

**Not you! Not here! Not now!**

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Anecdotal stories about both unfulfilled dreams and the high cost of fulfilled dreams abound. Virtually all biographies of talented women are filled with incidents in which they were actively discouraged from developing their talent and pursuing their dream. Similarly, Eccles's father questioned her desire to attend the University of California at Berkeley as an undergraduate because it was not clear to him that she needed that quality of education for what he thought she should be doing with her life - being an elementary school teacher, mother, and housewife.

But it is not only women who report these kinds of experiences. A similar story was told on the Bill Moyer's series "The Language of Life" on PBS. One of the poets reported that his parents had been appalled when he informed them of his desire to be a poet. They questioned his sanity because they believed that one could not earn a living as a poet. Luckily, his parents did not go on to prevent his pursuit of this dream.

The father of one of Eccles's good friends was not so lucky. He dreamed of becoming a concert violinist and practiced endless hours while he was a child. When he entered adolescence, his parents told him he should begin spending more time preparing for some form of vocation. When he indicated that he was preparing himself to become a concert violinist, his mother responded by destroying his violin in order to put an end to his foolishness.

We will never know how many potential musicians, artists, and poets are similarly discouraged from pursuing their dreams. The reports of those who persisted and became known well enough to tell their stories to a public audience suggest that such experiences are not at all rare. In addition, the fact that the number of success stories are small in comparison to the number of youngsters who are identified as showing promise suggests a very high attrition rate -- a rate that is undoubtedly an underestimation since many potentially gifted and talented individuals, particularly individuals from minority groups, are never even noticed. In this chapter, we discuss some of the ways in which this attrition takes place.

We also discuss the high cost of success, particularly in sports, to even those who are encouraged to develop their talent. For many of these individuals, success is achieved at great personal and social cost. For others, success is snatched out of their reach by events and circumstances beyond their control. When these disasters are interpreted as personal failures, the consequences can be devastating, particularly if the individual has invested all of his/her psychological identity in this one talent or interest.

Sub-cultures of support (or lack of) can also have profound influences on whether a young person continues in a talent area. Ogbu (1992) describes the pressure from African American peers on an academically gifted youth not to "act white" by excelling in school. In contrast, African American youth may get too much encouragement to focus on their potential athletic talents given the scarcity of jobs in these fields. In a similar vein, Feldman (1986) offers an example of a woman who was prevented by her deeply religious parents from playing the piano because they believed it was a sin for a girl to have so much passion.

Finally, "Not now!" may refer to the timing of interest either in the child's life (he or she may be thought to be too old or too young to begin taking music lessons, for instance) or in the parents' lives (a parent may decide that she has neither the time, energy, or money to devote to the child's talent at this particular moment). In addition, the child and/or family may have concurrent, competing responsibilities or goals. Or it may be especially difficult to continue working in a talent area after a major transition, such as the musicians that Bamberger (1982) describes who must begin to think more specifically rather than holistically about music after they reach adolescence, or the talented student of artistic techniques that cannot find employment that allows for original or creative work after graduation from art school (Czikszentmihalyi & Robinson, 1986), or the athletically talented female whose body changes in ways that are incompatible with her sport as she passes through puberty.

"Not now!" can also refer to the stage in one's life when one has the time and the support to devote to creative pursuits. Vaillant and Vaillant (1990) divided the Terman women (all identified as gifted in childhood) into creative and less creative groups on the basis of their generativity, such as publishing something or starting an organization by the time they were about 80 years old. Significant differences were found in the antecedents of creativity in these women throughout their lives in 4 areas. The less creative women had not reported a career plan by the age of 26 and showed poor use of leisure time at age 45. The more creative women exhibited higher work satisfaction at age 40 and were active outside the home at age 45. The two groups also differed in the consequences of their creativity in two areas. The more creative women showed more joy in living at age 60 and were rated as having good adaptation between the ages of 65 and 78 (assessed both by a rater and by a blind interviewer). Interestingly, these women's creativity did not surface, for the most part, until later life. The authors conclude that although socialization and social forces may have inhibited their creativity in their younger lives, they are optimistic because these creative women were able to realize their full potential after all.

"Not now!" can also refer to the historical period. We will give examples of how historical changes in gender roles have coincided with increasing numbers of intellectually gifted women pursuing careers directly related to their talents. The Harlem Renaissance provides another example of a unique historical period that fostered the expression of artistic talents among African Americans. Similarly, we have seen dramatic changes in this century in this country in the opportunities provided for African American youth to develop their athletic talents.

There are many ways in which person, place and time influence the likelihood of talent being developed. But, since most of the existing work has focused on what it takes to foster the development of talent, we know very little specifically about the mechanisms of "dropping out." Instead, given that most work has focused on the correlates of high levels of talent development, we must infer these inhibiting mechanisms from the negative cases in these studies. Such an approach focuses our attention on the question "Why didn't these individuals "succeed" in developing their talents to the fullest?" Although this is a very important question that is central to the goals of this chapter, it is important to remind ourselves that it is only one side of the picture. There are often very good reasons why people choose not to focus on developing any particular talent to the fullest extent possible. Reasons related to broader life goals and values; reasons related to the high physical, psychological, and social costs of focusing one's energy and time so narrowly; and reasons related to injury and other life circumstances beyond the individual's control (see Arnold, 1995; Eccles, 1985; Eccles & Harold, 1992; Kerr, 1995; Ryan, 1995).

In this chapter, we discuss how difficult it is to foster the development of talent and how person, place and time interact with these difficulties in such a way as to make it more likely that some groups of people in some places and at some historical periods will succeed. Here, we refer to the findings from the literature on the development of gifted and talented children and adolescents. By describing what has been found regarding the positive influences on talent development, we can begin to speculate about reasons that some people do not continue to develop their talents because one or more of these positive influences are missing in their lives. Rather than define a narrow group of individuals as our focus, we will consider a broad range of talent, from the "above average" to the "exceptional" or "prodigious," because the letdown for the individual and society is great no matter which category (IQ, education, performance, age at mastery, etc.) the talented person is in.

