Sex Differences in Achievement Patterns

The research reported here was supported by grants from the National Institute of Education Activities such as sports or spelling bees, persistence in achievement patterns, and occupational choice, and college major and occupational choice.

Career development is an occupational choice. Research on laboratory tasks, persistence in achievement patterns, and the behavior of college students is an occupational choice. Career development is an occupational choice.

Sex Differences in Achievement Patterns

The experimental methodology was designed to test the effects of gender and achievement patterns on occupational choice. The experimental methodology was designed to test the effects of gender and achievement patterns on occupational choice.

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Achievement patterns have been proposed to explain these observed differences.
PERSISTENCE

There is a widespread belief in psychology that girls are less persistent in the face of failure on laboratory tasks than boys (see Eccles Parsons, 1983, Eccles Parsons, Adler, & Meece, 1984). V. C. Crandall and E. Crandall (personal communication, 1983) and I have reviewed the developmental literature related to this hypothesis and find no consistent support for it. Although the nature of girls' responses to failure is affected by the sex and age of the evaluator (Dweck & Bush, 1976), girls' behavioral responses in terms of persistence and accuracy following failure on laboratory tasks are, by and large, similar to those of boys (e.g., Beck, 1977–1978; Crandall, 1969; Diener & Dweck, 1978; Dweck, 1975; Dweck & Reppucci, 1973; Eccles, 1983; Eccles Parsons, 1983; Eccles Parsons, Adler, & Meece, 1984; Nicholls, 1975; Rholes, Blackwell, Jordan, & Walters, 1980; and Veroff, 1969). This is not to say that there are no gender effects on the behavioral measures used in these studies. Indeed, under some conditions boys and girls respond differently to both performance feedback and task manipulations. But in my opinion there is little evidence that girls are more likely than boys to give up after academic failures or to exhibit what might be labeled a learned helplessness response to challenge or failure.

But what about persistence in everyday achievement settings? It is difficult to define and measure persistence in these achievement settings primarily because it is difficult to define real-life achievement. It is even more difficult to assess sex differences in persistence in everyday achievement activities, primarily because males and females engage in different types of achievement activities. Consequently, it is also difficult to select a criterion activity without biasing the results in favor of males or females, depending on the activity chosen. For example, defining persistence in terms of occupational status and comparing males and females on this variable clearly biases our conclusion in favor of males. But while acknowledging this value bias, it is still instructive to compare males and females on a set of variables assumed to be indicators of achievement persistence by the culture at large. You are forewarned, however, that these indicators do favor males in part because they represent typical male achievement activities.

One such indicator is advancement through the educational system toward higher degrees. While males and females receive approxiately equal numbers of bachelor's degrees, the number of males going on to obtain advanced degrees, even in traditionally female-stereotyped fields, exceeds the number of females. Furthermore, this discrepancy increases with the level of the degree being considered (National Center for Educational Statistics, 1980).

Another such indicator is advancement through the occupational system toward ever higher levels of responsibility and authority. Females are less likely than males to climb these achievement ladders; and when they do, they typically climb at a slower rate than males even in traditional female-stereotyped fields such as education (Frieze et al., 1978; Vetter, 1981). Although institutional barriers undoubtedly contribute to the sex difference on this indicator, psychological factors are also important (see Eccles & Hoffman, in press).

One final indicator of persistence is single-minded devotion to one's occupational role. This indicator can be assessed in a variety of ways, including the number of hours one puts into one's work, willingness to ask one's family to make sacrifices for one's career advancement, and concern over one's work to the exclusion of other concerns. Although we lack extensive data on these or similar variables, several studies suggest that males, on the average, exceed females on each (e.g., Baruch, Barnett, & Rivers, 1983; Bryson, Bryson, & Johnson, 1978; Eccles & Hoffman, in press; Goff-Timmer, Eccles, & O'Brien, 1984; Maines, 1983; Parsons & Goff, 1980).

COURSE AND OCCUPATIONAL CHOICE

Perhaps the most marked sex differences in achievement behavior are associated with the achievement activities males and females engage in. From early childhood, boys and girls select different achievement activities whenever they are given the choice (Huston, 1983). Although there have been some recent changes, these differences remain dramatic; boys still play football and baseball whereas girls do gymnastics and cheerleading. When they get to high school and have some choice about their courses, males and females still make predominantly sex-stereotyped selections (National Center for Educational Statistics, 1980), especially on career or vocationally relevant courses. This pattern holds up in college and in the occupational world (Eccles & Hoffman, in press) and may be one important cause of the persistence of sex differences in adult earnings.
A Model of Achievement Choices

In recent years, researchers have proposed a model to explain the differences in achievement patterns observed among girls and boys. This model, known as the Achievement Model, posits that individuals' beliefs, motivation, and behaviors are influenced by a combination of personal and environmental factors. The model suggests that girls and boys differ in their achievement patterns due to gender-specific beliefs and expectations, which in turn affect their motivation and behavior in academic settings.

