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The Role of the Family in the IT Career Goals of Middle School Latinas

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ABSTRACT

Little is known about the role of family in middle school Latinas' pathway to an IT-related career. This paper will present findings on how rural, Latina girls are thinking about the role of family in their career interests. The 77 participants range in age from 12-13, and most have parents who were born in Mexico and work in service-related jobs. Students described their career goals, influences on their goal(s), how their parents would feel if they chose to be a computer scientist, and whether their goal would be different if they were a boy. Few described an IT-related goal, and parent support was not a factor. Most students reported that parents were the primary influence on their goals, and most said that their parents would be supportive IF they chose to be a computer scientist. One third said that their career choice would change if they were a boy.

Keywords

Latinas, family, career, girls.

INTRODUCTION

Family is consistently cited as a critical factor in the educational and career decisions of adolescents. Research from developmental psychology provides some insights into the role that families play in their children's educational pathways. For example, longitudinal research suggests that parent beliefs, including gender role expectations and perceptions of their child's abilities, have a long-term impact on their child's academic choices and academic performance (Eccles, 2007). But little research has focused on IT-related fields, and a recent review of the literature by Barker and Aspray (2006) finds that "hardly any literature explores the influence of parents and local community on children's attitude and behavior specifically toward computing..." (p. 33).

Recent studies have begun to fill this gap. One example is the Information Technology Career Interest and Choice model, which suggests that female students who express an interest in a computer-related field believe that their parents support this choice (Creamer, Lee, and Meszaros, 2007). In fact, parents and others appear to play a powerful role in students' perceptions of whether a computing career is the right choice for them (Meszaros, Lee, and Laughlin, 2007). But these studies have not included a large enough sample of Latinos to examine them separately.

Currently, little is known about the role of the family in Latina students' IT pathways. To date, research on Latino families and education has focused on academic performance and more general academic and career pathways. For example, the Bridging Multiple Worlds (BMW) model has been used to describe how expectations of family members, peers, and school personnel influence racial and ethnic minority students in the US (Cooper, Domínguez, and Rosas, 2005). In contrast to a social capital model in which parent support is positively correlated with academic achievement, the BMW model shows how Latino/a parents can be both challenges, as well as resources for their children's educational and career directions (Denner, Cooper, Dunbar, and Lopez, 2005; Rivera and Gallimore, 2006). However, challenges can serve students well, and in particular, a strong sense of family obligation may motivate some students to work hard in school (Súarez-Orozco and Suárez-Orozco, 1995).

This view of the family is different from the long-held assumption that more support leads to greater achievement. Studies of underrepresented minorities in Computer Science are few, but they do suggest that adults in these groups say they must often overcome family challenges in order to persist in the major (Varma, Prasad, and Kapur, 2006). However, the extent to which these challenges motivate female students' decisions to pursue and persist in computing classes remains unclear, and studies of pre-college Latina students are rare.

Why would parents present challenges to students' interest in pursuing computing? There is no direct research on this, but data on Latino adults' computer use and attitudes may provide some insight. In 2008, only 58% of Latinos surveyed in California said they use a computer, and less than half have a computer at home—the lowest rate for any racial/ethnic group (Baldassare, 2008). Latinos are also less likely than other groups to have an internet connection at home, and the gaps in usage are primarily among Spanish-dominant adults (Fox and Livingston, 2007). Another factor is that immigrant parents

with little formal education are unlikely to advocate for careers that take their children away from home. Others have found that these parents often express a greater interest in their child's moral development (e.g., staying on the good path) than in their achievement of academic goals (Cooper et al., 2005). While speculative, it may be that a lack of role models, limited access to computers, and a lack of parent awareness of how computing jobs can benefit the community may serve as deterrents.

Child's gender also plays a critical role on how families think about their children's educational and career pathways. For example, research suggests that parent support and encouragement typically follows sex-typed expectations, with parents providing more resources for boys to pursue activities like sports and for girls to pursue music (Fredricks, Simpkins, and Eccles, 2005). These socialization processes linked to gender appear to influence how girls spend their after school time. In fact, Latina girls have greater responsibility for household chores and caring for younger siblings than boys, and thus report higher levels of conflict with their parents, and lower levels of support (Stanton-Salazar, 2001). However, there is no known study of the role of parents in students' decisions to pursue computing courses and careers. This paper will present findings on how rural, Latina girls in California are thinking about the role of family in their career interests.