We have a particular interest in the role of gender as a risk factor among the gifted and talented. Consequently, many of our examples and much of the data we

present will focus on gender differences. But the processes we discuss are applicable to other groups, as will be seen throughout this chapter.

### Gender Differences in Long Term Outcomes of the Intellectually Gifted and Talented

We will begin with a review of gender differences in the long term outcomes of intellectually gifted and talented youngsters. We are lucky to have several longitudinal studies of intellectually talented individuals who were identified with objective tests early in their lives. These studies provide us with a very important prospective view of the development of gifted and talented individuals. If there are substantial gender differences in the adult outcomes of a group of individuals identified as equally gifted as youth, then one must consider carefully the reasons for this divergence.

In 1921, Terman began a longitudinal study of approximately 1450 gifted girls and boys between 7 and 15 years of age. Approximately 80% of this sample has been reinterviewed several times over the last 75 years. Although bound by its historical period, it provides the best data available for comparing the adult achievements of gifted females and males.

As one would expect, given the nature of gender roles in this culture for this historical cohort of individuals, there were substantial differences in the adult achievements of these women and men. By whatever standard, objective criteria of occupational success one uses, the males achieved more than the females. Although they were equally likely to have earned bachelor and terminal master's degrees, the males were six times more likely than the females to have earned degrees beyond a master's degree. The males were also much more likely to have earned various forms of recognition by the time they were 60 years of age (see Eccles, 1985; Eccles & Harold, 1992). And they were twice as likely to be employed in 1960 (Oden, 1968).

Similar, though less extreme, results characterize more contemporary cohorts. Kerr (1985; 1994), in a longitudinal study of a group of intellectually talented women, documented continuing lower than predicted rates of career "success." Many of these women choose to limit their career development in the same ways as the Terman women in order to devote more time and energy to their roles as wives and mothers.

Recent studies with adolescents suggest that these norms may be changing. Subotnik, Karp, and Morgan (1989) compared individuals in Terman's study to a group of gifted individuals from a younger cohort and discovered that the differences lay

mainly between the women in the two studies. Specifically, the younger cohort of gifted women had more life satisfaction and success values than did the Terman women; this younger cohort of women looked more similar to both cohorts of men, perhaps because of greater educational and occupational opportunities and encouragement. However, it should be noted that while a large proportion of the younger cohort of women held advanced and professional degrees, they were not in as many prestigious or high-paying careers as were the men in their cohort. Furthermore, the younger cohort of women still tended to be in traditionally "feminine" careers although only 1.2% of them, as compared with 50% of the Terman women, described themselves as housewives.

Similarly, Schuster (1990) compared four cohorts of gifted women, including the Terman women who were the oldest, and found that greater proportions of the younger cohorts reported having lived up to their potential, and that professional women rated themselves higher on this scale than homemakers. Schuster also found that younger cohorts of gifted women rated themselves as high or higher than those in older cohorts on life satisfaction and competence. However, there was a qualitative difference in life satisfaction such that the younger cohort was much more likely to report being satisfied with career but not personal life. In her conclusions, Schuster cautions against viewing as similar the meanings and manifestations of giftedness in each cohort, however. This is an example of the importance of the historical moment in defining success for particular groups of people.

But even though gifted and talented women are pursuing their talents to a greater extent now than in the early part of this century, they are still limiting these pursuits more so than males. For example, let us consider the work by Julian Stanley, Camille Benbow, and their colleagues. Over the past 25 years, they have been studying several thousand mathematically and verbally precocious adolescents in conjunction with the Johns Hopkins' Study of Mathematically Precocious Youth (SMPY). Many of these individuals are being followed over time to plot their educational trajectories. The Johns Hopkins' team has consistently found that gifted females are less likely than their male peers to enroll in accelerated and/or special programs (Benbow & Stanley, 1982; Stanley, 1976), to respond positively to an invitation to join a gifted program (George & Denham, 1976; Stanley, 1976), to enroll in AP courses in science and to remain on an accelerated math track program in high school (Benbow & Minor, 1986; Fox & Cohn, 1980), and to enter college early (Stanley, 1976).

These results illustrate two points:

(1) Gifted and talented women are less likely than gifted and talented men to develop their talents to the fullest extent possible in terms of this culture's definition of success.

(2) There has been an historical change in this pattern that coincides with the liberalization of the traditional female stereotyped gender role.

Both of these points relate directly to our title: Not you! Not here! Not now! Many people have argued that this gender difference reflects the impact of gender role socialization on both the psychological development of females and males and the social opportunities that are made available to females and males in this culture at this particular historical moment (e.g., Eccles, 1985; Eccles & Harold, 1992; Fox & Denham, 1974; Kerr, 1985).

Eccles and her colleagues, in particular, have elaborated a model of how gender-role socialization processes can lead to gender differences in psychological constructs linked to both expectations for success (e.g., self-concept of one's abilities in various domains, and both confidence and personal self-efficacy for success in various domains) and the value attached to the activities and tasks linked to success in various domains (e.g., interest, focus, and willingness to invest tremendous time and energy). These psychological beliefs, values, and self-perceptions, in turn, are predicted by Eccles and her colleagues (e.g., Eccles & Harold, 1992) to explain much of the gender difference we see in the pursuit and development of one's talent.