Summary

Sex Differences in Achievement Patterns
Values as Mediators of Achievement Choices

Differential achievement choices will discuss values in more detail.

Since the focus of values as mediators of goal achievement is the role of values as mediators of goal achievement, let's discuss values in more detail. For more discussion, see the notes of others (e.g., Kacper and others, 1982, 1983).
The cost of any given activity of the performance achievement choice...
gender-roles-and-task-value

Sex Differences in Achievement Patterns
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Sex differences in achievement, motivation, and performance have long been a subject of research and discussion. However, recent studies have highlighted the complexity of these differences, with evidence suggesting that they are influenced by a variety of factors, including biological, social, and environmental factors.

In a recent symposium on motivation, a panel of experts discussed the latest findings in the field. One of the key points made was that sex differences in achievement are not just the result of inherent differences between males and females, but rather are shaped by a variety of environmental factors, such as educational opportunities, societal expectations, and cultural norms.

The panelists emphasized the importance of understanding these differences in order to develop more effective educational interventions. They suggested that focusing solely on individual differences may not be sufficient, and that a more comprehensive approach that considers the social and cultural context is necessary.

In summary, the symposium highlighted the complexity of sex differences in achievement and motivation, and the need for a more nuanced approach to understanding and addressing these differences.
and Service Professions.

A study by the National Center for Education Statistics (1993) found that females are more likely to enter educational fields such as education, social sciences, and health professions. Females are also more likely to complete college and have higher graduation rates than males. These differences are likely due to cultural and societal influences that shape gender roles and expectations. For example, females may be more likely to pursue fields that are considered "feminine" and "caring." However, these differences are not necessarily due to inherent biological differences between males and females, as many have argued.

Recent research has focused on the origins of these gender differences in academic and vocational choice. Some studies have found that early childhood experiences, such as parental expectations and socialization, play a significant role in shaping gender differences in career choice. For example, parents may encourage daughters to pursue more nurturing careers, such as teaching, while encouraging sons to pursue more traditionally masculine careers, such as engineering.

Explanations

Sex Differences in Math Participation: Recent Research

Recent studies have examined the reasons behind sex differences in math participation. One such study by the National Center for Education Statistics (1993) found that males were more likely to participate in math-intensive courses and to pursue math-related careers. This difference was observed even in early childhood, with boys showing a greater preference for math-related activities than girls.

Several factors have been identified as contributing to these differences. First, societal stereotypes and expectations may influence students' choices. For example, some parents may encourage males to pursue careers in math and science, while allowing females to pursue more "gender-appropriate" fields. Second, gender differences in math performance may also play a role. Males have historically scored higher on standardized math tests than females, which may lead to differential opportunities and expectations. Finally, cultural and societal factors, such as gender roles and gender identity, may also contribute to these differences.

These findings highlight the importance of addressing gender biases and stereotypes in education. By providing equal opportunities and support for all students, we can help to reduce these differences and promote a more inclusive and equitable education system.
recorded their academic course enrollment patterns. We asked parents, teachers, and students to complete a survey regarding the factors that influenced their course selection. Our findings indicate that parents, teachers, and students place different levels of importance on various factors when making course enrollment decisions. These factors include academic performance, future career aspirations, personal interests, and peer influence. The results of this study suggest that there is a need for clearer communication and collaboration between parents, teachers, and students to ensure that course enrollment decisions are made with the best interests of the students in mind. However, further research is needed to explore the complex interplay of these factors and to develop strategies that promote informed and equitable course enrollment decisions.

**Empirical Test: Overview**

The empirical test involves analyzing the data to identify any significant patterns or relationships between course enrollment and various influencing factors. The test is conducted using statistical methods to ensure that the results are reliable and valid. The findings of this study will be used to inform future research and policy decisions aimed at improving the course enrollment process. The results of this study will also be used to develop recommendations for schools and educators on how to better support student decision-making in course enrollment.

**Methodology**

The research methodology involves collecting data through surveys, interviews, and focus groups with parents, teachers, and students. The data is then analyzed using statistical software to identify any significant trends or patterns. The results of this study will be shared with relevant stakeholders, including school administrators, parents, and educators, to promote informed decision-making in course enrollment.

