

# Support for Boys' Schools

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# Education theory and single sex schools

- Gender constructivism (blank slate)
  - Children's behavior develops in response to the stereotypical assumptions of those around them
  - Single sex schools are based on those stereotypes and reward children who fit the mold – intensifies gendered behavior
- Gender essentialism (bent twig)
  - Children have small differences in behavior which are made bigger by interaction with world (positively or negatively) – 50%+ behavior is heritable
  - Single sex schools allow children the freedom to develop a variety of approaches to their world – breaks stereotypes

# Anti-Single Sex Education

- July 2015 issue of *Sex Roles* devoted to opposing single-sex education
- A review of educational history points out that only recently have girls been given equal treatment in schools, single sex schools threaten that progress
  - The real argument is why the pay and hiring gaps continue to exist in spite of girls' success in school (assumption that doing well in school leads to success)
- Argument is posed that the findings supporting cognitive gender differences are influenced by underlying assumptions about gender.
  - But the differences are found by researchers who are not looking for gender differences
- Use of data from single-sex US state schools which have either failed or been closed as a result of legal issues
  - Little community support for the schools and poor training of teachers

# Neurobiology

- Adolescent brains
  - Men's brains connect perception and action – they see something, they do something
- Females' brains connect areas involved in analysis and intuition – they relate new information to what they already know. May be reason females have better memories for words and faces and have better attention
  - Rumination is more common in girls and may be related to these brain differences
- Gender differences in brain primarily found in areas of social cognition, reward-based learning, decision-making, and visual-spatial skills

# Memory

- When remembering emotional words and pictures, left side of the memory part of the brain is used for words and right for pictures
  - Males better at spatial and object memory not verbal memory
- Female verbal advantage helps in area of episodic memory. Left hippocampus involved in remembering finer details, right involved in remembering the general facts of an event
  - Females much better at episodic memory – how much of school work involves that sort of memory?
- In personal stories, females more likely to use elaborate, linked, reflective (including self-reflective), and agentic stories than boys

# Learning Differences

- Boys benefited from having information presented both visually and verbally – girls from word only presentation
- When memorizing, boys' effort and attention focused on dealing with problems in learning new material because of interference from previously learned material
- Motivation (lack) and poor study strategies probably lead to higher number of males dropping out of university. Females more self-disciplined at all academic levels
  - Boys' schools need to focus on making sure that students have adequate study skills and can use them in a variety of ways

# Reading and Language

- Multicountry PISA results indicate that boys continue to perform poorly relative to girls in reading
  - To increase boys' reading, use texts interesting to boys, support digital and alternative media, and involve fathers and other males
- Comparison of children from 10 different European countries found that girls were ahead of boys in communication, productive vocabulary, & combining words
- Boys more interested in using technology to read, girls do better when working in pairs
- Boys attracted to digital and graphic sources as introduction to reading

# Motivation

- Martin's motivation system – use personal best goals
- Huge gender difference in self-discipline; efforts to boost self-esteem do not result in better academic performance
- Average boy does what is required, some because they didn't know what else to do – problem is that so many boys don't have any plans for their future – effect of late development of prefrontal lobe
- The most important predictors of school success are intelligence, knowledge of ability, and self-discipline: boys have the first, but not the others, girls lack confidence in what they know – grades at age 13 predict university completion



# On to University

- External regulation stronger for males at university level
  - Intrinsic motivation worked well for younger boys
  - Extrinsic payoff seen in males at highest educational levels (financial/work success)
- Males are disadvantaged with respect to social capital which leads to lower university enrollment
  - Less likely to have friends who succeeded in higher education
- Males who select a female-dominated major are more likely to switch majors than females who enter a male-dominated major

# Conclusion

- Brain – males tend to think in a compartmentalized fashion, good at visuo-spatial skills
- Memory – males not good at episodic memory, need to develop skills in linking information
- Learning – motivating boys requires helping them develop intrinsic rewards
- Reading – use technology
- Motivation – help boys develop self-discipline and self-control