For example, the female gender role has been linked to females' expressing less confidence in their abilities in male stereotyped domains like math, physical science, and sports. Gifted females are also more likely to underestimate both their ability level and their class standing (Frome & Eccles, 1995; Strauss & Subotnik, 1991; Terman, 1926). And gifted females express less interest than gifted males in both male gender-role stereotyped domains and high levels of achievement in general (see Eccles & Harold, 1992).

Eccles and her colleagues have also discussed how parents, teachers, peers, and the media provide females and males with very different opportunities and encouragement to develop various aspects of their talents and interests. These differences perpetuate gender-role stereotypic life choices and investments in one's own development by influencing exactly who is going to get to pursue which talents and when they are going to be permitted this option.

For example, the parents in one of Eccles's longitudinal studies (Childhood and Beyond Study - CAB) held far more gender-role stereotypic views of their children's talents than was actually evident in the children's own reports and in objective

apitude measures (Eccles & Harold, 1992). Eccles and her colleagues have documented how these parental beliefs translate into parental behaviors that end up creating the very gender differences parents originally believed to exist -- a fine example of self-fulfilling prophecy (see Eccles, 1993, 1994; Jacobs & Eccles, 1992).

But even more importantly, the parents of daughters in Stanley and Benbow's SMPY study noted their children's giftedness at a later age, if at all, than the parents of sons (Fox, 1982). Similarly, both Terman (1926) and Fox (1976, 1982) reported that teachers were less likely to identify girls as gifted and to recommend them for accelerated educational opportunities. Finally, in their study of gifted mathematicians, Luchins and Luchins (1980) reported that 80% of the females, as compared to only 9% of the males, had encountered active discouragement from continuing their math training; this discrepancy was especially pronounced during the college years.

Finally, one must not underestimate the power of peers in this process of gender-role channeling. Peers can affect the options seriously considered by either providing or withholding support for various alternatives. These peer effects can be both quite direct (e.g., laughing at a girl when she says she is considering becoming a nuclear physicist) or very indirect (e.g., anticipation of one's future spouse's support for one's occupational commitments)(for examples of these see Bell, 1989; Kerr, 1985).

The anticipated cost of loss of status among one's peers may become particularly problematic for both girls and boys during their early adolescent years. Puberty marks a transition in many ways. Several researchers have stressed that this is likely to be a period of gender-role intensification (see Eccles & Bryan, 1994; Hill & Lynch, 1983). Peers play a central role in this intensification in part because adolescence marks the beginning of heterosocial and heterosexual relationships for many youth. These youth begin to consider the impact of their behaviors on their potential intimate relationships and on their later marital options. The possibility that a continued high level of focus on one's talent might limit these options may be too great a cost for many individuals, particularly heterosexual females.

We will discuss these points more fully later in the chapter. At this point, we have tried to establish the fact that for gender at least, socially defined and orchestrated roles place constraints on individuals' ability to focus on developing their particular talents and interests. With regard to gender roles, this process has two important facets:

First, it defines which talents males and females are likely to be encouraged to pursue, in ways that seriously limit the range of options for both females and males (e.g., consider the likelihood of peers encouraging a male's interest in ballet and



female's interest in nuclear physics). In this way, gender roles restrict the range of options that are even considered when young women and men are deciding how to spend their time and which talents and skills to try to perfect.

But, perhaps even more importantly, it defines the extent to which it is considered legitimate to focus one's time and energy on a single self-oriented goal: developing one's own talent or interest to its fullest potential. Females in this culture are expected and encouraged to be multi-dimensional and multi-focused (see Eccles, 1994; Eccles & Harold, 1992). And as adults they are expected, and want, to place a great deal of time and energy nurturing their husband's and their children's development (see Eccles, 1985; Kerr, 1985, 1994). Such expectations and plans make it very difficult to pursue one's talent or interest with the single-minded dedicated focus often required to achieve success in competitive, talent-based fields.

### What Happens to Talented Minority Children?

Although far less work has been done on the power of socially-constructed roles and stereotypes on the opportunities made available to individuals from various minority groups, a similar process undoubtedly operates here as well. Often, when we think of gifted students, we think of white, middle class, "advantaged" children. Partly because of this stereotype, gifted students who are poor and/or nonwhite are overlooked by schools and parents all the time. Schools may focus on the gifted student's disadvantaged status in grouping students in courses such that gifted minority students are less likely to be provided accelerated educational opportunities than white students (Olszewski-Kubilius & Scott, 1992). Furthermore, minorities are most likely to be found in the lowest-level tracks in public schools (Oakes, 1985), where they are least likely to be challenged enough to exhibit exceptional talents.

Alternatively, schools and other institutions may focus only on stereotypic areas of talent for different groups. The heavy focus on sports among African-American males and on science and math for Asian and Asian-American groups are good examples of this kind of stereotyping. Because of these stereotypes, teachers and parents may look primarily for the stereotypic talents in each of the groups and overlook other possible talents and interests.

But lack of economic resources in the home and in the communities of these groups of individuals create additional limitations on the opportunities children from economically disadvantaged groups (who are also often children of color) have to identify and develop their unique talents. Developing one's talent often requires

instruction that must be paid for by one's family. Not all families can afford such expenses. Although one might hope that public education would compensate for this difference, schools only provide training for a limited range of talents, and schools in poorer communities usually have fewer resources to provide training in even this limited range (Kozol, 1991).

Finally, as is true of the two types of gender roles, cultural groups likely vary in the extent to which focusing on individual talent is valued and encouraged. It has been suggested that low-income parents may value education for their children but see it as a less immediate priority than taking care of the family, being near the family, and maintaining one's status within the family (Olszewski-Kubilius & Scott, 1992). Therefore, gifted students from such backgrounds may receive mixed messages about the importance of family and schooling. These messages are also likely to vary by gender within each cultural group. While little research has been done in the area of disadvantaged gifted youth, these issues should be kept in mind as we discuss the many factors that may stifle talent development throughout the remainder of this chapter.

