



Exceptionally Gifted Females: Multiple Facets of Diversity and Gender Equity

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Abstract

The objective of this study is to provide an overview of challenges facing gifted and talented females, explore gender differences among intellectually gifted students, and examine the literature and research addressing gender in a variety of dimensions of cognitive giftedness. The unique and often frustrating experiences that gifted and talented females encounter will be explored to understand gender stereotypes. The findings are centered on the benefits, predicaments, and determination of gifted and talented females as we embrace multiple facets of diversity and gender equity. There are a wide variety of perspectives on gender and high ability or highly talented females and academic achievement. Gender has often been a critical factor when identifying multidimensional perspectives of giftedness. The combined results from 130 studies published between 1975 and 2011 indicated that boys were 1.19 times more likely than girls to be identified as gifted and included in gifted programs [1]. The early literature on giftedness, dominated by male authors, focused largely on mathematical and scientific manifestations of giftedness, and had a highly misogynistic character. Subsequent research and expanded definitions of giftedness have made significant changes in these views and encouraged a more diverse population that will enrich others and allow gifted females to excel and reach their full potential. Even though most people have some degree of emotional intelligence (EI), EI studies have shown that females demonstrate a higher degree of EI than males do [2]. Barriers to gifted women achieving their full potential are both external and internal— societal and psychological. Recent literature features significant studies by female gifted education specialists, and has been valuable in its stress on leadership, learning, and providing professional insight in narrowing the gender gap and facilitating a stronger female presence [3]. The goal of the present study is to synthesize data on gender differences in gifted identification and programs. The research reviewed addressed males and females in a variety of dimensions of cognitive giftedness, but most frequently those related to manifesting quantitative gifts. Recommendations for reducing gender bias include encouraging girls to participate in gifted programs, mentoring, and using multiple assessment criteria to identify gifted students.

Keywords: *Intellectually gifted and talented education females*

1. Introduction

Many definitions of giftedness exist, but the majority include the following components: Exhibits high performance capability in an intellectual, creative, or artistic area; possesses an unusual capacity for leadership; or excels in a specific academic field. These definitions include the terms or concepts of exceptionally able, highly capable, intellectually gifted, supernormal children (China), gifted learners and mathematically precocious. The National Association for Gifted Children (NAGC) defines their characteristics as: Students with gifts and talents perform—or have the capability to perform—at higher levels compared to others of the same age, experience, and environment in one or more domains. They require modification(s) to their educational experience(s) to learn and realize their potential. Students with gifts and talents come from all racial, ethnic, and cultural populations, as well as all economic strata. They



require sufficient access to appropriate learning opportunities to realize their potential. They can have learning and processing disorders that require specialized intervention and accommodation, and they need support and guidance to develop socially and emotionally as well as in their areas of talent [4]. My objective is to provide an overview of gender differences among intellectually gifted learners.

