Jacquelynn S. Eccles and Alain Wiesel.
Development to Jacquelynn S. Eccles, and the National Science Foundation to
Health to Jacquelynn S. Eccles, the National Institute of Child Health and Human
Note: This research was made possible by grants from the National Institute of Mental

April, 1988

New Orleans, Louisiana

American Educational Research Association

Jacquelynn S. Eccles, H. Goldsmith, Jents Jacobs, and Constance Flanagan

Parental Influences on Adolescents' Academic Motivation
Parsons, Kaczala, and Adler (1982) found that parents' math-related beliefs have a strong influence on junior high schoolers' perceptions of their own math abilities, perceptions of the value of math, future expectations, and course plans. Parsons et al. also documented the role parents play in perpetuating sex differences in junior high students' beliefs about mathematics. Building on this work, this paper further examines the role parents play as socializers of achievement attitudes in their children, including the shaping of sex differences in these beliefs.

Several questions were addressed to determine the extent to which parents interpret their children's experiences in light of gender-role or ability stereotypes. Questionnaire data was gathered from approximately 1500 parents of sixth graders. Parents' beliefs about their children's math and English achievements on 7-point Likert-type scales, as well as information regarding parents' future aspirations for their children and use of encouragement strategies, were measured.

Consistent subject matter by sex of child interactions were found (see Figures 1-4). Parents of girls rated their child's English abilities more positively than her math abilities, despite the fact that the girls had been getting equivalent grades in math and English; parents of girls also rated English skills as more important for their child than math skills. Parents of boys showed the opposite pattern for both beliefs. Contrary to what one might expect given the current concern over girls and math, sex of child effects were more marked for English than for math and subject matter effects were more marked for boys than for girls.

To assess the impact of parental beliefs on children's self perceptions, these beliefs were entered as lagged predictors of the children's subsequent self-perceptions in a path analysis. Mother's results are depicted in Figures 5 and 6. The mothers' beliefs and the teachers' rating of the children's math ability were assessed in the fall while the child's self-perceptions were gathered in the spring. Fathers' data yielded comparable patterns. These path analyses (Figures 5 and 6) document the general impact of mothers' beliefs on children's math and English self-perceptions. Consistent with the findings of Parsons et al. (1982), mothers' ratings of their child's math ability had a positive and significant effect on the children's subsequent math and English self-perceptions. In addition, mothers' ratings seemed to mediate the impact of teachers' ratings on the children's confidence in their own math ability and interest in math.
important reason for their sons' much success is that parents, especially mothers, of boys tend to value a relatively more attributional belief in Tables 1 and 2 on a 7-point scale ranging from not at all important to their child's math success and failures. Parents who were asked in a home survey, about attributional beliefs made by approximately 80 parents, whose children were asked in an attributional measure as part of this research, as a first step toward learning this reasoning reasons. We found that the causal influence of parents' different influences on one's own experiences. If parents make different influences on their children, the causal attributions for success and failure attribution theory would suggest that causal attributions for success and failure.

First, although gender differences were not related to child sex, boys' mothers' concerns are greater for boys than for girls. Mothers' concerns about parenting job sufficiency and ability to support a family are in adult. Mothers' concerns about parenting job sufficiency than parents of daughters to say their child should be financially self-sufficient than parents of sons were more likely than parents of daughters to say their child should be financially self-sufficient. Liking one-way analysis of variance by sex of child, parents of sons were child's future. In addition, parents were also asked about their more general aspirations for their children.

Opportunities for sons than their daughters and biological science where the differences include computer science and mathematics/physics where parents were more likely of daughters were more likely to choose English. Parents of sons choose math as the most important course for their sons' future. Other courses that showed expected sex differences were more likely to choose English. Parents of boys chose math as the most important course for their children's future career parents believe are their children's strongest intellectual ability. In fact, when asked what courses they believed were their children's strongest intellectual ability, courses and occupations that capitalize on where the parents believe are their children's strengths are represented in the different courses and programs that parents might try to steer boys and girls into different academic courses and programs. In considering the latter, the parents of girls presented here made a clear distinction between differential abilities can be found in attributional theory and a research on sex role. Two possible explanations for the parents' beliefs regarding their children's English abilities.

Second, high rankings of their daughters' English abilities.

Parental beliefs: first, an overestimation of how difficult math is for daughters, and parental beliefs: second, an overestimation of how difficult English is for daughters, and finding evidence that girls' confidence in their math ability is being undermined by two math ability self-perceptions are holding the children's math performance constant. Thus, parents' ranks of their children's English abilities had a negative impact on the children's
parents, especially mothers, of girls rated effort as a relatively more important reason for their daughters' math successes than parents of sons. These results suggest that parental attribution differences may underlie parents' sex-differentiated perceptions of their children's math abilities.

