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### Gender Differences in Research Methods across Disciplines

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Student scores in research methods were compared across 3 social sciences for differences related to gender. Men achieved higher scores in social work and psychology.

Studies suggest that the fields of research science, despite the efforts of groups such as the AAUW, remain stereotypically "male" (Feingold, 1993). Yet the number of women entering the social sciences, such as psychology, is increasing (Keyes & Hogberg, 1990). Psychology undergraduates are now nearly 80% women (Fleming, Causey, and Golden, 1996). This might suggest that the research gap in gender is no longer present, and women are as well-prepared in research as are men.

One way to examine the preparation of both genders in the area of research is performance on a college exit exam. Many colleges generate data from their graduating seniors using surveys and exit exams. These often contain demographic and course enrollment data that allow investigation of scores related to gender and courses taken (Graham & Cockriel, 1989).

Two other fields experience significant growth in the number of women graduates are social work and criminal justice (Perrott & Taylor, 1994). Social work and criminal justice also offer the option to pursue research or applied studies.

If women are making gains in social sciences, historically reported differences in research methods and statistics proficiency between men and women should be declining. The current study examines a multi-year sample of graduating seniors in these three fields using self-reported characteristics and outcomes examination scores from the Area Concentration Achievement Test (ACAT).

### **Instrument**

The Area Concentration Achievement Test (ACAT) is a college-level outcomes assessment instrument within the major, constructed of examination items gathered from the faculty of participating departments. It is a national project in use by 257 colleges and universities. The ACAT is distributed, constructed, and scored by the Project for Area Concentration Achievement Testing.

### **Sample**

The 1989 to 1997 data from the ACATs in Psychology and Social Work, and the 1996 to 1997 data for Criminal Justice have been made available for this study. The scores of 5,440 psychology students (4,060 women and 1,281 men), 4,569 social work students (3,954 women and 506 men), and 841 criminal justice students (288 women and 510 men) were used. Examinees voluntarily disclose their gender and the courses that they have taken at the outset of taking the examination.

## Results

- The frequency with which the 9,446 men and women took research methods courses was examined for each of the three disciplines. Pearson's chi square revealed no significant discrepancies in enrollment frequencies by gender ( $p > .05$ ).
- ACAT research methods subtest scores for men and women also were compared using the  $t$ -test.
- For the criminal justice students, there were no significant differences between men and women in the area of research methods ( $p > .05$ ).
- For social work students, there were significant differences in scores between men and women with men scoring higher ( $p < .01$ ). When non-graduate school bound students were included, however, no significance was found between the two groups if they had taken a course in research methodology ( $p > .05$ ).
- In psychology, there were significant differences in performance on the research methods subtest only for those students who had taken research methods and were planning to attend graduate school, again with men scoring higher ( $p < .04$ ). More performance differences were found within gender, where taking the course produced higher scores for both men and women. This occurred across disciplines and regardless of future plans.

## Discussion

These findings support the suggestion that despite a rising number of women in these fields, the men are still receiving better scholastic preparation. Gender inequality was found in the area of research methods in two of the three fields -- psychology and social work. Men and women differ regardless of taking a relevant course. Although taking a course improves scores, it does not eliminate the difference.

In psychology and social work, both men and women who took a research methods course scored significantly higher than those who did not. However, graduate school bound men and women still differed significantly even if they had taken a research methods course.

The persistence of this difference and the apparent inability of college level studies to eliminate it suggests differences attributable to scholastic preparation before college. With more women entering these fields, more emphasis on equality of preparation is indicated.

## References

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### Comparison of Scores in Research Methods within Gender

1990-1997	Planning Graduate School			All Students		
	Women			Men		
	Took Course	No Course		Took Course	No Course	
Psychology	508	462	<i>p</i> <.01	498	449	<i>p</i> <.01
Criminal Justice	537	494		520	533	
Social Work	510	476	<i>p</i> <.05	500	463	<i>p</i> <.01
1990-1997	Planning Graduate School			All Students		
	Men			Women		
	Took Course	No Course		Took Course	No Course	
Psychology	516	464	<i>p</i> <.01	495	469	<i>p</i> <.01
Criminal Justice	507	504		544	473	<i>p</i> <.01
Social Work	526	490	<i>p</i> <.05	525	453	<i>p</i> <.01

Probabilities indicate significant t-test values for the scores by gender by graduate study plans for each discipline

### Comparison of Scores in Research Methods by Gender

1990-1997 Planning Grad School	Took Research Methods			Did Not Take Research Methods		
	Men	Women		Men	Women	
Psychology	516	508	<i>p</i> <.04	464	462	
Criminal Justice	507	537		504	494	
Social Work	526	510	<i>p</i> <.01	490	476	<i>p</i> <.01
1990-1997 All Students	Took Research Methods			Did Not Take Research Methods		
	Men	Women		Men	Women	
Psychology	510	506		465	457	
Criminal Justice	528	530		488	445	
Social Work	524	507	<i>p</i> <.01	474	473	

Probabilities indicate significant t-tests values for scores by gender by future graduate school plans for each discipline.