2. Review of the Literature

There are fascinating additions with a wide variety of perspectives on gender and high ability or highly talented females and academic achievement. This literature will consider cognitively gifted students and examine the literature and research addressing gender in a variety of dimensions. More than 50% of gifted kindergarten students are girls, yet only 30% of female eighth graders are identified as gifted. Gifted girls often display the following academic behaviors: Reads voraciously and retains what she reads, communicates ideas well both verbally and in writing, possesses superior analytical and conceptual abilities, and explores issues from multiple points of view [5]. Gifted girls also display multiple creative behaviors and express unusual, out-of-the-ordinary points of view, demonstrate special ability in the visual arts, and show promise in performing arts (music, drama, dance). They also manifest improvisational ability in a variety of contexts [5]. An analysis of Differential Aptitude Test scoring patterns of a representative sample of boys and girls in grades 8-12 (age 13-18) by Stanley, Benbow, Brody, Dauber, & Lupkowski in 1992 indicated that girls were slightly ahead in numerical ability in all five grades. Boys were far ahead in mechanical reasoning. The girls were ahead in spelling, language usage, clerical speed and accuracy. Boys were ahead in abstract reasoning, verbal reasoning, space relations, and mechanical reasoning [6]. In 2004, Julian Stanley pointed out that the picture changes when abler groups of students and more difficult tests are given [7]. Eighty-six nationally standardized aptitude and achievement tests were examined over several years for the purpose of considering gender differences on a wide variety of cognitive tests. With few exceptions the scores of the males exceeded those of the females. The majority of the comparisons include large groups of examinees, so questions of statistical significance are not relevant. Females excelled in spelling on the Differential Aptitude Test in the 12th grade. Males were strongly favored for mechanical reasoning on the same battery of tests [6]. On the advanced examinations of the Graduate Record Examinations, males were furthest ahead on political science followed by mathematics. Females scored higher on certain verbal measurements and on clerical speed and accuracy. Males scored considerably higher than females on all six physics tests and on 11 of 16 quantitative tests [6]. Stanley and his fellow researchers also pointed out that the results revealing male scores far ahead of female scores in history and computer science were among the most surprising of the study because it was expected that females would receive similar scores to males on those tests. They commented on the perplexing nature of these results in light of research that girls and young women tend to be better students in school [6]. Stanley et. al. suggested that by examining those discrepancies, perhaps ameliorative procedures will be found to assist young women to prepare for careers in science, math, history, and political science. Another question that arises is whether differences in test taking skills may be a partial explanation of these results [6]. Stumpf and Stanley examined gender differences on 50 College Board achievement tests as a follow up to findings published in 1996. Twelve of the 21 SAT II tests favored males while only two favored females; 18 of the AP exams favored males in contrast to six that favored females [8]. They pointed out that the largest gender differences favoring females are found in the areas of aesthetic and social-service evaluative attitudes, as well as spelling, language usage, clerical speed and accuracy, and memory performance [9]. Female researchers made intriguing observations and, in 1989, Halpern argued that differences between males and females are not disappearing and large and reliable differences in the upper levels of mathematics are demonstrated by results on the PSAT and SAT examinations. In 2000, Halpern explained that women score higher on tests of memory, production, and comprehension of complex prose. Females also excel in fine motor tasks and speech articulation. On the other hand, Halpern indicated that males score higher on tests of fluid reasoning, tasks that involve moving objects, transformation of objects, and tasks that require aiming [10].

3. Overview and Components of the Challenges Facing Gifted and Talented Females



The current gender gap persists. Does society hold two different sets of expectations for gifted males and females, or do complex social factors contribute to achievement levels that are not commensurate with females' abilities? Kerr has suggested that gifted behaviors for both genders are imbued with Western society's notion of appropriate gender identity. She points out that our culture suggests that early on mechanical and analytical activities are inherently masculine, while social and relationship activities, including language, are inherently feminine [11]. Girls' standardized testing math scores on the ACT (American College Testing) lag those of their male peers, even though girls are earning higher grades than boys in virtually every high school subject. According to the 2014 Research & Policy division of ACT Inc, female students earn on average 0.11 more GPA points than male students in math, and 0.13 more GPA points in science. Male students score an average of 0.86 points higher on the math portion of the ACT and 0.77 points higher on the science portion. The ACT's 2018 Profile Report shows a slight improvement, with boys scoring 0.7 points higher on math and only 0.3 points higher on the science portion: but still, the difference doesn't add up! Average SAT math scores show the same trend [12].