To test this hypothesis, we correlated parents' attributions with their perceptions of their children's math ability. Attribution theory suggests that attributing success to talent should have a positive effect on perceptions of one's child's math ability; conversely, attributing success to effort should have a negative impact on perceptions of one's child's math ability since effort and ability are typically considered to be compensating causes. As is clear in Table 3, the relationship between parents' causal attributions for their children's math successes and parents' rating of their child's effort and talent confirm these predictions. This pattern of relationship could explain why parents perceive their daughters as being less able in math than sons despite the fact that boys and girls get equivalent grades and test scores in both of the samples discussed here.

Finally, having examined the impact of parental beliefs on their children, and exploring possible explanations for these beliefs, we also wanted to assess the influence of parental practices on their children's attitudes and behaviors. To do this, two additional items were entered into a path analysis with parents' ratings of their child: whether the parent encouraged the child to take advanced math courses, and whether the parent used any strategies to motivate the child to do better in math. Similar results were found for both parents, and the mothers' findings are depicted in Figure 7 (for clarity of presentation, not all paths are included). Teachers' ability ratings appeared to have the greatest impact on the mothers' perceptions that influenced behavior.

A direct path illustrated that when the teacher rated the child as having low math ability, the mother was more likely to use strategies to motivate the child to do better. Also, when the child was rated by the teacher as having low math ability, the mother perceived her/him as trying harder, and the mother was more likely to try and motivate the child. High ability teacher ratings led to mothers' perceptions that math was very important, causing them to encourage their children to take advanced math, and leading in turn to these children perceiving math as being very useful. In addition, a high ability teacher rating was linked to the mother's feeling that she could influence her child's math performance. This led to the child perceiving math as being more useful, and to the likelihood that the mother would utilize motivation strategies. While these are expected results, it is the effect of
course, and their future plans.

as parental behavior, impact on their children's perception of their abilities, the value of

influence on their adolescents' academic motivation. Parental beliefs and attitudes, as well

It seems clear then, from the data presented here that parents can have a strong

negatively to what may be perceived as interference from their parents.

grade. If may also be the case that these children, regardless of their ability level, react

motivational techniques and the child's grade. This may suggest that mothers' and

using strategies that is interesting. There is a negative relationship between use
<table>
<thead>
<tr>
<th>Variable</th>
<th>Girls</th>
<th>Boys</th>
<th>F-ratio</th>
<th>Girls</th>
<th>Boys</th>
<th>F-ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>General school performance</td>
<td>5.30</td>
<td>5.08</td>
<td></td>
<td>5.07</td>
<td>4.99</td>
<td></td>
</tr>
<tr>
<td>Current math performance</td>
<td>4.33</td>
<td>4.35</td>
<td></td>
<td>4.33</td>
<td>4.35</td>
<td></td>
</tr>
<tr>
<td>Maximum standard for math</td>
<td>5.16</td>
<td>4.99</td>
<td></td>
<td>5.12</td>
<td>5.05</td>
<td></td>
</tr>
<tr>
<td>Minimum standard for math</td>
<td>3.13</td>
<td>3.00</td>
<td></td>
<td>3.13</td>
<td>3.00</td>
<td></td>
</tr>
<tr>
<td>Required effort</td>
<td>2.68</td>
<td>2.70</td>
<td></td>
<td>2.60</td>
<td>2.67</td>
<td></td>
</tr>
<tr>
<td>Relative effort</td>
<td>3.01</td>
<td>2.92</td>
<td></td>
<td>3.06</td>
<td>3.04</td>
<td></td>
</tr>
<tr>
<td>Talent</td>
<td>2.30</td>
<td>2.30</td>
<td></td>
<td>2.30</td>
<td>2.30</td>
<td></td>
</tr>
<tr>
<td>Doing as well as possible</td>
<td>3.31</td>
<td>3.28</td>
<td></td>
<td>3.32</td>
<td>3.29</td>
<td></td>
</tr>
</tbody>
</table>

**Table 7**

Impact of child sex on parents', achievement-related perceptions and expectations

---

**Table 1**

Impact of child sex on parents', achievement-related perceptions and expectations

---

**Table 2**

Impact of child sex on parents', achievement-related perceptions and expectations
Table 1
Mothers' success attributions and math-related perceptions.

<table>
<thead>
<tr>
<th>Math-related Perceptions</th>
<th>Success Attributions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Talent</td>
</tr>
<tr>
<td>Required effort</td>
<td>-.34*</td>
</tr>
<tr>
<td>Relative effort</td>
<td>-.54*</td>
</tr>
<tr>
<td>Talent</td>
<td>.67*</td>
</tr>
<tr>
<td>Relative talent</td>
<td>.42*</td>
</tr>
</tbody>
</table>

Note: Relative effort and relative talent items are rated on 3-point scales. All other items are rated on 7-point scales.
* p < .05
** p < .01
*** p < .001
**** p < .0001