External Barriers Experienced by Gifted and Talented Girls and Women

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I want my daughters to be beautiful, accomplished and good; to be admired, loved and respected; to have a happy youth, to be well and wisely married, and to lead useful, pleasant lives, with as little care and sorrow to try them as God sees fit to send. To be loved and chosen by a good man is the best and sweetest thing which can happen to a woman, and I sincerely hope my girls may know this beautiful experience.

—Louisa May Alcott, Little Women

Gifted and talented females face conflicts between their own abilities and the social structure of their world. They confront both external barriers (lack of support from families, stereotyping, and acculturation in home, school, and the rest of society) and internal barriers (self-doubt, self-criticism, lowered expectations, and the attribution of success to effort rather than ability). Partial responsibility for the conflicts and barriers faced by talented women rests with the role confusion and ambivalence our society displays toward talented females and the barrage of conflicting messages which influence females throughout their lives. Examples of this ambivalence are plentiful currently as well as in the past. In August of 1997, a Baptist church in Little Rock, Arkansas closed its day care center. A letter sent out by the church explained that working mothers neglect their children, damage their marriages, and set a bad example. The letter further stated that "God intended for the home to be the center of a mother's world. In Titus 2:5, women are instructed to be discreet, chaste, keepers at home, good and obedient to their own husbands" ("Saying Day Care . . .," April 4, 1997). Over fifty years ago when Pearl S. Buck originally published the novel, The Long Love, she used the pseudonym of John Sedges, explaining, "I chose the name of John Sedges, a simple one, and masculine because men have fewer handicaps in our society than women have, in writing as well as in other professions.

The conflicts and barriers faced by gifted females involving their own abilities and the external pressures of their world have a direct impact on some of their most difficult decisions. These conflicts include the effects that challenging careers have on women's personal lives, those which occur because talented women's multipotentiality often prohibits appropriate career counseling and decision making, and the absence of helpful encouragement needed to succeed. Useful strategies for success are often obscured in a variety of mixed messages from women's families, friends, and society, such as not to boast, brag, or even be too proud of their accomplishments. Deborah Tannen (1990) explained the dilemma well: "The different lenses of status and connection may once more work against women. Women are reluctant to display their achievements in public in order to be likable, but regarded through the lens of status, they are systematically underestimated, and thought self-deprecating and insecure" (p. 224). These external barriers often interact with internal barriers such as lowering expectations and career achievement, poor planning, lack of confidence in one's ability and the attribution of success to effort rather than ability.

Current Statistics about Women, Work, and Accomplishments
Recent statistics highlight some of the problems facing talented women. These statistics, of course, tell only part of the story and the story changes frequently. Since 1993, women have been losing ground to men in salary (Epstein, 1997). In 1979, women earned just 62.5 cents for every dollar earned by men. The difference between male and female earnings had been hovering at that level for a generation or so, Epstein reported. A large number of antidiscrimination suits and an influx of women into the work force caused women to gain in salary benefits during the eighties and early nineties. By 1993, women were earning 77 cents for every dollar earned by men. Epstein reported that since then, equity in salaries has been in a downhill spiral. In 1996, women were earning only 75 cents for every dollar earned by men and the figure has declined since then to 74 cents. Epstein believes that "because women as a group are lower on the company totem pole, they lose out on the prerogative to bestow bonuses, to distribute raises, and to hire, fire, transfer and promote. Such power remains the preserve of men" (p. 35).

Epstein (1997) also reported that among the Fortune 500 companies, there are only two female CEOs; among the next 500 companies, there are only five female CEOs. Golden West Financial Chief Executive Marion Sandler explained, "The people who are in a position of authority promote after their own image" (p. 35). Carolyn Rogers, a vice president of J & W Seligman, agreed, indicating that the top echelons of business are "... a men's club." Rogers further explained that men prefer to work with other men:

It's not that they are intentionally overlooking women, it's just that's who they've hung with, who they feel comfortable with, who they can communicate with, and who they trust are other men. And this kind of thing can often be a lot more important than sheer ability in determining the jobs women get. (p. 35)

In Women at Thirtysomething, a study released by the Office of Education, the educational careers and job market experiences of women who graduated from high school in 1972 were studied. Six surveys were conducted between 1972 and 1986 on a sample of over 22,000 women. The study found that as a group, women outperformed men academically at every level, had higher grade point averages, completed degrees faster, and developed more positive attitudes toward learning. At the same time, a much higher percentage of women experienced genuine unemployment than men, regardless of what degree they earned. In only 7 of 33 occupations did women achieve pay equity with men. Women who achieve high levels of success still experience blocks. Catalyst, a nonprofit group, recently published a study entitled Women and Corporate Leadership (1996) that indicated that half of the female executives interviewed about leadership reported that the major obstacles holding women back from top management positions were male stereotyping and preconceptions of women and exclusion from informal networks of communication.

