**Mexican American Students’ Math/Science Career Goals: The Role of Familism**

**Patton O. Garriott, PhD, Lorraine Zoma, MA, Dylan Mackie-Hernandez, MA, & Kelly Lavin, BA**

**University of Denver**

---

**Abstract**

This study tested a social cognitive model of math/science career goals in a sample (N = 258) of Mexican American high school students. Familism and proximal family supports for math/science careers were examined as predictors of math/science: performance accomplishments, self-efficacy, interests, and goals. Results showed that the hypothesized model provided an adequate fit to the data. Familism predicted performance accomplishments and perceived family supports while perceived family supports predicted self-efficacy and goals. The final model explained 63% of the variance in interests and 53% of the variance in goals. Mediation tests showed that person- cognitive variables explained the relationships between contextual variables and goals. Contrary to hypotheses, interests did not predict goals and proximal family supports did not moderate the relationship between interests and goals.

**Background**

**Mexican Americans in STEM:** Mexican Americans comprise 63% of the U.S. Latina/o population, which accounted for more than half the U.S. population growth over the past decade. (U.S. Census Bureau, 2011). However, only 8% of the 400,000 STEM degrees awarded from 2009–2010 were awarded to Latinas/os (U.S. Department of Education, 2014). Familism and Mexican Americans’ Career Development: For many Mexican Americans, academic and career decision-making takes place within the context of family values and Familism. The SCCT framework (Lent, Brown, & Hackett, 1994) was used with familism modeled as a background contextual affordance and proximal family supports modeled as a proximal contextual factor.

**Methodology and Design**

- **Participants:** After IRB approval, a sample of 258 Mexican American high school students from the Rocky Mountain region of the U.S. completed a paper-and-pencil survey.
  - 45% female
  - 46% Freshmen, 52% Sophomores
  - Average age = 15.21 years
  - 93% of participants had parents who had not completed a bachelor’s degree

- **Measures:** The following instruments were administered in the survey:
  - Learning Experiences Questionnaire (LEQ; Schaub & Tokar, 2005)
  - Math/Science Interests Scale (MSIS; Foud & Smith, 1996)
  - Math/Science Intentions and Goals Scale (MSIGS; Foud & Smith, 1996)
  - Expanded Skills Confidence Inventory-High School (ESCI-HS; Betz & Wolfe, 2005)
  - Pan-Hispanic Familism Scale (Villareal et al., 2005)
  - Proximal Family Supports (Lent et al., 2003).

**Results:**

- **Structural equation modeling was conducted using Mplus 7.2 (Muthén & Muthén, 2008-2012) statistical package.**
- The hypothesized structural model (see Figure 1) provided an adequate fit to the data, with all fit indices meeting acceptable cut-off criteria. \( R^2 = 0.49, p < 0.001; \text{CFI} = 0.928; \text{RMSEA} = 0.072 (90\% \text{CI} = 0.064, 0.081); \text{SRMR} = 0.060.\)
- Results of bootstrapping tests revealed several significant indirect effects in the model.
- Proximal family supports did not moderate the relationship between interests and goals.

**Conclusions**

- Family values and supports for pursuing math/science career activities predict Mexican American high school students’ math/science career goals directly and indirectly.
- Internalizing familism may motivate Mexican American students to approach career-related tasks to please or support their family.
- Interests may not necessarily predict goal-setting in math/science among Mexican American high school students.
- Environmental factors outside support from one’s family may moderate the relationship between interests and goals for Mexican American high school students, such as immigration status or financial support.

**Implications**

- Career counselors and high school personnel should incorporate family into discussions of Mexican American high school students’ math/science career development.
- Familism must be integrated into outreach aimed at promoting Mexican American students’ participation in STEM careers.
- Other forms of supports and barriers should be investigated as they relate to STEM career choice among Mexican American high school students.

**References**


---

Please address correspondence to: Patton O. Garriott, Department of Counseling Psychology, University of Denver, 1999 E. Evans Ave., 2016 Ruffatto Hall, Denver, CO 80208. Email: Pat.Garriott@du.edu.