

Overview of text/lecture

- Background on gender comparisons
- Cognitive abilities
 - Verbal
 - Math
 - Spatial
 - Explaining differences
- Achievement motivation and attitudes about success
 - How do we define success?
- Midterm review

QUESTIONS FOR TODAY

- To what extent, and in what areas, are there gender similarities/differences in cognitive abilities?
- When there are differences, what accounts for those differences?
- Are there gender similarities or differences in attitudes toward achievement and success?
- How do we define success?

Meta-analysis

- Previous lecture
 - .20 = small
 - .50 = medium
 - .80 = large
- Textbook (p. 147)
 - <.35 = small
 - ~.50 = medium
 - >.65 = large

HISTORY OF GENDER COMPARISON RESEARCH

- Classic view:
 - Maccoby and Jacklin (1974):
The Psychology of Sex Differences
 - Conclusions: More similarity than difference
 - Only four areas of difference:
 - Verbal Ability
 - Spatial Ability
 - Math Ability
 - (Aggression)
- Very Influential

VERBAL ABILITIES Hyde and Linn (1988)

- Meta-analysis of 165 studies (involving 1,418,899 participants) of gender differences in verbal abilities
- Overall $d = .11$ (higher scores for women)
 - difference of 1/10 of a s.d.
 - if test had a mean of 100 and s.d. of 10, groups would differ by 1 point (e.g., 102 vs. 103)
- Is this “practically significant”?

Spatial Ability

- Spatial visualization (embedded figure test)
- Spatial perception (water level test)
- Mental rotation

Voyer et al. (1995)

- Meta-analysis of 286 studies of gender differences in spatial abilities
- Size of gender difference depends on type of test:
 - Spatial visualization $d = .19$
 - Spatial perception $d = .44$
 - Mental rotation $d = .56$(positive effect sizes favoring men)

MATH ABILITIES

Hyde, Fennema, & Lamon (1990)

- Meta-analysis of gender differences in math abilities
 - Overall effect size $d = .20$
 - Without SAT $d = .15$
 - General population $d = -.05$(with positive effect sizes favoring men)
- But women get higher grades in math courses
- SAT math score underpredicts women's grades (grades higher than would be predicted based on test score)

Evidence Against Biological Explanations for Gender Differences

- Differences in math and spatial ability are decreasing over time
 - E.g., Spatial visualization:
 - 1947 $d = .37$
 - 1980 $d = .15$
- Differences in math and spatial ability increase with age
- Differences smaller in nonwhite samples

Social explanations for gender differences in math/spatial ability

- **Expectations**
 - Women expect to do worse on measures of math/spatial ability
- **Experience**
 - Boys more likely to play with toys that involve spatial skills
 - Gender differences are reduced when women are given training and practice in spatial skills
 - Males engage in more math related activities
- **Attitudes**
 - Boys are more self-confident and less anxious about math ($d = .27$ for math self-confidence in high school)
 - Males are more likely than females to see math as "male" ($d = -.90$)

Social explanations for gender differences in spatial/math ability

- **Parent's attitudes:**
 - Parents think math is harder for girls which in turn is related to lower math self-confidence in their daughters
 - Mothers who had heard/read about Benbow and Stanley research had more negative beliefs about daughters' math ability (see p. 153)
- **Stereotype threat**
 - When gender is made salient women score lower on tests of math ability

**Shih, Pittinsky, and Ambady (1999)
Stereotype threat and math performance**

- Sample: 46 female Asian American undergraduates at Harvard
- Completed a questionnaire that made ethnic identity or gender salient
- Then completed math test
- Women scored lowest on test when gender was made salient (43% correct); scored highest when ethnicity was made salient (54% correct)

A broader perspective....

- Based on UN data (2000)
- Literacy rates for adult women
 - Afghanistan 20%
 - Ethiopia 25%
 - India 38%
 - Haiti 42%

Achievement related attitudes

- Overall similarities
 - Achievement motivation
 - Fear of success
- Sometimes differences depending on situation
 - Attributions for success/failure and self-confidence
 - Public vs. private
 - Masculine vs. feminine tasks

Stability of self-confidence

- Women tend to be more affected by feedback from others
 - Self-confidence goes up after positive feedback and goes down after negative feedback
- Men's self-confidence not affected by others' feedback
- Women tend to see feedback as more accurate

DEFINITIONS OF ACHIEVEMENT

Travis et al. (1991)

- 400 college students
- Described a success or failure event
- Rated event in terms of mastery, personal, and interpersonal themes
- Mastery most common theme but many events also dealt with personal and interpersonal themes
- No gender differences in kinds of events described
- Suggests that people can and do define achievement more broadly

GOALS AND WELL-BEING

Kasser & Ryan (1993); Emmons (1991)

- Higher proportion of goals related to personal growth, developing relationships, contributing to one's community associated with greater well-being and life satisfaction
- Higher proportion of goals related to achieving wealth and power associated with lower well-being and satisfaction

Summary

- Gender and cognitive abilities
 - Much more similarity than difference
 - Differences that do exist typically are small
 - Evidence points to cultural rather than biological explanations
- Gender and achievement attitudes
 - Similarities in achievement motivation
 - Sometimes differences in attributions and self-confidence depending on situation
- How do we define success?
 - Doesn't have to be limited to traditionally masculine domains

Key Terms

- Meta-analysis
- Spatial abilities
- Stereotype threat
- Achievement motivation
- Fear of success
- Attributions

Midterm

- 60 total points
- 34 multiple-choice questions from book and lecture (1 point each)
- 5 short-answer questions: definitions of key terms from book (from lists each week) (2 points each)
- 2 short essays (8 points each)