Another area in which statistics have not greatly changed for talented women is academe. According to the Digest of Education Statistics (Grant and Eiden, 1982), in the 1980-1981 academic year, 70% of full-time male faculty positions were tenured, as compared to 49.7% of female faculty positions. In 1994-1995, the tenure gap was virtually unchanged, at 71.3% for men and 50.3% for women. At many of our most prestigious universities and colleges, the percentage of women who reach the rank of full professor is still surprisingly low. The figures for 1997-98 indicate that at Category 1 (doctoral granting) universities, the percentages of men who reach the level of full professor is 35.6% as compared to 5.7% for women. At the associate professor level, a discrepancy still exists with 20.3% of men reaching that level as compared to 8.7% of women (Schrecker, 1998, p. 34). At every rank and in every category male professors
earn more than female professors, even at the instructor and the lecturer levels (Schrecker, 1998, p. 27).

Other statistics highlight issues suggesting that barriers which threaten accomplishment by women in general and talented women in particular:

- An ad hoc newsroom committee from the *Hartford Courant* counted the photo and story subjects on their section fronts in a three-week period in the spring of 1997, and they found that approximately 80% were male while only 20% were female. Feature columnist and reporter Barbara Roessner explained, "we like to think we seek truth, without fear or favor, and then follow wherever it leads us. But do we? Why, on some days, was there not a single female voice or image on the cover of our Sports section? Why, most days, were so few women seen or heard on . . . the Business cover; the Town News front?" (Roessner, 1998).
- In the 100-year history of the Nobel Prize, only 11 prizes have been awarded to 10 women scientists. (Marie Curie won the prize twice.)
- Since 1809, only one out of approximately every 1,000 patents has been issued to a woman inventor. Approximately 8% of patents granted to Americans in 1993 included the name of a woman, and of these, 50% were in the high technology fields.
- Less than 5% of the National Academy of Sciences members are women.
- In 1978, two women headed Fortune 1000 companies. In 1996, there were four women who headed Fortune 1000 companies. A 1996 review of the 1,000 largest firms in the United States showed that only 1% of the top five jobs in those corporations, 60 out of 5,000 positions, were filled by women.
- Women make up less than 12% of the world's parliaments, and less than 11% of political party leaders.
- Female musicians are drastically underrepresented in major orchestras in the world. Within the 21 highest budgeted orchestras in the United States, there are no female musical directors or conductors in permanent positions. (Of the total 1530 pieces programmed in concerts for these orchestras, only three pieces were composed by a woman.)
- Only 24 women have been elected heads of state or government in this century.
- Of the 185 highest-ranking diplomats to the United Nations, only 7 are women.
- Of the doctorates granted in mathematics in the mid-1990s, 78% were awarded to men while 22% went to women.
- Of the doctorates granted in physical sciences in the mid-1990s, the same percentages held as 78% were granted to men and 22% to women. Doctorates in engineering in the same time period reflected lower levels for women as 88% went to men and 11% to females.
- In the House of Representatives, women hold just 10.9% of the seats. In the U. S. Senate, women hold only 10% of the seats. Compare these to the percentage of women in the legislatures of the following countries (that have some of the best child care leave policies in the world): Sweden-40.4%, Norway-39.4%, Finland-33.5%, Germany-26.2%, South Africa-25%.

Clearly, while some women have made inroads into many diverse areas, many talented women have a long way to go in other occupations.
**Education and Financial Prospects**

Women's patterns of education differ as well, as they more often pursue high school and associate's (two years of college) degrees. More men than women complete degrees at the bachelors and graduate levels. A decreasing number of women are pursuing formal education for a number of reasons. Research by Reis (1998) indicates that in most cases fewer women pursue higher education because time- and energy-consuming relationships develop or because parents provided more emotional and financial support for their sons to complete degrees than for their daughters.