### The Difficulty in Making It Happen

Another way to look at the issues raised above is to look at the literature on what it takes to "make it" in many areas of exceptional talent. This work provides insights into how difficult it is for even the most motivated and dedicated individuals to develop their talent to its fullest. This work also shows how external pressures often coming from the gifted and talented individuals closest support groups can turn the process of talent development into a nightmare for the gifted and talented individuals themselves. These negative scenarios are especially common in the highly competitive arenas linked to athletic and musical talents. We review this work in the next sections.

### Families, Mentors, Coaches, and Schools

The overwhelming finding in the literature has been that families play an extremely important part (for better or worse) in fostering the talent of young people. In most cases, to say that the family's time, energy, and money is put into the effort is an understatement; in fact, a better description of the family's role is "sacrifice." The entire family must become focused on the talented child's needs and activities, and others' interests are often sacrificed to this cause. For example, the talented child is often excused from household chores and responsibilities so s/he has more time to

practice (Sosniak, 1986). Some families will relocate so that the talented child can receive the best instruction available (Feldman, with Goldsmith, 1986). As a consequence of this high level of sacrifice, parents often cannot attend to more than one child's interests and talents at once, so while another child in the family may be equally talented, the parents may simply be unable to afford (in all senses) to recognize this talent unless it happens to be in a compatible arena (Feldman, with Goldsmith, 1986).

The role of the parents is to focus, direct, and guide the talented young person's energies, values, and goals. But this must be done in a manner that allows for the autonomy and individuality of the young person as well. For example, Czikszenmihalyi et al. (1993) found that provision for both differentiation and integration is required within in the family in order for the young person to develop their talent in a psychologically healthy way. Differentiation refers to the encouragement of independence whereas integration refers to the cohesiveness and supportiveness of the family members. Young people who succeed in their talent area and maintain a sense of "flow" (enthusiasm, joy, and challenge) regarding their performance come from families in which they were pushed to explore and also encouraged and supported, while not having to worry about gaining approval.

It can be inferred, then, that families who do not or cannot put very high priority on their child's talent development are not going to play a central role in helping the child develop his/her talent to it fullest. This includes families who may not recognize the talent in the first place, families who cannot afford to obtain resources to help the child develop his/her talent, families who have other ideas in mind for their child's development (based on the parents' own values, beliefs, or stereotypes), and families who cannot coordinate the activities, energies, or emotions of the family as a whole in this endeavor.

Given the sacrifice and need to place such high priority on one's child's talent, it is not uncommon for parents to go to unhealthy extremes in their efforts and involvement - to the detriment of their child's healthy development. Joan Ryan (1995) has collected many poignant examples of these extremes in her recent book on female athletes. To quote:

"No parent sets out to destroy a girl's life. Yet so many lose their way, seduced by the possibilities. Parents speak of being swept into a maelstrom of competitiveness and ambition so intense they often use the word 'insane' to describe their behavior at the time. What begins as child's play, a way of filling long afternoons, mutates into a tense dance between daughter and parents.

Parents fear that if they're not supportive enough, their child will complain years later, 'Why didn't you make me stick with it? Maybe I could have made the Olympics.' But they also fear being too fervent, that they will stand accused of stealing their daughter's childhood. The parents of a gifted child have an unenviable, almost impossible task. They must encourage without pushing. Protect without hindering. Give praise but not too much--a daughter shouldn't be made to feel her performance determines her worth.

Too many parents are simply not knowledgeable enough to walk this line, to keep their eyes on their child's welfare and nothing else. Immersed in this aberrant subculture of elite sports, they lose perspective." (Ryan, 1995, pp. 148-149).

It is also dangerous to apply models of talent development that focus so heavily on parental involvement to disadvantaged students, because the role of the family in these populations has been found to differ from that in populations traditionally studied. For example, Olszewski-Kubilius, Grant, & Seibert (1994) point out that the greater social network in economically disadvantaged communities, including "siblings, grandparents, adults in the community, teachers, and others, not parents, are often the primary influence on the development of talents" (p. 20). Therefore, by studying only the parents' role in talent development among disadvantaged gifted students, we miss much of the story.

VanTassel-Baska (1989) demonstrated through case studies of disadvantaged gifted students that the extended family plays an extremely important role in the support and nurturance of talent in these children, and Olszewski-Kubilius, Grant, and Seibert (1994) suggest that the coordination of support and resources in the talent development of disadvantaged gifted students requires the involvement of many individuals. early recognition and continuous support of the talent, strong advocates for the child in school, access to special programs and classes, information about and management of appropriate experiences and environments for the student, and access and ability to utilize community experts and resources. These requirements are not unlike those for advantaged gifted students but it is more critical for adults in the school and community to help disadvantaged parents in fulfilling them.

These examples point to the importance of other adults as well as parents. Although these other adults have been studied less extensively than parents, it is clear that they are very important in all biographical accounts of gifted individuals. These adults can be other relatives or friends who help identify the talent and then mentor the young person in her efforts to perfect the talent. They can also be teachers and

coaches. And just as is true for parents, these individuals can play both positive and negative roles in these young people's lives. On the one hand, they can provide the essential training necessary for perfection. On the other hand, they can push the young person to such an extreme that either permanent physical or psychological damage (or both) result. Again Ryan (1995) provides vivid examples of the latter from her study of gymnasts and figure skaters:

“How do the extraordinary demands of their training shape these young girls? What price do their bodies and psyches pay?... What I found was a story about legal, even celebrated, child abuse. In the dark troughs along the road to the Olympics lay the bodies of the girls who stumbled on the way, broken by the work, pressure, and humiliation. I found a girl whose father left the family when she quit gymnastics at age thirteen, who scraped her arms and legs with razors to escape the emotional pain and who needed a two-hour pass from a psychiatric hospital to attend her high school graduation. Girls who broke their necks and backs. One who so desperately sought the perfect, weightless gymnastics body that she starved herself to death. Others--many--who became so obsessive about controlling their weight that they lost control of themselves instead, falling into the potentially fatal cycle of binging on food, then purging by vomiting or taking laxatives. One who was sexually abused by her coach and one who was sodomized for four years by the father of a teammate. I found a girl who felt such shame at not making the Olympic team that she slit her wrists. A skater who underwent plastic surgery when a judge said her nose was distracting. A father who handed custody of his daughter over to her coach so that she could keep skating. A coach who fed his gymnasts so little that federation officials had to smuggle food into their hotel rooms. A mother who hid her child's chicken pox with makeup so that she could compete. Coaches who motivated their athletes by calling them imbeciles, idiots, pigs, cows.” (pp. 4-5).

These extreme examples of coaching that goes beyond the limits of healthiness call attention to the need for good instruction in the talent area. While these examples highlight the negative consequences of instruction that is too demanding and not sufficiently supportive, bad instruction can also take the form of too little and too late. Many finalists in the Westinghouse Science Talent Search said that their high schools did not prepare them well enough for the challenges of college-level science. Others

said that their undergraduate science was not challenging and stimulating enough (Subotnik & Steiner, 1993).

As is clear in the examples given above, good instruction and mentoring not only entail presenting challenges but also providing emotional support and advice as well as modeling excitement about the field (Subotnik & Steiner, 1993). It is widely lamented that not enough teachers and coaches live up to these ideals. While it is sometimes possible, given enough determination, for a talented individual and her parents to find suitable environments for the nurturance of a special talent, it is more often the case that they do not. Thus, the adequacy of learning environments is crucial to the development of talent; the needs of the growing individual must be met by increasingly high levels of challenge coupled with adequate support (Sosniak, 1985). In contrast, if there are too many stressors present (including inadequate instruction, heavy handed external control, excessively high levels of anxiety and pressure and poor quality of school life), a talented student may "burn out" or experience a debilitating injury that puts an end to a promising future (Fimian & Cross, 1986).

Instructional environments can fail in another way -- they may be so foreign to the values and culture of the individual that the individual withdraws or never even tries to enter. Several investigators have discussed this dynamic in reference to gifted females' under-participation in engineering and physical science (see AAUW, 1993; Bell, 1989; Brody & Fox, 1980; Casserly, 1980; Eccles & Harold, 1992). A similar dynamic may be operating as a barrier to enrollment of minority youth in many institutions. For example, Olszewski-Kubilius & Scott (1992) reported that minority students see college life as more lonely and frightening than do white middle class students, although both groups tended to favor colleges they were familiar with rather than colleges that are academically rigorous or have course offerings in their fields of interest.

Further support of the importance of these institutional-cultural characteristics is provided by Fox (1976). Concerned with the low participation rates of gifted girls in the special program being offered at the Johns Hopkins University for gifted children, these researchers designed a special math class to attract females. This class incorporated many of the "girl friendly" principles uncovered by Casserly (1980) and Kahle (1983): It was taught using cooperative learning strategies and included career guidance. In addition, it was taught by females and all the students were females. The class was successful in increasing the participation rates of those gifted female students who successfully completed the program. Unfortunately, longitudinal

follow-ups of these students indicate that the long range impact of this experience was minimal, suggesting that one-shot interventions are not very effective in producing lasting change and that "girl friendly" practices need to be a continuing part of gifted girls educational experiences (Brody and Fox, 1980).

### Internal Facilitators and Barriers to Talent Development

Both external and internal factors are critical to the development of gifted and talent individuals. We discussed several of the external factors in the previous sections. In this section, we focus on internal barriers and assets.

Passion is clearly one important internal asset. Just as family sacrifice is often necessary, so too personal sacrifice and dedication is essential to developing one's talent to its fullest potential. Such a commitment is easier if one is passionate about her/his field (and, in fact, most successful talented and creative people are passionate about their work; Czikszenmihalyi et al., 1993). Self-confidence, ability and desire to focus on a single goal, drive to achieve, and persistence are also necessary for success in pursuing the talent field. Indeed, a single-minded purpose, as opposed to divided attention and goals, is what seems to keep talented teens engaged in their domain (Rathunde & Czikszenmihalyi, 1993). During childhood and adolescence, much of one's "psychic energy" (Czikszenmihalyi et al., 1993) must be devoted to practicing and improving. This leaves little room for other activities; talented youngsters watch less TV and spend less time socializing with their peers than do their average peers, and they are less likely to be engaged in a variety of other extracurricular activities and work. If this time is not productive, challenging and enjoyable, the young person may become bored and disengaged.

But such single-minded purpose and solitary practice can be lonely and socially isolating. If developing one's talent means moving away from home to study at the best schools or with the best teacher, a talented adolescent may decide that the cost is too high, favoring instead whatever instruction is available closer to home (Arnold, 1995; Kerr, 1994). Besides family ties, if the individual enjoys spending time with friends and has a broader set of goals and interests, the cost of spending so much time on one activity may not be worth the gain. In support of this suggestion, Tomlinson-Keasey and Little (1990) found that sociability (the high desire to spend time with friends) is negatively related to educational attainment and maintaining one's intellectual skills among Terman's sample of gifted individuals.

Other studies have found that females are more likely than males to have broader interests and values (McGinn, 1976; Sears, 1979; see also Eccles, 1985; Eccles &

Harold, 1992). Both Sears (1979) and Kerr (1985, 1994) provide excellent examples of the efforts gifted women make to integrate multiple goals in their lives. Competing social needs and socially-oriented values (a core component of the female gender role) are especially evident in accounts of the conflict between achievement and social roles in the lives of gifted females.