METHODS

Participants. The students were drawn from the first and second cohorts of a voluntary IT-focused summer program for girls in two middle schools. The program meets twice a week after school and for two weeks every day during the summer. Two cohorts have participated so far. The schools are located in a town with a population of 49,797 and draw their students from the town and the sizeable agricultural region that surrounds it. An average of 69% of students in district schools are English Language Learners, and 89.4% of students are eligible for free or reduced lunch. The Latina girls in our study range in age from 12-13, and 80% reported that one or both of their parents were born in Mexico and work in service-related jobs. The data presented in this paper come from 34 students in Cohort 1, and 43 students in Cohort 2.

Procedure. Data were collected from several sources. An online survey was completed at the beginning of the 16-month program period. The survey items we describe in this paper include: "The adults who are raising me would be disappointed if I got a job working with computers or technology" and "The adults who are raising me think that a career working with computers or technology is better for boys than for girls." Responses were on a 5-point scale from "strongly agree" to "strongly disagree."

An in-class activity was used to gather data on student career goals, the people that have influenced their goal(s), and whether their goal would be different if they were a boy. Students provided written responses on paper to open-ended questions such as: "What career do you want to have when you grow up?" "Who has influenced your career goals and interests and how have they influenced you?" and "Would your career interests and choices be different if you were the opposite gender (if you're a girl, instead you'd be a boy)?" These data were collected from Cohort 1 in the last month of the program (student time in the program ranged from 6 to 15 months), and from Cohort 2 halfway through the program (after 8 months had elapsed). Additional data were collected from Cohort 2 students via an online office where students wrote responses to posted questions. In this paper, we describe responses to the question "What would your parents say if you told them you want to be a computer scientist?"

Data Analysis. Survey data were analyzed by using SPSS to identify means and standard deviations. The qualitative data were coded inductively, using the first 10% of the responses to define key categories, which enabled us to conduct structured coding of the remaining 90%. As outliers emerged during subsequent coding, we created new categories/themes.

RESULTS

Cohort 1

In their surveys, the 34 students reported that, on average, the adults raising them would not be disappointed if they got a computer job ($M=3.79$), and do not believe that a career with computers is better for boys ($M=3.82$). Three of the five students who described an IT-related goal were less likely than the group, on average, to disagree with statements that their parents would be unsupportive of them pursuing a computing job.

The in-class activities were not completed by all students, due to absences. Twenty-eight percent (5 out of the 18 students who did the activity) reported a current IT-related goal (e.g., computer engineer or game designer). Other goals were veterinarian (19%) and doctor (14%). Students reported that their family was the main influence on their career goals and interests: 57% said parents, 24% mentioned a female relative, and 10% said family in general. There was no difference in the source of influence for IT versus non-IT related careers. The following are quotes that describe how parents have been influential:

“My parents have done a lot on influencing me in my career, but my dad wants me to be a brain surgeon but he doesn’t care as long as I get an education.”

“My parents have influenced me because my mom always wanted to be some kind of doctor.”

“My mom; she works really hard.”

“My parents because they want us to go to college. They have influenced me because they talk to me about it.”

In response to the question about whether their goal would be different if they were a boy, 33% said yes, 19% said no, and 48% were not sure. The following are sample quotes:

“I don’t think my career interests would change because a boy can also be a doctor.” “Well boys sometimes don’t care about helping others.”

“It would still be the same because more boys want to be in technology.”

Cohort 2

In their surveys, the 43 students reported that, on average, the adults raising them would not be disappointed if they got a computer job (M=4.35), and do not believe that a career with computers is better for boys (M=4.43). The in-class activities were completed by 22 students. Of these, only one reported an IT-related goal. The most popular career goals were a doctor or nurse (32%), teacher (23%), and veterinarian (14%). Family was the main influence on career goals and interests: 23% said parents, 14% said family in general, and 11% said other relatives. Fourteen percent said they were influenced by someone in the field already, and 14% were influenced by a teacher. Sample quotes of how they have been influential include:

“My mom has pushed me to keep on trying.”