Not only are women's occupational patterns quite different from men's, so are their financial prospects in old age. After children, the single largest poverty group in our country is women over the age of 60. While the gap between earnings for women and men has decreased in recent years, the picture is much bleaker for older women, whose pensions are often a fraction of men's. The median annual pension benefit for newly retired women is $4,800 or half that of men's at $9,600. Many factors appear to be detrimental to women in their retirement: their concentration in lower paid and part-time jobs with no retirement benefits, career interruptions to take care of family, and a tendency to avoid risky investments which may have big payoffs. As with other societal issues, "retirement today is based on the male pattern of life, not the female," according to Deborah Briceland-Betts, director of the Older Women's League, a national advocacy group (Zaldivar, 1997, p. 10).

**Recent Studies About Females in General and Gifted and Talented Females in Particular**

In a 1997 study, a random sample of 1,000 American women aged 18 and older was surveyed by a professional social science research firm (American Women, 1997). In this survey, 76% of the women said they do most of the laundry, 73% do most of the cooking, 70% do most of the housecleaning, 67% do most of the grocery shopping, and 56% pay most of the bills. The task most men handle regularly is car maintenance and that is, of course, not a daily chore. In one study, gifted women reported having an average of thirty minutes each day of free time and indicated that they did most of the household chores despite full-time work for both spouses (Reis, 1995a).

An interesting paradox emerged in the American Women survey (1997). While large percentages of women believed they have more opportunities for self-expression (86%), increased opportunities in the workplace (78%), and more political power (68%), the majority (80%) feel increased levels of stress due to increasing responsibilities caused by balancing work and family. Of this group, 25% describe themselves as "stressed to the max". The paradox faced by women also emerged in other statistics from the same study ("American Women," 1997). Sixty-seven percent of respondents believed that although their lives are better than their mothers' lives, they worry about the impact of changes in their current lives on their family. Children have lost the most, according to 59% of respondents, while 80% believed that the biggest unintended consequence of the changing role of women is the "declining moral values of today's children, and the breakdown of the traditional family" (p. 132). These paradoxes, perhaps, point out the most striking challenges facing women today. Those challenges involve reconciling the gains that working women have made and the happiness gained through careers and the freedom to work, with the losses and guilt they experience. This guilt most often revolves around about children who aren't getting the full attention of a stay-at-home mother, despite recent studies indicating that children of working professionals believe they have enough time with their parents.
Another interesting statistic that emerged in the survey is the dissatisfaction with life reported by older women in general that is in marked contrast to the reports of older gifted women studied by Reis (1995b) who pursued their dreams and talents at a later age. Women aged 52-67 in the American Women survey reported major dissatisfactions with their life, saying that as they age, they become increasingly lonely and worried about managing on their own. They are also more likely to be disappointed about the way their lives evolved. The older gifted women Reis studied (1995b) described themselves as happy, confident, and satisfied. This may indicate that differences exist between some older gifted women and the random sample of older women who responded to this survey.

**External Barriers**

The importance of environmental variables on the development of gifted and talented females cannot be overstated. Almost from birth, females find themselves in a world of limiting stereotypes and other barriers to achievement. Research has identified external barriers, which seem to negatively influence the development of talents and gifts in some gifted females. These barriers include the role of parents, school, and the environment in general.

**Parental Influences**

The first set of external barriers gifted women face deals with childhood family issues and statistics, such as number and sex of siblings, birth order of siblings, and presence or absence of one or both parents. Other childhood issues include the parental attitudes toward having and raising girls as opposed to boys. Children usually learn the stereotypical behaviors of their sex at an early age and display particular behavior patterns and play preferences even during preschool years (Blaubergs, 1980; Kirschenbaum, 1980; Paley, 1984). Research in the 1970s indicated that parents usually wanted a male child (Peterson & Peterson, 1973) and this trend may continue. Once a child is born, various studies have reported that parents held their children differently depending on whether they were girls or boys and purchased different toys which were stereotyped for each gender (Kuebli & Fivush, 1992; Schwartz & Markham, 1985). The contents and furnishings of girls' and boys' rooms have been found to be drastically different, with girls' rooms having more dolls and doll houses and boys' rooms having more vehicles, educational and art materials, and machines (Rheingold & Cook, 1975; Pomerleau, Bolduc, & Malcuit, 1990). Many studies have suggested that gender stereotyping in toys contributes to lower math and science scores for adolescent girls on achievement tests (Yee & Eccles, 1988; Lummis & Stevenson, 1990; Olszewski-Kubilius, Kulieke, Shaw, Willis, & Krasney, 1990). 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.