The role of conflict between this social component of the female gender role and achievement in gifted girls' lives is well illustrated in an ethnographic study of a group of gifted elementary school girls by Lee Anne Bell (1989). She interviewed a multi-ethnic group of third to sixth grade gifted girls in an urban elementary school regarding the barriers they perceived to their achievement in school. Five gender-role themes emerged with great regularity: (1) concern about hurting someone else's feelings by winning in achievement contests; (2) concern about seeming to be a braggart if one expressed pride in one's accomplishments; (3) over-reaction to nonsuccess experiences (apparently not being the very best is very painful to these girls); (4) concern over their physical appearance and what it takes to be beautiful and popular; and (5) concern with being overly aggressive in terms of getting the teacher's attention. In each case, the gifted girls felt caught between doing their best and either appearing feminine or doing the caring thing.

Let us now turn to other internal barriers. Much of the relevant work has been done with regard to females (Eccles, 1985; Eccles & Harold, 1992; Gassin, Kelly & Feldhusen, 1993; Goldsmith, 1987; Hollinger, 1991; Hollinger & Fleming, 1992; Kerr, 1985, 1994; Kline & Short, 1991; Reis & Callahan, 1989). Many of these barriers have to do with conflicting values over career and family, made problematic by rigid societal gender-role stereotypes and the lack of flexibility in the workplace and in the family division of responsibility. These were discussed earlier. Other psychological barriers are discussed next.

Karen Arnold (1995), in a longitudinal follow-up study high school valedictorians, found that many who had achieved less than was expected of them given their stellar high school performances had reduced their commitment to high levels of achievement once they realized that they had been working so hard because of external demands rather than intrinsic interest; these women indicated that they had gotten tired of meeting others' expectations and, consequently, decided to "drop out" of their talent field. Arnold did not find that achievement and life satisfaction were strongly related in this population of high school valedictorians; many exhibited one but not the other. Similarly, Kerr (1994) discovered that many gifted women, as adults, were quite satisfied with lives as homemaking and volunteer workers - just as



satisfied with their lives, in fact, as those gifted women who had chosen prestigious career paths. Although this finding prompted Kerr to question the meaning of "achievement" for gifted women, she also argued that this population has an obligation to society to fulfill their full potential in their talent area. Consequently, the decision to pursue their talents should not be taken lightly. Gifted women should be given just as much encouragement and support to continue on as is normative for gifted males. Both Arnold and Kerr found that talented individuals who had not pursued their youthful dreams in adulthood were not necessarily unhappy or frustrated. However, because of barriers both external and internal, we will never know what these individuals could have accomplished or whether they could have found more fulfillment by pursuing their talents in careers. And it is likely that gender-role socialization pressures are responsible in part for their decisions not to pursue their talents to the fullest. The costs to both society and the individual of these stereotypic pressures need to be evaluated very critically and carefully.

Interested in how women's needs factor into their decision-making, Groth (1969) conducted a study based on Maslow's hierarchy of needs, which postulates that one may not reach self-actualization until one's "lower" needs are met. Groth assessed the needs of females aged 10 to 70 by asking them which three wishes they would like to have, and found that only the females younger than 14 or older than 40 listed high self-esteem and desires for achievement. In contrast, the desire for love and affection was seen as most important among women between ages 14 and 40. While this is a cross-sectional study, it certainly highlights several hypotheses about gender intensification during the time when females are most likely to be having and raising children (Hill & Lynch, 1983; Feldman, Biringen, & Nash, 1981). Despite acknowledgement of these needs, however, Kerr (1994) calls the perceived dichotomy between love and work a "false choice" because in her study of gifted women, those who were able to integrate both career and family were the most satisfied with their lives. If young women see the two as incompatible, they will believe they must adjust their career aspirations to accommodate their desire for love and children; these young women may then rationalize their choice to give up a potentially fulfilling career when they, in fact, may not have needed to give up their beloved work in order to have a family. Gifted males regularly succeed in integrating these aspects of their lives.

Difficulties with career success have also been linked to women's psychological insecurities, self-doubts, and lack of self-confidence. For instance, Kerr (1985) describes the "impostor syndrome" in which women report that they do not think they

really deserve to be in the position they have obtained and that it is only a matter of time before someone finds out how incompetent they are.

Similarly, both the notion of a "Cinderella syndrome," wherein women long to be rescued from independence and sheltered in a dependent but nurturing state, and the idea of "fear of success" have also been suggested as possible internal barriers to females' development (Kerr, 1985). In these cases, the women seriously question the value of their hard work and focused attention. They may also question the social and personal costs associated with achieving high levels of success. Given that talented females get very mixed messages about their future roles and worth from childhood on, it is not surprising that many express hesitancy about the wholehearted pursuit of a career in their talent domain.

However, as Kerr (1994) points out, we must be careful not to "blame the victim" in examining barriers to women's achievement. Rather than being psychologically disabled, Kerr has found that many talented women "suffer" from being too well-adjusted. That is, to avoid both conflict with others and their own unhappiness, talented women often go along with society's gender role expectations and end up adapting to lowered aspirations too easily. Such women may not have any personal self-doubts and they may have quite high self-esteem. But they may choose to limit their goals and commitment to the full development of their talent because they have accepted their culture's definition of successful womanhood.

Other psychological processes are important to understanding why people with talent may "drop out" before achieving their potential. The pessimistic causal attribution style of attributing one's difficulties to unstable and uncontrollable factors such as insufficient talent and one's successes to unstable factors such as luck or the lack of serious competition is one such psychological mechanism. Seligman, Nolen-Hoeksema, Thornton, and Thornton (1990) found that top athletes with an "optimistic" explanatory style are more likely to improve their performance after disappointing feedback on a laboratory task, while those with a pessimistic explanatory style performed more poorly following failure in the same feedback condition. Given that competition gets more difficult the more advanced one's skill development becomes, the likelihood of experiencing some failure is likely to increase as well. Having a pessimistic causal attribution style could lead some talented individuals to drop out of their field just as they are reaching the highest levels of success.

