Remarkable Women

Perspectives on Female Talent Development

edited by Karen Arnold, Kathleen D. Noble,
and Rena F. Subotnik

REMARKABLE WOMEN: Perspectives on Female Talent Development is the first book to consolidate and expand existing knowledge about highly capable women and the internal and external forces that lead them to extraordinary adult accomplishment. The collected studies include women from a wide variety of backgrounds and talent domains whose paths to exceptional achievement illuminate the nature of female talent development and provide models to help more women fulfill their promise in adulthood.

"The writers of these chapters are a 'Who's Who' of scholars in the fields of gifted education and women's studies. Never before has such an array of insights and understandings been assembled to advance our knowledge about gifted and talented women."

— John Feldhusen, Purdue University

"Because of the attention given here to new research on the context and specific domains of women's talent development and its presentation of new theories of women's talent development, this book represents a breakthrough in both the psychology of giftedness and the psychology of women."

— Barbara Kerr, author of Smart Girls, Gifted Women

CHAPTER 1

PERSPECTIVES ON FEMALE TALENT DEVELOPMENT

KAREN D. ARNOLD

KATHLEEN D. NOBLE

RENA F. SUBOTNIK

The past several decades have witnessed unprecedented changes and opportunities in the lives of women and girls. More than ever before, women are working outside the home, moving into domains traditionally reserved for men, and vigorously pursuing careers and interests. Mirroring this social revolution has been the vastly increased attention being paid to women's life experiences and the nature of their participation in the personal and public realm.

Heightened interest in research on women has resulted in numerous studies on the history and current status of women in education and the professions (Anderson & Zinsser, 1988; Gordon, 1990; Solomon, 1985), their experiences in postsecondary education (Arnold, 1993; Holland & Eisenhart, 1990; Subotnik, Duschl, & Selmon, 1993; Subotnik & Steiner, 1 994a), their career development (Betz & Fitzgerald, 1987; Lubinski & Benbow, 1994), and their achievement over time (Arnold, 1993; Hulbert & Schuster, 1993; Subotnik & Steiner, 1994b). Several contemporary investigators have studied women leaders (Astin & Leland, 1991), highly morally developed individuals (Scott-Jones, 1991), female heroism (Noble, 1994), and the relationship of women to organized religion (Mernissi, 1987, 1991; Pagels, 1988; Stone, 1976). Social scientists have examined psychological growth and development from a uniquely female perspective (Belenky, Clinchy, Goldberger, & Tarule, 1986; Bolen, 1984; Braxton & McLaughlin, 1990; Estes, 1992; Josselson, 1987; Miller, 1976). Further, a large number of biographies and autobiographies of women have recently been published (e.g., Angelou, 1970; Cheng, 1986; Conway$_1$ 1990; Cook, 1992; Drake, 1987; Dubois & Ruiz, 1990; Fraser, 1988; Keller, 1983; Lerner, 1972; Lightfoot, 1988; Menchu, 1984; Nakano, 1990).

The signs of progress are many. Women now make up the majority of American undergraduates (Faludi, 1991; Pearson, Shavlik, & Touchton, 1989) and are earning proportionately larger shares of graduate and professional degrees granted by American universities (National Research Council, 1991). Approximately 27% of all faculty at

American colleges and universities are women (Vetter, 1991). Female representation in employment outside the home has increased considerably over the past two decades, with women constituting 45% of the total U.S. work force and 50% of the professional work force. Women are participating more fully in educational and career spheres and finding organizational accommodations for their family responsibilities. These trends appear certain to continue. The Department of Labor projects that by the year 2000, 85% of the new entrants to the U.S. labor force will be women and individuals of non-European descent (National Research Council, 1991).

Despite an explosion of scholarship about women, little research has focused on the development of female talent in such diverse fields as education, athletics, and the arts. Gaps in the literature include gifted women's psychological needs, the unique issues encountered in their personal and professional lives, and the factors that enhance or inhibit the development of women's exceptional ability.

Literature on giftedness offers extended descriptions of the general characteristics and experiences of exceptionally able individuals. The unique developmental patterns of gifted girls are receiving increased attention as well (see Callahan & Reis, this volume). Research on highly able adult women, however, has been almost absent from the gifted literature. Feminist social science has generated volumes of scholarship on the social, educational, family, and work lives of girls and women; almost none focuses on females who are categorized as gifted.

Remarkable Women examines the development of talent among gifted women. Society looks to exceptional individuals to lead its institutions, transform aesthetic expression, solve significant problems, and produce ideas that change profoundly our conceptions and material lives. Until recently, however, the majority of eminent individuals have been men, and it is from their lives that our knowledge about talent development has been derived.