Parental influences have also been shown to have an impact on the lives of talented females, including the educational levels and occupations of both father and mother, as well as the type and level of parental aspirations for children's educational and occupational goals. *Shortchanging Girls, Shortchanging America*, a recent study conducted by the American Association of University Women (AAUW, 1991), included a poll of 3,000 students in grades 4 through 10 in twelve locations across the United States. The study found that as girls get older, their self-esteem drops dramatically. Enthusiastic and assertive at ages 8 and 9, they begin to lose confidence in their abilities at age 13 and 14 and emerge from high school with measurably lowered goals and future expectations. While 60% of the girls said they were happy with themselves in elementary school, 37% were still happy with themselves in middle school, and
only 29% remained happy with themselves in high school. The self-reported reasons for the decline in self-esteem involved families and school experiences had the greatest impact on adolescents' self-esteem.

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 (Reis, 1998). Stereotypical feminine behaviors often conflict with the personal attributes a gifted female needs to succeed. Some parents require, or at a minimum, expect their daughters to be polite, well mannered, and consistently congenial. According to the stereotype, girls are not supposed to be too independent.

Mothers seem to have a particular influence on their gifted daughters. Recent research (Reis, 1998) has found that talented girls with career-oriented mothers tended to develop a variety of talents and interests early in life and feel less conflict about growing up and becoming independent, autonomous women. Some gifted girls studied by Reis (1998) whose mothers had been at home, however, struggled with ambition and expressed conflicting feelings about work and home. Lashaway-Bokina (1996) found similar results in her study of Latina American gifted females who had dropped out of high school. Many of the young women she studied were initially content to stay at home with their mothers and watch soap operas in the afternoon. These gifted females encountered confusing messages about their own future and their relationship with their mothers and regarded their own abilities and talent development with ambivalence. Their love for their mothers caused them to feel unsure about the development of their own talents. Their academic abilities, if developed, would lead to an unequivocally different life from the one in which they currently live and which their mothers would always live. Being different from their mothers and separating themselves, in a number of ways, from their families caused fear and tension in these young women. With time, however, some of the young women interviewed by Lashaway-Bokina (1996) managed to reconcile some of their problems and return to high school. Few at this time, however, have realized their academic potential and pursued post-secondary education.

**External Events Influencing Creative Development**

Many factors influence the environmental barriers for talented, creative women. The availability (or absence) of role models who can help gifted girls realize their potential has been a key issue with gifted females. If women have knowledge of or personal contact with someone who acts as a positive role model, especially in their area of career interest, attaining that career can seem like a much more reasonable goal. Financial resources may also be a contributing factor in a woman's ability to realize her educational dreams (Reis, 1998).

Simonton (1978) suggested various external events that may influence creative development including the two issues mentioned above, formal education and role-model availability. Simonton, whose work has mainly focused on men, also indicated that zeitgeist, political fragmentation, war, civil disturbances, and political instability can all influence creative development. Simonton distinguished between two phases of a creator's life arguing that sociocultural events may influence either the developmental or the productive period of a creator's life. He speculates that a special set of political, social, and cultural events is most conducive to the development of creative potential and concludes that three sociopsychological processes are central to creative development. These are role model availability, exposure to cultural diversity, and the generation of a set of philosophical beliefs essential to the development of creative potential.
Although Simonton's theory, like those of others, is primarily derived from male models of
creative development, an examination of two of the sociopsychological processes he discussed
provides insight into why many gifted females may underachieve. First, many highly able
women do not have role models who can exemplify what they hope to accomplish in life, and
even if they do, their availability alone may not be enough to overcome social forces. Consider
the explanation of this phenomenon by Mary Catherine Bateson (1989), whose parents were
Margaret Mead and Gregory Bateson. She discussed the negative influences of social factors she
experienced in her life:
I believe the issue of female inferiority still arises for virtually every woman growing up in this
society. I grew up in an environment where no one told me females were inferior or that
significant achievement would necessarily be beyond my reach, but the belief was all around me.
(p. 40)
The development of a set of philosophical beliefs essential to the development and continued
growth of creative potential is another process discussed by Simonton that seems to be a factor in
the realization of potential in gifted females. In our society, the majority of our leaders,
politicians, artists, musicians, and inventors are male and we must ask how a young female
develops a philosophical belief about her own creative potential? Can she overcome factors that
might be barriers to her success, including her upbringing, her parents' and teachers' advice, and
the knowledge that creative contributions take great amounts of time?
When Maria Goeppart-Mayer made the discovery that later earned a Nobel prize in physics, she
delayed publishing her results for months. Her biographer concluded that modesty caused this
delay (Dash, 1988, p. 322). However, her hesitation may also reflect the intrinsic belief imposed
upon highly able women by our society—that discoveries, inventions, and creations are usually
and more readily accepted as the work of men. Until many more women are visible as
discoverers, inventors, or creators, they may be relegated to the traditional roles they have
generally held in the past—implementers of others' ideas, organizers, service providers, and the
painters of the backdrop of creation. Again, these remarks are not made in a pejorative manner,
for it is the quiet service of women that runs many of the organizations in our country. We must,
however, recognize as a society that if women are capable of and want to pursue the creation of
ideas and new products, we must support them in these endeavors, and find new ways of
structuring work and home responsibilities to enable this productivity to occur.

