to predict scientist identity, in which self-efficacy explained the relation between research experience and identity as a scientist (Robnett et al., 2015). Thus, it is also important to understand predictors of self-efficacy.

Current Study
- Extending previous work on older adolescents to middle school students, we contend that social systems (e.g., familial and school) serve as academic socialization agents for adolescents' self-efficacy (Bandura, 2001).
- As such, we take a strengths-based approach (i.e., positive youth development; Lerner et al., 2012) and draw from social cognitive (Bandura, 2001) and identity development (Erikson, 1968) theories to identify potential mechanisms that promote academic identity via self-efficacy among Latino middle school students (see Figure 1).

Research Aims
- **Aim 1**: To examine adolescents' sources of academic socialization (i.e., mother, father, and friend modeling/deidentification; teacher encouragement) in relation to academic self-efficacy.
- **Aim 2**: To examine the relation between self-efficacy and academic identity. Previous work has examined academic identity in terms of academic commitment, educational values, and school belonging (e.g., Matthews, 2014); in this study, we include each of these constructs in addition to academic identity.
- **Aim 3**: Given potential gender differences (e.g., parent socialization, Parke & Buriel, 2016), we examined gender as a moderator in each of the links in Aims 1 and 2.

Method

Participants and Procedures
- The sample included 329 families with middle school students (M_{age} = 13.69, SD= .56; 42% female; 86% U.S.-born) who were recruited from middle schools in Central Texas; participants completed telephone interviews in either English or Spanish.

Measures
- Demographics: Adolescent gender (1=male, 2=female) and age; Parent education level
- Modeling/Deidentification (from their mothers, fathers, and friends; Whiteman et al., 2007); e.g., "My mother gives me advice with respect to my education" (1=Never happens to 5=Always happens)
- Teacher encouragement (Geldhof et al., 2013); e.g., "Teachers at my school push me to be the best I can be" (1=Strongly agree to 5=Strongly disagree; reverse coded)
- Academic self-efficacy (Arunkumar et al., 1999); e.g., "You can do even the hardest schoolwork if you try" (1=Not at all true to 5=Very true)
- Academic Identity (e.g., Walker & Syed, 2013): Math/science academic identity, Math/science academic commitment, Educational values, School belonging; e.g., "In general, doing well in my math class is important to me" (1=Strongly disagree to 5=Strongly agree)
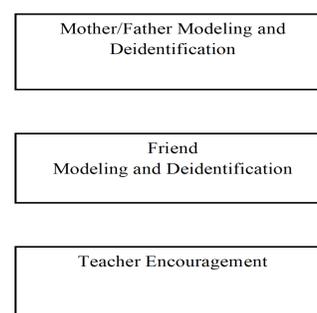
Sources of Academic Socialization → Mother/Father Modeling and Deidentification; Friend Modeling and Deidentification; Teacher Encouragement → Academic Self-Efficacy → **Indicators of Academic Identity**: Academic Identity (i.e., math and science); Academic Commitment (i.e., math and science); Educational Values; School Belonging
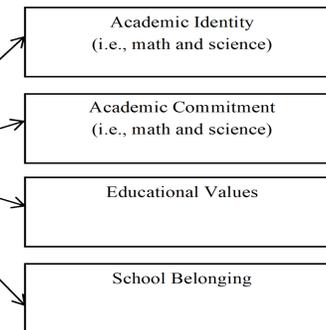
Figure 1. Conceptual Model.

Results

Analytic Plan
- We conducted two separate path models using Mplus version 7.3 to address Aims 1 and 2.
- To address Aim 3, we used Mplus multiple-group models and chi-square difference tests.

Aim 1
- The results indicated mother modeling (β = .16, p < .05), friend modeling (β = .19, p < .01), and friend deidentification (β = .18, p < .01) predicted adolescents' self-efficacy, but not father modeling (β = .05, ns), mother deidentification (β = -.09, ns), father deidentification (β = .03, ns), or teacher encouragement (β = -.06, ns).