Women remain relatively rare in the top levels of the arts, sciences, letters, the worlds of finance and politics, and the ranks of the eminent. Chief executive officers, ground-breaking scientists, symphony orchestra conductors, and political leaders are nearly always male. The term *glass ceiling* has entered the language to describe the invisible, inexorable obstacles women have faced in reaching top levels of public life (Morrison, White, & Van Velso, 1992). Our society does not reap the advantages that could accrue from the full utilization of all its human resources. Just as important, women themselves do not frequently enough experience the joys and rewards associated with expressing their talents at the highest levels. The relative rarity of high-achieving and eminent women raises not only the question of the fate of women with great potential, insight, and skill, but also the related question of what can be done to increase the presence of women in all sectors and at all levels of public life.

EXISTING KNOWLEDGE ABOUT GIFTED WOMEN

The existing research about gifted females has largely centered on precollegiate women in educational settings. This literature is collected and reviewed by guest editors Carolyn Callahan and Sally Reis in Part Two of this volume entitled "Gifted Girls in Elementary and Secondary Schools."

A few studies have focused on gifted adult women in postsecondary educational and organizational environments and in higher paying jobs (e.g., Arnold, 1993; Ben-Dor, 1979-80; Clark, 1988; Kellian, 1983; Kerr, 1985, 1994; Noble, 1987, 1989a, 1989b; Piirto, 1994; Reis & Callahan, 1989; Silverman, 1986; Subotnik, Karp, & Morgan, 1989; Walker, Reis, & Leonard, 1992). Taken as a whole, this literature suggests that the majority of gifted women who seek to display exceptional talent continue to face formidable, sometimes Insurmountable challenges.

Kerr's *Smart Girls, Gifted Women* (1985) and Walker and Mehr's The *Courage to Achieve* (1992) examined issues related to female accomplishment through retrospective studies of gifted women. Their conclusions were remarkably similar. Although selected to participate in an accelerated secondary school or a school for gifted girls, many women were unable to achieve at a level commensurate with their abilities. In another investigation, Waiker et al. (1992) studied the factors that affected gifted women's occupational and educational choices across the life span. They surveyed 201 women who had attended a school for gifted females and found consistent patterns across the decades. Participants cited ambiguous or stereotypic school and societal expectations, lack of challenging curricula, concerns about or denial of being labeled gifted, and inadequate female athletic programs as negatively affecting the development of their abilities. They also regretted the lack of role models and formal mentoring and counseling opportunities.

Most of the 109 gifted women who participated in a study conducted by Noble (1989b) recalled painful childhood experiences of being isolated or punished for 'not being like everyone else.' As a result, the majority hid their abilities at various points in order to be socially accepted.

Gifted females are often drawn to nontraditional fields. Yet many express concern that high-level career achievement and childrearing are incompatible (Moon & Feldhusen, 1994; Piirto, 1991; Rodenstein, Pfleger, & Colangelo, 1977; Zuckerman & Cole, 1987).

Hollinger and Fleming (1992; Fleming & Hollinger, 1994) described a program for adolescent girls providing support for informed career decision making. By age 29, the participants had yet to achieve the aspirations they had identified in adolescence.

Other results seem more promising. A recent follow-up study of gifted young adults who had enrolled in the Early Entrance Program at the University of Washington between 1977 and 1986 found that students who had elected to skip high school and proceed directly to university were as psychologically healthy and satisfied with their lives as those who had chosen to remain in high school (Noble, Robinson, & Gunderson, 1993). Noble et al. speculated that acceleration was particularly beneficial for young women because it allowed them to bypass a secondary school social milieu that is often destructive to female intellectuality and to develop and display their abilities in a supportive and nurturing environment' (p. 130). This speculation was confirmed in a subsequent study by Noble and Smyth (1995).

Subotnik et al. (1989) compared responses from Terman's cohort on the Terman and Oden (1959) midlife questionnaire with a contemporary cohort of high-IQ men and women in their mid-40s and early SOs. The responses recorded by the contemporary women were more similar to those of their male peers and to those of the Terman men than they were to the responses of Terman women. Schuster (1990) utilized descriptive

data from four age cohorts of gifted women, including Terman's, to compare subjects life satisfaction, fulfillment of potential, and self-perceived competence at midlife. Like Subotnik et al. (1989), she found that gifted women who were born in 1940 and later had greater opportunities for paid work to provide life satisfaction compared to their counterparts from earlier generations. Despite these positive findings, however, women continue to face not only traditional difficulties, but challenges unique to current social and economic conditions.