Click, Click, Click: The Formation of Attitudes and Opinions

Like a camera in the brain, each time a child has an experience, a snapshot is embedded in her
experiential base. Millions of snapshots produce attitudes, which, in turn, affect actions.
Stereotypes abound in our society, from shampoo commercials and newspaper ads to the teen
magazines our daughters read. Newspapers and news shows on television regularly feature
photographs and feature stories about men in positions of authority. Children's books, television
shows, and textbooks all present more men than women (Sadker & Sadker, 1994; Reis, 1998),
and when women are presented, their appearances are usually stressed, rather than their talents,
character, or value systems. An article in the Wall Street Journal ("Kindergarten Awards," 1994)
discusses a kindergarten awards assembly where a male executive observed a marked difference
between the awards given to boys and to girls:
Boys' Awards: Very Best Thinker, Most Eager Learner, Most Imaginative, Most Enthusiastic,
Most Scientific, Best Friend, Mr. Personality, Hardest Worker, Best Sense of Humor
Girls' Awards: All-around Sweetheart, Sweetest Personality, Cutest Personality, Best Sharer, Best Artist, Biggest Heart, Best Manners, Best Helper, Most Creative

When the executive and his wife discussed the differences with their child's teacher, they learned that the awards had been given for years and no other parent had ever voiced a concern. The teacher had not realized that she was participating in stereotyping; she may just not have noticed. Some stereotypes are so deeply embedded that people may not even be aware they have them. Girls and women are also bombarded with unrealistic and superficial images of body image. Stereotyping about weight and ideal proportions of females is a constant reminder to real women that they look less than ideal. Young women are encouraged to try to change themselves physically in order to gain happiness—to see supermodels as role models. Many talented girls are affected by the pressure to be attractive (Reis, 1998). Despite academic success, they consistently report that they seek and need approval from the males they date. One explained, "Males expect ideal body images, the impossible image. Many of us feel we will never measure up and many guys make comments if we don't." (Reis, 1998, p. 135).

Each time a young girl turns on the television, reaches for a magazine, participates in or overhears a conversation between friends, she is in the process of experiencing and being influenced by her social surroundings. The process begins at birth and continues throughout life, and the effects of environmental socialization are pervasive and overwhelming. Attitudes and opinions about what girls should look and act like come from family and friends, from observations throughout life, television, and other media, and print materials including books, magazines, and textbooks. Researchers and educators have made suggestions for ways to eliminate or reduce gender stereotypes that may prevent some gifted females from realizing their potential over the last fifteen years. However, we seldom witness the implementation of the widespread, comprehensive efforts necessary to ameliorate the effects of all of the "clicks" and social pressures that affect talent development in girls.

Imagine an talented American teenage girl waking up in the morning and turning on the news. She watches as the president of the United States answers a question about foreign policy asked by a male reporter. She sees a shot of the Senate, an overwhelmingly male dominated body, followed by a story on the Supreme Court (seven men and two women), and then a story on problems in the United Nations Security Council, another male dominant group. If she watches sports, she will usually listen to scores reported by male sportscasters about primarily male teams.