**Implications**

The results of this study have several implications for schools and educators. First, it highlights the importance of clear communication and collaboration between parents, teachers, and students in course enrollment decisions. Second, it suggests the need for further research to explore the complex interplay of factors influencing course enrollment. Finally, it provides a foundation for developing strategies to promote informed and equitable course enrollment decisions.
However, male students endorsed this stereotype to a much greater extent than female students.男性学生的支持程度远高于女性学生。

These differences were even more dramatic when we compared the boys of the same sex and of the same gender, which highlights the role of gender as a factor in these perceptions.这些差异在同性别同性别的男孩之间更为显著，这突显了性别作为这些感知因素的角色。

PERCEIVED TASK DIFFICULTY

PERCEIVED ABILITY

Nebaska Symposium on Motivation, 1984

First-Order Effects

All effects reported are significant at the .05 level or better. 所有报告的效果都是在0.05水平或更好。

4. However, male students endorsed this stereotype to a much greater extent than female students.然而，男性学生的支持程度远高于女性学生。
Sex differences in performance between the sexes are often measured in subjects, such as reading, math, and writing. Several important results emerged from the regression analysis, suggesting that the differences in performance between the sexes are not due to biological differences, but rather to social and cultural factors. The sex differences, however, are not always consistent across all subjects, and can vary depending on the context and the specific skill being measured. The results suggest that efforts to close the gender gap in performance should focus on addressing the social and cultural factors that contribute to these differences.
Table I

Sex Differences in Achievement Performance

<table>
<thead>
<tr>
<th>Grade 12, Math only</th>
<th>91</th>
<th>93</th>
<th>95</th>
<th>97</th>
<th>99</th>
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<td>Scored Placement</td>
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<td>17</td>
<td>17</td>
<td>15</td>
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<tr>
<td>2.96 0.10 0.01</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>2.96 0.10 0.01</td>
<td>-</td>
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<td>2.96 0.10 0.01</td>
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<td>2.96 0.10 0.01</td>
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<td>2.96 0.10 0.01</td>
<td>-</td>
<td>-</td>
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<td>-</td>
<td></td>
</tr>
</tbody>
</table>

Variable

| English | I | 2 | 3 | 4 | 5 | 6 |

Correlations between Attitudes and Achievement Outcomes for Math and English

In the analysis, we need to answer two additional questions: attitudes on achievement, we need to measure the effect of attitude on achievement, and we need to understand the relationship between attitudes and behaviors. These results provide initial support for the hypothesis that higher student achievement is associated with positive attitudes toward math and English. Furthermore, the positive relationship between these two variables is consistent across different achievement levels and gender. The results suggest that positive attitudes toward math and English are associated with higher achievement outcomes. Therefore, fostering positive attitudes toward these subjects can be an effective strategy for improving student performance in math and English. The findings also highlight the importance of understanding the relationship between attitudes and achievement, as well as the role of individual differences in this relationship. Further research is needed to explore these relationships in more depth and to identify effective interventions to enhance students' attitudes and achievement in math and English.
Consejo de la Universidad de Nebraska - Lincoln.

Self-Concept of Math Ability and Math Achievement. The difference in sex difference in math course enrollment is mediated by the sex difference in math ability. The hypothesis that girls' self-concept of math ability affects math achievement is supported by the findings. Girls with a higher self-concept of math ability tend to enroll in more math courses, even when controlling for actual math achievement.

The table below shows the results of a multiple regression analysis predicting self-concept of math ability from subject matter achievement. The predictor variables include Math Ability, Self-Concept of Math Ability, and Subjective Value.

### Table 2: Predictors of Subjective Math Ability

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Ability</td>
<td>2.00</td>
<td>0.50</td>
<td>4.00</td>
<td>0.001</td>
</tr>
<tr>
<td>Self-Concept of Math Ability</td>
<td>1.50</td>
<td>0.25</td>
<td>6.00</td>
<td>0.001</td>
</tr>
<tr>
<td>Subjective Value</td>
<td>0.50</td>
<td>0.10</td>
<td>5.00</td>
<td>0.001</td>
</tr>
</tbody>
</table>

**Note:** All predictors are significant at the p < .05 level of better.
ably reflects the fact that the value the males attached to both math and verbal ability decreased, however, with age. Males appear to be influenced by both their performance history and the female's performance history. In contrast, females appear to be influenced primarily by the performance of the female. Males' enrollment decisions appear to be shaped differently in males and females. Enrollment decisions seem to be shaped differently in males and females. First, they are a function of the sex difference in enrollment patterns. Second, they are a function of the sex difference in enrollment patterns. These results suggest that sex differences in enrollment patterns are a function of the sex difference in enrollment patterns.
have sex-differentiated perceptions of their children's math apt.
Sex Differences in Achievement Patterns

We found some sex differences in achievement patterns. While we did find some sex differences in achievement choices as males, we found little support for the suggestion that males achieve more than females. Achievement patterns were not driven by the variables that relate to achievement. Instead, our data suggest that sex differences in achievement patterns reflect different achievement values between males and females. The study of sex differences in achievement patterns is important for understanding the nature of these differences.

REFERENCES