The path toward the realization of high potential is arduous for all highly capable women. Some, however, not only persist, but illuminate new possibilities for all. Who are these women? What challenges have they faced in their personal and professional lives, and how have they coped with these dilemmas? What do their stories and experiences tell us about the nature of talent development in women? And how can we use what we learn to help more women reach maturity with their giftedness intact?

THE PURPOSES OF THIS VOLUME

Remarkable Women consolidates and expands existing knowledge about highly capable women and the internal and external forces that enhance their resilience and encourage them to achieve. The book also explores ways in which research findings can be translated into effective programs for individual and social change.

The three editors of *Remarkable Women* share a history of personal and professional interactions with gifted women that have provided them with both delight and concern. Each approaches the topic of female talent development from different but complementary scholarly perspectives, professional and personal experiences, and academic fields. The editors and contributors of *Remarkable Women* reflect the diversity that both enriches and complicates the literature in this field.

Many scholars take exception to what appears to be a growing emphasis on differentiating women's and men's ways of knowing, believing there is a great diversity of perspectives on achievement and competition held by women and men, and that there are more areas of overlap than persistent sex differences in learning and motivation (Brabeck, 1989; Scott-Jones, 1991; Subotnik & Strauss, 1995). Fully capable of competing with males in any professional environment, this literature holds that gifted women will achieve highly provided they receive the appropriate academic preparation and guidance.

Other researchers believe that characteristic female patterns of development and ways of knowing can be appropriately distinguished (Arnold, 1993; Belenky et al., 1986). This line of research suggests that many women are more comfortable within academic and professional environments that reflect values of relatedness, in addition to individual achievement. The approach implies changing current occupational structures rather than facilitating women's competition in current systems.

Some psychologists take yet another approach to the study of giftedness in women and girls. Regardless of the paradigm in which talented females feel most comfortable, and regardless of their professional interests and aspirations, they believe that women frequently have not been psychologically prepared to deal with the challenges and obstacles that inevitably arise as they pursue these goals (Kerr, 1985,

1994; Noble, 1989a, 1989b, 1994). This research, therefore, focuses on ways to enhance women's resilience and efficacy.

An area of special vulnerability for gifted females is their fear of being rejected for being gifted and the accompanying tendency to hide, deny, or underdevelop their abilities in order to be accepted by parents, teachers, and friends. But they do not do this in a sociocultural vacuum. One of the most tragic messages that many gifted females receive is that society does not need or want their gifts and abilities, that the real work of the world is accomplished by men, and that any contribution they might make is peripheral or ancillary. Thus, the majority of gifted females disappear long before they reach high levels of creative productivity, depriving the world of the public contributions they could otherwise make.

The editors and participating authors of *Remarkable Women* seek to redress this imbalance by focusing on ways to facilitate the growth and expression of women's talents. As the chapters in this book demonstrate, successful interventions can be addressed via educational guidance from mentors or counseling by therapists. Fostering talent development requires both short-term goals of helping individual women adjust to existing conditions of achievement and longer term efforts to make structural changes in access to the talent domains.

The organization of *Remarkable Women* reflects our belief that female talent development can be investigated and understood in terms of three levels of intensity. At the very least, efforts to develop women's gifted-ness are important to individual self-actualization. Exercising intellectual, social, physical, or artistic expressiveness is intrinsically fulfilling and uniquely suited to producing optimal experiences (Czikszentmihalyi, 1990).

Many women are poised to assume *leadership*. Demographic and market trends point to the likelihood of women being called on to fill more of the creative positions left until now exclusively to men. For example, scientific work in traditionally male-dominated fields such as engineering and chemistry is currently less attractive than before to secondary school-age White males (Qakes, 1990). Therefore, appropriately credentialed women and other underrepresented groups may for the first time find the doors to employment in science open.

The third and highest level of talent development is *eminence*. Eminent individuals transform fields and institutions, setting new directions and altering practices and perceptions. A final reason to explore talent development is to facilitate the emergence of revolutionary contributions among very high-potential women.

If a hierarchy exists in this model, it lies with the increasing intensity of engagement in a talent area as well as the widening sphere of influence generated by a talented woman. However, the model does not imply that women move from one stage to the next in a sequential fashion. Genius does not always derive from self-actualization (Ochse, 1990) or from recognized leadership in a field.

The first two levels, *self-actualization* and *leadership*, have been covered minimally in the research literature and are more fully explored in this volume. *Remarkable Women* also moves beyond biographies to present empirical work on the third level, eminence—the transformation of fields and domains.