Television shows and children's programs (e.g. Saturday morning cartoons), fiction and nonfiction books, textbooks, and even classic Disney movies such as Sleeping Beauty and Cinderellamay impart a negative message to both young girls and boys. While some may point to more recent films as changing the scenario, a closer look at many indicates that little substantive change has occurred. The Little Mermaid, despite her adventuresome nature under the sea, still gives up her voice, family, and life for a chance to make the prince fall in love with her. Television plays a part in the erosion of self-confidence and self worth in young girls. Many cartoon shows, situation comedies, and other programs aimed specifically at children depict women in less than positive ways. In addition to television, popular girls and women's magazines reinforce gender stereotyping regularly. On the cover of a recent YM (Young and Modern), magazine was the photograph of a very slim, beautiful, young teenage girl, and the bullets of some of the stories inside included: "Total Love Guide: 100 Guys Dish the New Rules," "Kiss and Be Kissed: 26 Pucker-up Pointers," "Dazzle Him: Hottest Date Clothes Ever,"
"31 Signs the Boy's Sweatin' You Bad," "Buff your Bod: The Rock Goddess Way," and "12-page Beauty Blitz and Major Makeovers: 10 Hot New Looks-Find the One For You".

**Stereotyping in School**

Gender equity has still not been achieved in school textbooks and classroom experiences. In the past ten years, a number of national reports and books have examined the impact of stereotyping on girls. One comprehensive book written in 1994 by Myra and David Sadker, *Failing at Fairness: How America's Schools Cheat Girls*, details differences in test scores, grades, classroom interaction, and numerous other areas such as textbook inclusion of females. They cite as an example *A History of the United States*, a textbook in which fewer than 3% of the more than 1000 pages focused on women.

Judy Mann's book, *The Difference: Growing up Female in America* (1994), is another publication in a series of books examining the loss of confidence and self-esteem in young girls. The culture of girls' silence reported in both of these books should be clear to anyone who has entered a middle school in the last few years. The climates of elementary, middle, and high school as well as college have all been discussed as being responsible for changes in the attitudes of girls and women relative to achievement in school. Recent research has indicated that boys more actively participate in school and receive more attention from teachers (Hall & Sandler, 1982; Jones, 1989; Krupnick, 1984, 1992; Sadker & Sadker, 1985, 1994). Some research indicates that a few male students receive more attention than all other students in math classes. Some evidence exists that the amount of teacher attention given to girls is lowest in science classes (Jones & Wheatley, 1990; Handley & Morse, 1984; Shepardson & Pizzini, 1992). Reis & Kettle (1995) studied grouping in Science and found that having mixed gender groups usually resulted in the boys dominating and conducting the hands-on science experiments. In groups of all females, however, the problem was eliminated and girls were able to fully participate.

Science and math classes, in particular, seem to include multiple examples of stereotyping. In a recent study, Lee & Marks (1992) reported that they discovered the most blatant examples of stereotyping in chemistry. In another study, Tobin and Garnett (1987) found that 79% of the science classroom demonstrations were conducted by boys. These findings should raise some questions about some of the suggestions made in research literature about how females may benefit from cooperative learning groups (Eccles, 1985; Peterson & Fennema, 1985; Fennema & Leder, 1990) as should new research about gifted females. For example, a recent study (Hernandez Garduño, 1997) on gifted females who learned math in problem-solving situations found that females' attitudes toward math did not improve in class instruction based on the use of cooperative learning. This form of instruction has been suggested by some researchers as beneficial to girls, but Henandez Garduno found that mathematically talented girls in competitive, fast-paced classes scored higher in achievement tests than their counterparts in the cooperative learning groups. Qualitative data collected in the same study indicated that the talented girls who scored highest in math enjoyed competing with boys and liked trying to be the best. The mathematically talented girls studied by Hernandez Garduño were sometimes frustrated by the lack of challenge in some of the mixed gender and single sex cooperative learning groups. One participant explained, "It is interesting to work with others, but you get bored when you have to explain the same thing over and over and you want to go to the next problem. Sometimes it is better to be alone when you are solving problems." (p. 102). Gavin (1996) obtained similar results studying gifted female college students who enjoyed academic competition and liked trying to be the best. Gavin cited two representative comments from gifted female math students she interviewed. "I enjoy competition and I enjoy being
tested," explained one student. (p. 479) Another comment provides other insights, "I like to be at the top... I like to be the best." (p. 479) In another recent research study on gifted females who scored at the very highest level on the math section of the SAT, O'Shea (1998) found similar results, confirming the research of both Gavin (1996) and Hernandez Garduño (1997). The gifted young women O'Shea studied enjoyed both competition in math and competitive fast-paced math classes. Therefore, it would be a mistake to confuse what may be appropriate for the majority of female students with what may be instructionally appropriate for talented females.