Aim 2
- Results indicated academic self-efficacy predicted each of the academic identity indicators, math academic identity (β = .50, p < .001), science academic identity (β = .46, p < .001), academic commitment to math (β = .31, p < .001), academic commitment to science (β = .28, p < .001), educational values (β = .42, p < .001), and school belonging (β = .36, p < .001).
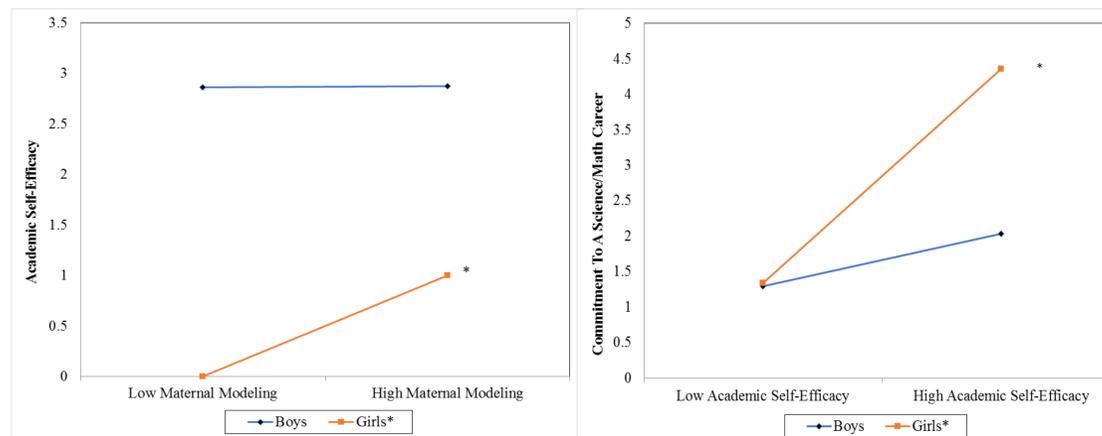
Figures 2 and 3. Gender moderation for Aim 1 (left) and Aim 2 (right).

Aim 3
- Moderation tests indicated a significant positive relation between maternal modeling and academic self-efficacy for adolescent females, b = .25, SE = .07, p = .000, whereas the link was not significant for adolescent males, b = .00, SE = .08, p = .98; ΔX² (1) = 5.46, p = .02 (see Figure 2).
- Moderation tests also indicated a significant positive relation between academic self-efficacy and commitment to both math and science careers for females, b = .76, SE = .15, p = .000; the link was not significant for males, b = .18, SE = .13, p = .16; ΔX² (1) = 8.42, p = .004 (see Figure 3).

Discussion

- The results of this study suggest self-efficacy may be a potential mediator in the links between sources of academic socialization and academic identity. In particular, the findings indicate that mothers and friends are key sources for Latino middle school students' self-efficacy.
- Consistent with social cognitive theory, modeling after mothers' and friends' positive educational experiences suggest that *adolescents have a positive role model in both their mothers and friends* that relates to their beliefs in their academic abilities.
- The findings also suggest friends may also be *negative models*.
- Moreover, these findings indicate that adolescents are able to have friends with diverse behaviors with regard to their education and that they are able to select out those that help with their own agency at school.
- Furthermore, academic self-efficacy predicted each of the academic identity indicators. Thus, these findings suggest that self-efficacy is a process that matters for the overall academic identity of adolescents as defined by educational values and school belonging as well as defined by math and science academic identity and commitment.
- Finally, the findings suggest that self-efficacy is a salient mechanism between maternal modeling and commitment to science and math careers particularly for *adolescent females*.

Implications for Practice/Policy
- Programs focused on familial and friend sources of academic socialization and self-efficacy are necessary for promoting academic identity and overall academic adjustment among Latino middle school students. In particular, Latino adolescent females may benefit from programs designed for mothers and daughters.

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