The attributes of gifted girls were delineated above, and gifted women excel in numerous ways displaying impressive characteristics. They have complex and deep thoughts and feel intense emotions. Gifted women have a desire to learn and grow, a passion for knowledge and a love for complex ideas. Gifted women zealously search for patterns, logic and meaning in all things. They are independent thinkers from a young age and develop their own set of values rather than relying on external structures. A gifted woman has high standards and holds herself and others to high moral values. She questions authority, and sometimes feels sad and frustrated about the state of the world. She uses her deep feelings and her intellectual capabilities to create art and to make meaning in the world. A gifted woman is both the yin and the yang. She is both purposeful and patient, both independent and cooperative, both adventurous and dependable, both courageous and tender. She holds the paradox between change and acceptance, takes affirmative action but with a forgiving heart [13]. Barriers to gifted women achieving their full potential are both external and internal— societal and psychological. Ries points out that they may face conflicts between their own abilities and the social structure of their world. They confront external barriers (lack of support from families, stereotyping, and acculturation in home, school, and the rest of society), and confront internal barriers (self-doubt, self-criticism, lowered expectations, and the attribution of success to effort rather than abilities. Challenging careers have significant effects on women's personal lives. Almost from birth, females find themselves in a world of limiting stereotypes and other barriers to achievement [14]. Many studies have suggested that gender stereotyping in toys contributes to lower math and science scores for adolescent girls on achievement tests [15]. Ries explains that Patricia Casserly (1975), an early researcher in the area of gifted females, indicated that gifted girls were often frustrated because their parents would not buy them chemistry sets or construction sets as toys. Parents often send contradictory messages that they want their daughters to get good grades in all subjects, but also to exhibit "appropriate" polite and even demure behavior for a female, a clear finding derived from research [14]. Stereotypical feminine behaviors often conflict with the personal attributes a gifted female needs to succeed. Financial resources may also be a contributing factor in a woman's ability to realize her educational dreams. Reis acknowledges that gender equity has still not been achieved in school textbooks and classroom experiences particularly in math and science. Are young women and young men treated equally in college? Not, necessarily. Overwhelmingly their science professors, particularly at the more prestigious universities, are males of an earlier era, an artifact of discrimination [14].

4. Outcomes for Educators

The challenges for educators continue and will require continued attention and sensitivity. One area to consider would be differences in spatial visualization—3D thinking. It has been noted that the math gender gap grows as students mature. The difference between boys' and girls' test scores at the Honors or AP (Advanced Placement) level is likely to be greater than the difference between boys' and girls' scores at the general or college preparatory level. The gender gap for the top scorers has increased. Test anxiety and test bias are additional considerations. Forty-five percent more men than women score in the top range (1400-1600) of the SAT—up from 31% more men on the former SAT. Math is now 50% of the



total SAT score, with the other half being Evidence-Based Reading and Writing [16]. Identification during childhood is crucial and more than 50% of gifted kindergarten students are girls, yet only 30% of female eighth graders are identified as gifted.

Gifted African American and Latina females continue to be significantly underserved in programs for the gifted. In terms of ethnically diverse gifted females, recent research has demonstrated that teachers' biases and stereotypic expectations of students have contributed to the underrepresentation of students from certain populations receiving gifted services [17]. According to Ford and Grantham (2003) there has long been concern that high-ability students from underserved populations, including those who are limited English proficient, disabled, or from minority or low-income backgrounds are persistently underrepresented in advanced classes and in programs for students identified as gifted. Ford's research found that for some African American high school students who met and surpassed district criteria for gifted programs (some since elementary school), many had never been referred by their teachers for initial screening [18].

It is crucial to provide professional development to educators and prepare teachers to identify and work with gifted females. Current data and information are limited on intellectually gifted females. There is a need for wider recognition and extensive educational programs. We must support promoting and strengthening science, technology, engineering, and math (STEM) education, especially for girls and underrepresented populations. Gifted females must be challenged and encouraged to take higher level coursework particularly in the STEM fields. It is critical that educators cultivate girls' achievement by exposing them to female role models in STEM and encouraging high school girls to take calculus, physics, chemistry, computer science, and engineering classes.

5. Conclusions and Future Recommendations

Gender roles are constantly evolving, and a flood of questions continues to perplex researchers and educators. Further research is needed to determine how our Western culture impacts test performance and determine the extent to which esteem correlates with test performance. There are numerous unanswered questions to pursue regarding the psychological blockages and social dynamics for gifted females. Other intelligences not measured by standardized tests should be identified. It is beneficial to expand outreach to gifted girls and seek opportunities for gifted girls to be involved with peers of similar abilities. Peers can be found in leadership groups, athletics and competitive activities. Provide gifted girls with novels and bibliographies which feature gifted females as the central figure. Become an advocate for gender equity everywhere, especially for females in their school settings. Pursue schools with programs focusing on gifted females i.e. The Grayson School and Mary Baldwin School in the United States. Provide resources for gifted girls and their parents. Finding an adult gifted woman with whom gifted girls can identify will be helpful. She will come to see that she can pursue careers and advanced education that matches her ability. Engage and support girls with interests in technology and STEM fields to help them reach their potential. Further research is needed in order to serve gifted and talented females and ensure their success. The time to begin this research and advocacy is now.

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