In another recent study of high ability female students, Rizza (1997) found support for the research conducted by Hernandez Garduño regarding the need for talented females to work alone. Rizza's research found that "solitary learning" was necessary when challenging academic work was pursued by gifted female high school students she investigated. Although these young women liked their friends a great deal and enjoyed socializing with them, most participants in Rizza's study wanted and needed to work alone when they had difficult academic work to complete.

Sexism in Colleges and Universities
Researchers have also found that college classrooms have numerous instances of silent sexism (Hall & Sandler, 1982; Chamberlain, 1988; Glaser & Thorpe, 1986; Rubin & Borgers, 1990; Grant, 1988). It would appear from reports and research articles to be commonly acknowledged that an atmosphere of inequality exists in many university and college classrooms. Fay Ajzenberg-Selove (1994), a noted physicist, discussed this issue frankly in her autobiography: Are young women and young men treated equally in college? No, they are not. Overwhelmingly their science professors, particularly at the more prestigious universities, are males of an earlier era, an artifact of discrimination. Many of them, though consciously unaware of it, are uncomfortable with the women students in their classes. They are less likely to include women in class discussions and more likely to underestimate them. They can be intimidating and unpleasant. I believe that it is necessary that women faculty, as well as enlightened male faculty, discuss the importance of this problem with their other colleagues. It is very often the college which is at fault if a woman fails to pursue her scientific interests. And I believe that gender discrimination is a matter of still greater importance in graduate school when relationships with older scientists, with future patrons, are first established-relationships that are critical to a scientist's entire career. (p. 221)

Sex discrimination problems at the college and university level often involve the same issues as in elementary and secondary school (Sadker & Sadker, 1994). Both male and female faculty treat their students differently based on sex. Dr. Bernice Sandler, director of the Association of American Colleges Project on the Status and Education of Women (PSEW), indicated that this treatment subtly undermines women's confidence and academic ability, lowers their academic and educational expectations, inhibits learning, and generally lowers self-esteem. In the report Classroom Climate: A Chilly One for Women (Hall & Sandler, 1982), research conducted on differences in the educational system and the work force for males and females discussed the chilly climate and silent sexism in many university classrooms. To explain why some women become discouraged in the college classroom, researchers cited that professors' overt behaviors such as disparaging, belittling, and crude remarks; obscene jokes; and remarks about physical appearance or clothing were undermining the women's education. This PSEW study found approximately 30 different types of subtle behaviors which all tended to reinforce men's confidence while undermining women's. Female students believe that both male and female faculty call on men more often, use their names more frequently, give men more time to answer,
and show more respect in their consideration of these responses. By their actions, the professors provide more positive reinforcement for men's responses than women's. Even in college or university classes in which women outnumber men, women are outtalked in class. Catherine Krupnick (1984, 1992) studied talented women at Harvard and found that they speak less and are interrupted more. She also studied the classroom dynamics of coed seminars that resulted from the decision to change Wheaton College to a coeducational environment. She had expected to find greater classroom equity than she had seen elsewhere because the student body and faculty were still predominately female. Her results showed the opposite however, as even when men made up just one to two ninths of the seminar classes she studied, they did one third to one half of the talking.

**Work in the Home**

Another external barrier many women and girls experience as they attempt to realize their potential is the burden of responsibilities females often shoulder at home. Both daughters and sons learn and watch as their mothers work out of the home, and come home to do the majority of work in the home, too. A greater of amount work at home occurs when women enter relationships: "Marriage creates work, far beyond the apparent practical need, in order that work may create marriage" (Bateson, 1989, p. 123). Bateson's explanations of the customs of work created in marriage have been echoed by many talented women (Reis, 1998). After a day of work, they encounter a "second shift" of work assigned to them because of their sex. As Betty Friedan so eloquently stated, "Equality in jobs, without domestic equality, leaves women doubly burdened." Of course, exceptions exist. Some partners, husbands and fathers work diligently at home and support their spouses, but many do not. Bateson believes that part of the work existing in a marriage emanates from the common creation of patterns when adults live together—while men do some tasks, women do other tasks which frequently involve more work. Other sociologists concur. Hartmann (1981) compared statistics on different types of households and found that the presence of an adult male creates more work for a woman than the presence of a child under ten, even when the man believes himself to be sharing the housework equally. A recent study (Beck, Kantrowski, & Beachy, 1990) indicated that women also face the issue of caring for aging parents, estimating that the average American woman will spend 17 years raising children and 18 years helping aged parents. These added responsibilities will occur because of increasing longevity in our elderly population. These issues interact with many of the personal decisions women have to make on a daily basis, and block opportunities for talent development in our most high potential females.