Abra and Valentine-French (1991) also suggest that some talented young people are such perfectionists that they judge their own performance by impossibly high

standards. This kind of stress may lead them to withdraw from a field despite performances that others consider outstanding.

Motivational orientation is another internal factor that can undermine continued efforts at developing one's talent. Motivational orientation is often discussed in terms of two components: an intrinsic and an extrinsic component. For example, Csikszentmihalyi and his colleagues (1993) contrast "flow," which is an intrinsic motivator, with more extrinsic motivators like grades and career opportunities. Flow is a very powerful intrinsic motivator for the gifted and talented because it is linked to increased enjoyment when high challenge and high skill are combined. Extrinsic motivators such as grades or pleasing adults are less likely to sustain interest in developing one's talents to their fullest. Extrinsic motivators like the possibility of a career in one's talent domain can be a more positive form of extrinsic motivation but its power likely varies across various domains because of differences in the availability of adult career opportunities in different talent areas. In fact, Csikszentmihalyi et al. (1993) point out that athletics, art, and music need to be more intrinsically motivated because of the shortage of adult occupational niches in these areas. In contrast, since intellectual talents like math and science are more likely to lead to interesting and challenging occupations; talented individuals should be more likely to stick with training in these areas even though such training can be quite tedious and boring.

#### Domain differences and their impact on motivation

Other interesting domain differences have also been found. For instance, Monsaas and Engelhard (1990) found that the goal structure of artistic and cognitive domains has different implications for competitiveness than does athletics. Judgment of success in the first two domains depends less on the relative performance of others than it does in athletics. The authors found that talented individuals in athletics were more likely to come from competitive home environments than were talented individuals in the less competitive domains.

It is also significant that certain domains offer more career opportunities than others. For example, because jobs are more plentiful in some talent areas, like intellectual gifts, individuals with these talents may be able to obtain a reasonable job in their field of interest even though s/he may not be the very best in the field. This is less true for other talents, particularly those associated with athletics and the performing arts. In these fields, one must be one of the very best to be able to make a living using one's talent. This domain difference puts individuals with talents in

athletics and the performing arts in a very awkward situation. On the one hand, to be the best in these fields requires virtually total focus on developing one or two specific talents. On the other, if one does not succeed in becoming one of the very best, one may be ill-prepared for any other form of adult employment. Consider athletics: adolescent athletes who aspire to greatness are more likely to be "putting all of their eggs in one very fragile basket" than are talented adolescent scientists, mathematicians, or writers. The competition is much greater when places at the top are scarce. However, although it may be wiser to choose a more realistic career, success in athletic domains offers a very visible and glamorous "ticket out" of poverty for many aspiring athletes from low socio-economic status (SES) backgrounds (Hoop Dreams, 1994). And to even have a shot at this type of career, one must devote almost exclusive attention to developing one's abilities to their fullest. This may lead youngsters from low-SES backgrounds to overestimate the probability of being able to become a professional athlete and to devote too much time and energy on this one domain, leaving them ill-equipped to move into another viable career if their athletic dreams do not become a reality.

Because the domain of athletics has such a short window of opportunity for an athlete's career (i.e., you must be relatively young to be an athlete) and because several examples of potential pitfalls in sports are particularly striking, we focus particularly on sports in the next few paragraphs.

The probability of serious and often career-ending injury is a somewhat unique hazard of pursuing athletic talent. The pressure in this domain to perform well with one's body often pushes athletes to abuse themselves by performing with injuries, or by artificially or medically altering bodily weight or strength. The recent cases involving steroid abuse by male athletes is a good example of this type of risk. Even more disturbing cases are being considered now with regard to how hard we are pushing athletically talented youngsters. To quote again from Joan Ryan (1995):

"Child labor laws prohibit a thirteen-year-old from punching a cash register for forty hours a week, but that same child can labor for forty hours or more inside a gym or an ice-skating rink without drawing the slightest glance from the government.... Coaches in this country need no license to train children, even in a high-injury sport like elite gymnastics. The government that forbids a child from buying a package of cigarettes because of health concerns never checks on the child athlete who trains until her hands bleed or her knees buckle, who stops eating to achieve the perfect body, who takes eight Advils a day and offers herself up for another shot of cortisone to dull the pain, who

drinks a bottle of Ex-Lax because her coach is going to weigh her in the morning.... Some argue that extraordinary children should be allowed to follow extraordinary paths to realize their potential. They argue that a child's wants are no less important than an adult's and therefore she should not be denied her dreams just because she is still a child. If pursuing her dreams means training eight hours a day in a gym, withstanding abusive language and tolerating great pain, and if the child wants to do it and the parents believe it will build character, why not let her?" (Ryan, 1995, pp. 11-12)

One gymnast, Julissa Gomez, told her coach, Bela Karolyi, she was miserable from all the intense training and tension one year before the Olympics. "Who said you had to be happy?" Karolyi replied. A short time later...Julissa sprained her knee. Though her doctor told her to stay off it for a month, Julissa still went to the gym every day--fevers, chicken pox, broken bones and sprains were unacceptable excuses for missing practice.... Karolyi alternately ignored her and harangued her. In his mind, perhaps, he was trying to motivate Julissa to rise above the injuries. The Gomezes were paying him to produce the best gymnast he could, and Julissa could become a great gymnast only by pushing herself through the pain. Like a boot-camp sergeant producing hardened soldiers through humiliation, extraordinary work, and blind obedience, Karolyi had turned a handful of gymnasts into champions. But because twelve-year-old girls aren't soldiers, most of Karolyi's elite gymnasts didn't become champions. Most became entries on a hospital log." (pp. 26-27) "Julissa Gomez was sixteen when she broke her neck on a vault" [in a routine her coach made her perform despite her expressed fear of it. After 3 years of paralysis in the hospital, she died.] (photograph caption)