The varied samples and philosophical orientations that are represented in the studies and essays comprising Remarkable Women provide a springboard for new research and

policy discussions on how best to serve the needs of gifted females. The gifted education and women's studies fields have much to offer each other. Talented females face issues arising from 5oth their gender and their high ability.

GIFTEDNESS AND FEMINISM

The editors' working definitions of giftedness and feminism were drawn from the literature but represent our own understandings and beliefs. Our foundation is deliberately broad in order to accommodate the nuanced differences in philosophical orientation among the editors and the variety of perspectives represented by chapter authors.

Giftedness, in our view, is outstanding (demonstrated or potential) intellectual, expressive, or practical ability in a domain compared to others of the same age and opportunity. For us, domains of giftedness include: logical, mathematical, intrapersonal, interpersonal, kinesthetic, verbal, musical, artistic, spatial, and moral (Csikszentmihalyi & Robinson, 1986; Gardner, 1983; Gruber, 1985, 1993). Female pioneers, the first women to enter and succeed in nontraditional and male-dominated fields, exhibit a strength of character and self-knowledge that allows them to display their talents despite isolation and psychological stress. We argue that pioneers belong among the categories of the gifted and talented.

Gagne (1993) provided a thoughtful rationale for associating the term *gifted* with potential and talent with demonstrated outstanding performance in a domain. In that vein, we have chosen to use the term *talented* in the title of this volume. However, in keeping with the majority of the gifted literature, editors and chapter authors employ the terms *gifted* and *talented* interchangeably.

Feminism, for us, is premised on gender equality in intellectual, expressive, practical, and spiritual domains. We believe that there is a range of ability in both sexes, but that scholarship and action need to transform the cultural and social conditions that have systematically inhibited women's ability to achieve at levels commensurate with their potential, interests, and gifts.

The study of women and the study of giftedness are both somewhat marginalized academic fields with characteristic themes and issues. Close examination reveals a set of parallel concerns among feminist and talent development scholars (see Table 1.1). Women's studies, emerging from the feminist movement and continuing with an overtly political agenda, clearly affects and is affected by the larger social context. Gifted education, too, shapes and is shaped by prevailing social practices and ideology. Both fields, for example, struggle with accusations of elitism and face charges of excluding ethnic minorities, non-Westerners, and members of economically disadvantaged groups. This volume attempts to respond to the issue of elitism by representing many (but not all) of the dimensions of individual differences among gifted women. We are unapologetic, however, in affirming the label of gifted. We are educators and clinicians who be~eve in the worth of every individual, but who acknowledge that some individuals possess extra-ordinary talents, not necessarily shared by all, that are deserving of recognition and support.

Feminists and educators of the gifted work to foster optimal developmental conditions, largely through changes in social institutions. Beyond this broad consensus lie

differences in goals that affect educational practice, theory, and research. Some educators and scholars of the gifted believe education should focus on intensive talent development in specific domains in order to facilitate ground-breaking societal contributions associated with eminence (Feldhusen, 1992a, 1992b; Subotnik et al., 1993). Others also regard a well-rounded life of solid but not necessarily unique achievement in work and personal realms as another culmination of gifted-ness (Noble, 1994). Scholars of women's development similarly disagree about the goals of education. Participation and recognition in traditionally male-dominated, public achievement arenas constitute success for some. Others focus on the inadequacy of male-dominated institutions to accommodate women's experience and needs. This latter group argues that redefining cultural notions and institutional settings of success should take priority over efforts to move women into mainstream achievement arenas. Each of these gifted and feminist perspectives carries different implications for research, education, and clinical practice; each is represented in this book.

Table 1.1 lists major issues in feminist studies and gifted education. The organization of the table into comparable themes across the two fields suggests how women's studies and gifted studies might inform one another and previews many of the threads woven into subsequent chapters.

THE ORGANIZATION OF REMARKABLE WOMEN

Remarkable Women is divided into four sections: (a) the context of female talent development, (b) gifted girls in elementary and secondary schools, (c) talent in the domains, and (d) psychological perspectives. The book's organization reflects the need to consider adult achievement in light of the ways social context shapes women's lives, the foundation of adult attainment in childhood experiences, the uniqueness of specific talent areas, and the pressing need to move beyond identifying problems to a focus on creating the conditions for the fulfillment of women's promise.

Table 1.1. Connections Between Feminist and Gifted Studies.