**The Interaction of External Barriers and Internal Barriers**

Noble (1987, 1989), a clinical psychologist who focused on the problems of gifted females, summarized data obtained from interviews with her clients, as well as the results of a survey of 109 women who attended a conference on gifted women. These data and a review of the literature on gifted females indicated that many gifted females are unaware of, ambivalent about, or frightened by their potential. She traced these findings to three sets of problems: interpersonal obstacles (rejection from family, teachers and peers; underestimation of abilities by families), sociocultural barriers (inadequate academic preparation, double messages), and interpersonal factors (self-doubt, disclaiming the label of giftedness). These problems, defined in different ways, have also been cited in the literature by other researchers (Arnold & Denny, 1985; Callahan, 1979; Eccles, 1985; Hoffman, 1972; Hollinger & Fleming, 1988; Horner, 1972; Kerr, 1985; Reis, 1987; 1998).
A conflict may exist for gifted females because of the differences in value systems between men and women, such as the ethical sensitivities of women investigated by Gilligan (1982). Women seem to understand and recognize the importance of interpersonal relationships and connectedness in a way that causes them to understand the central role that relationships play in their lives. For gifted women, pursuing their own talents in a way that will enable them to nurture and realize their capabilities at the risk of taking time from their children or family may be a difficult, if not impossible, task (Reis, 1987; 1998).

Gifted and talented females face conflicts and barriers that exist between their own abilities and the social structure of their world. These conflicts include (a) their inherent knowledge that society considers many challenging jobs to be more suited to the masculine psyche, (b) their multipotentiality in many academic areas which may prohibit appropriate career counseling and cause them to delay or avoid crucial decisions, and (c) the withholding of encouragement that is often hidden in a variety of mixed messages from their families, friends, and society in general. Mee (1995) found that both boys and girls thought that boys could do more, are viewed as better, have different expectations, and have different restrictions. The boys thought of themselves as having a great deal to enjoy just by being a boy (p. 5). Mee further explained:

The girls in my study struggled to find good things about being a girl, and easily identified a variety of negative aspects; they were very aware of society's different expectations of and the responsibilities imposed on each sex. The average middle school girl thinks that boys can do more now and that they will continue to be able to do more as they grow up, they will have higher status career expectations, they will get paid more, and will have more fun and less domestic responsibilities. (p. 5)

The effects of such feelings on all girls are negative, but the further effects on gifted girls who have the potential to realize the highest career expectations can be devastating. It is important to examine research that discusses all girls and then look more closely at research that focuses on gifted girls to see what in particular may affect this group differently.

Jeanne H. Block (1982), a pioneer in gender research, believed that a fundamental task of the developing individual is the mediation between internal biological impulses and external cultural forces as they coexist in a person's life space and life span (p. 2). She further believed that the socialization process, defined as internalization of values, appears to have differential effects on the personality development of males and females. Socialization, Block asserted, narrows women's options while broadening men's options (p. 220). Unfortunately, as girls get older, many of them learn that their perception of reality differs from the life experiences they encounter.

The most difficult conflict faced by the majority of gifted women studied by Reis (1998) revolves around the different experiences they face as young gifted girls who believe they can do everything. For them, a direct battle would be easier to fight than the subtle messages laden with guilt that they encounter later. Some young women today are in a more difficult position because they aren't able to take the hard-line stance against discrimination that their mothers' generation experienced twenty years ago. In previous decades, women could find some satisfaction in being strong, rebels of sorts, and they could appreciate gains when that behavior was recognized. These days the obvious foes to women's opportunities may be gone because of the success of the Women's Movement, but the reality of confronting more subtle obstacles and clear barriers still remains. Gifted females today are believed to have won the battle for equality, and to have no more glass ceilings to break through. Unfortunately, they continue encountering them anyway. It's as if there aren't any real windmills to conquer because in many cases the windmills are far
too hazy, and they really can't see them until they run right into them. A clearer understanding of
the windmills and a plan for the future will enable more talented girls and women to have
opportunities to overcome them.

References


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