“My parents told me I can do whatever I want.”

“My mom is a teacher and my family believes in me.”

“I want to be the first to go to university because my family has high expectations.”

In response to the question about whether their goal would be different if they were a boy, 38% said yes, 48% said no, and 14% were not sure. Sample quotes:

“I would want a tougher job like building things.”

“I think that I would be paid a little more but I don’t think there is much of a difference.”

“If I was a boy then I would be a scientist.”

Of the 25 who responded to the journal prompt, 80% said their parents would be supportive if they wanted to be a computer scientist, 12% said they did not know, and only 8% (2 students) said their parent would be unsupportive. Sample quotes include: “My parents would encourage me and tell me to work extra hard for a good job.” “They would say that [I] am going crazy and that [I] am not good at computers but I am.”

SUMMARY OF FINDINGS

The results of this study suggest that Latina girls view their families, not just their parents, as playing the most important role in their career goals and interests. The majority believed that their parents would be supportive of them choosing a career in computer science, but very few described a computer- or information technology-specific goal. Most described a goal within the “helping” professions. Approximately one third of the girls reported that their career goal would fall along more traditional gender lines if they were a boy.

DISCUSSION

Overall, family members were cited as the primary source of influence on students’ career decisions, regardless of whether or not their goal was IT-related. The nature of that support was primarily emotional, rather than instrumental, such that parents believed in them or told them about their own dreams. According to the students, the Latino parents in this group had no negative views of computing careers, which is not surprising, given that these were participants in an IT-focused out-of-school program that required parent permission. However, the low number of students to state an IT-related career goal is surprising.

The vast majority of students disagreed with statements that their parents would be disappointed if they chose to pursue a computing career, or that their parents think computing is for boys. The disagreement was even stronger among Cohort 2 students, and was also evident in their journal responses, where only two students said their parents would NOT want them to be computer scientists. In addition, students in Cohort 2 were more likely to reject stereotypical gender roles: a much greater percentage of this group said that their career goal would not change if they were a boy.

Despite the apparent support by parents for them to pursue computing, few described an IT-related career goal. In fact, only one of the Cohort 2 students described an IT-related career goal. According to the girls, their reasons for not choosing IT careers has nothing to do with a lack of parents support based on their sex or otherwise. One explanation for the lower number of IT career goals in Cohort 2 is that the data were collected when they had only completed 8 of the 16 months in the program. Thus, the higher number of IT-related goals in Cohort 1 may be because students answered the questions at the end of the 16 month program, which gave them more time to learn about IT-related careers, which is an increasing focus of activities toward the end of the program.

Despite the belief that parents are supportive, some of the students are getting clear messages about which careers are appropriate for girls, and which for boys. One third of the students responded that their career goal would probably be different if they were a boy, and several stereotypical statements about what boys like were mentioned. More research needs to be done to better understand how these beliefs play out related to IT career choices. For the girls in our IT-focused program, most entered the program with the belief that computing was also the domain of girls. However, interviews with parents are needed to determine whether and how gender stereotypes about how can work in IT are being communicated to the students.

There are several limitations of this study. The small number of students in this sample (7) stating an IT-related goal limit our ability to talk about the influences on this goal, and the focus on Latinas in an IT-intensive program limit the generalizability of these findings. In addition, it appears that peers had a large influence on the career choices of the girls. This became evident when we looked at within-class responses for Cohort 2, and saw clusters of veterinarian and teacher goals. In the next stage of our research, we will set up the activity so that students cannot discuss their goal with a peer until after they write it down.

The data point to some clear next steps for research on the role of the family in students' IT-related career choices. We need to better understand the mechanisms through which families influence career choices: is it simply exposure and familiarity? Are students more likely to pursue a field in which they know someone because that exposure primes children to think in a way that is characteristic of that profession? According to the girls, their parents are not DISCOURAGING their children, but in what ways are they actively supporting them? Are gender role stereotypes playing a role in a way that is not noticeable to the children? If few Latino adults are in IT-related fields, how can we get more parents to encourage their children to pursue computing fields?

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