For females, aspiring to athletic success may be even more tortuous because of its inconsistency with the female gender role and its inconsistency with bodily changes associated with pubertal development. Females' parents and peers may not want them to pursue "men's" sports and become muscular and "masculine." Such pressures are likely to push many athletically talented females into more feminine sports. But pushing them into "feminine" sports such as gymnastics, ballet dancing, and figure skating can literally take their lives away from them. Image is just as, if not more, important than talent in these sports and females pay the price. There is great pressure to be as thin and light, and as pretty as possible; so girls starve

themselves, have plastic surgery, and do whatever they can to prevent the onset of puberty. For example,

[Nancy Kerrigan's coach told her,] "'As soon as it's a woman's body, it's over. When they have lovely figures like the girl on the street, they're probably too heavy [for skating]. The older you get trying to do children's athletics, the thinner you must be.' [The coach] weighed his skaters at least once a week and forgave neither puberty nor body type for a skater's being anything but rail thin.... 'If you were skating better at a hundred and five pounds but looked better at a hundred, your coach wanted you to be a hundred,' [one] Olympian says.... Size informs every step of a skater's career. At one competition press conference, [a coach] fielded a question about the progress of her skater, [a sixteen year old. The coach] didn't hesitate with her answer: 'She's learned to handle her growth, and she's lost a little weight.' End of answer. She mentioned nothing about [the skater's] learning new jumps or becoming more graceful.'" (Ryan, 1995, pp. 96-102)

Females' self-esteem is shot by coaches who work them to the limits and by parents who expect too much. Females in these sports "don't so much retire as expire" (Ryan, 1995, p. 35). If they continue to the "elite" levels of performance, their spirits often die even if their bodies survive injury and starvation.

Injury itself is a source of psychological distress, as shown by the work of Linda Hamilton (1992, 1994) with ballet dancers. Besides the pain, it is frustrating not to be able to engage in the rewarding, meaningful activity to which one has devoted ones' life and energies. Often, athletes recuperating from injuries suffer a loss of identity from not being able to participate in the activity. It is difficult, then, not to see oneself as a failure.

The life of young, talented athletes seems much more harrowing than the life of talented individuals in other fields even though these latter individuals also devote extensive amount of time to practicing and perfecting their skill area. Individuals talented in artistic and cognitive ways, as opposed to physical and psychomotor ways, are not as physically vulnerable and are likely to have more options for, and a greater window of time in which to pursue, future careers.

Finally, while we have discussed many reasons why young people may give up on the pursuit of a talent area early on, the awareness of the realities associated with an adult career in that field can also play a role (Subotnik & Steiner, 1993). For instance, individuals may stop glamorizing a future career in a talent area when they realize the "down" side, such as the politics of academe, the loneliness and constant

travel of the concert musician, the doubtful financial security of the artist, and the limited longevity of an athletic career. Thus, the realities of adult roles can lead talented individuals to limit their single-minded pursuit of excellence in a particular domain.

### Conclusion

In closing, we need to make a critical distinction. We have been talking throughout this chapter about the gifted and talented and their pursuit of excellence in the area of their talent. This is not the same as discussing creativity (Siegler & Kotovsky, 1986). It has been pointed out by those in the field of giftedness that it is one thing to excel in school and quite another thing to produce original and creative works. The differences between these two levels of giftedness may explain why many individuals in the longitudinal studies of talent and giftedness seem to end up in the "mainstream:" doing well but not achieving eminence (Arnold, 1993, 1995; Goldsmith, 1987; Subotnik, Karp & Morgan, 1988; Subotnik & Steiner, 1993; Tomlinson-Keasey & Little, 1990). These individuals had high IQs but were not necessarily creative. Conversely, many eminent figures were not identified as gifted when they were children (Czikszenmihalyi & Robinson, 1986). While it is difficult to settle on definitions, it does seem that many of the participants in longitudinal studies of gifted and talented individuals exhibited mastery of a particular academic subject matter without developing passion or commitment to that domain. In this way, they differ from creative individuals who have produced original works and made a unique and very special contribution to their fields.

The point, however, is that many gifted and talented individuals give up something they are good at and we wonder why. More research is clearly needed in order to answer this question. Others never get the chance to even begin this journey. In this chapter, we have attempted to outline some of the reasons why some individuals might drop out and others may never even begin to try to perfect their talents. Possible reasons include lack of time, resources and/or energy in one's family and larger social network; lack of information and guidance; lack of productive, challenging work or instruction; dissatisfaction with, or inability to mobilize, the requirements for perfecting one's talent such as working in solitude and maintaining a singular focus; incompatibility of the demands of the domain with other aspects of one's life and values either as a result of socialization or as a result of life transitions including pubertal development and taking on of new life roles; maladaptive

explanatory or attributional style; injury; burnout; and/or disillusionment with future options or lifestyles in the talent area.

Future research should focus more directly on identifying the reasons why people stop pursuing a specific talent as well as how they cope with this change and how they shift focus to another field or activity. It should also focus more directly on understanding the mechanisms leading to the identification and mentoring of specific talents in various sub-groups; particular attention should be paid to the reasons underlying our failure to identify and nurture talents in so many groups of people -- especially people who are non-white, poor, and/or female. Finally, more attention needs to be paid to designing instructional programs that nurture talent without destroying the spirits and the bodies of our talented young people.



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