ISSUES	FEMINIST	GIFTED
Political/ Social Context	of women's development	of gifted education
Inclusion/ elitism	emphasis on Western, White, privileged women	overrepresentation of White, Asian, and economically advantaged individuals among students identified as gifted
Goals	success in male-dominated arenas or redefinitions of achievement	intensive talent development or multirole development
Mentoring and achievement	cross-gender, connection to past women's accomplishments by connections/sisterhood	effects of sponsors, models, and guides
Labeling	self-identification as feminist; beliefs in innate or socialized sex differences; values associated with domains of achievement	designating individuals as gifted; measuring and values associated with domains of achievement

Curriculum	issues in women's studies and pedagogy; role of personal experience in academic discourse	acceleration, exploration of interests, interdisciplinary liberal education
Institutional arrangements	for education of and about women (e.g., single-sex or coeducational schools or instruction)	for education of the gifted (e.g., homogenous vs. heterogeneous instruction and schools)
Peer group influence	on aspirations, achievement, and self-views	influence on achievement, aspirations, and self-views
Multi-potentiality of abilities	life-role constellations and achievement paths	and achievement paths
Relationship to other movements	political/intellectual/social movements	political/education/social movements
Stereotyping	family and community values and expectations	family and community values and expectations

Part I: The Context of Female Talent Development

The social context in which achievement occurs is inseparable from investigations of giftedness. The first section establishes the central theme of variability among gifted women and examines some of the most important dimensions of demographics, culture, and economics on talent development.

Linda Silverman provides an historical account of the ways in which the expression of women's talent has been shaped by the era in which they live. Concentrating primarily on the last two centuries, she traces the inroads and impediments to achievement of remarkable women in previous generations. Documenting the ways in which women have been barred from attaining eminence, Silverman questions eminence as an adequate gauge of women's giftedness. She urges us to respect the untold nameless women who have laid the groundwork for gifted women today to be able to develop and express their talents.

In addition to historical era, a woman's age, ethnicity, class, geographic location, and labor force characteristics influence what opportunities are available to her, what achievement paths she perceives as possible, and what experiences she encounters in education and careers. These factors, along with others such as sexual orientation, religiosity, or disability, shape the self-perceptions as well as the achievements of adult gifted women.

Signe Kastberg and Darlene Miller describe the ways in which socioeconomic status influences achievement and how pioneering women from blue-collar backgrounds are successful despite class differences. Janyce West examines the impact of rural environments on the formation and expression of giftedness in women. Sutapa Basu offers an anthropological perspective on the development of Hindu women's talent in India. Sharon Lynch reports on the antecedents of success for eminent Polish women, many of whom achieved recognition and stature spanning both Communist and democratic regimes. These chapters describe the ways in which women can achieve despite difficult political, geographical, and gender-biased environments.

Susan Chase and Colleen Bell investigate how women's professional experiences are shaped by the characteristics of their profession and workplace. Women public school superintendents in the United States participate in an occupation that is dominated by men (94%) and Whites (96%). The authors focus on the differing consequences of relationships with men and women in the profession, consequences that are shaped not only by gender but also by race.

According to the National Center for Education Statistics (Pluta, 1991), only 104 Native American women received doctoral degrees in the field of education between 1978 and 1989. From this group, 9 were participants in a unique graduate-level program designed specifically to train leaders, researchers, and evaluators to serve Indian people. L.A. Napier's chapter provides a profile of the distinctive characteristics of these remarkable women and examines personal reflections on their educational and career experiences before, during, and after receiving a doctoral degree.

Defining achievement in females is a complex and difficult process, as the definition of achievement may imply different social constructs for women and men. Sally Reis investigates the variable of chronological age with case studies of eminent women between the ages of 55 and 85 whose talents span different domains, including forestry, music, and politics, and presents a model of female talent development based on this work.

Part II: Gifted Girls In Elementary and Secondary Schools

Why do some highly capable young women realize their potential in adulthood while others grow up to lead lives reflecting underachievement? What factors cause some gifted girls to become remarkable women in adulthood? In their introductory chapter to this section, guest editors Carolyn Callahan and Sally Reis synthesize research on gifted females, summarize the last decade of research about female achievement in elementary and secondary school, and identify areas in which policy development lags behind current knowledge in the field.

How do young women of high potential define achievement, and how do their own and society's definitions influence their self-evaluations? How do they combine personal and professional goals into workable solutions that allow for growth in both areas? Frances Spielhagen's study of 45 young women between the ages of 8 and 26 examines the ways in which gifted females deal with gender bias in the classroom and the role of teachers, mentors, and parents in helping them accomplish their goals.

Sally Reis, Carolyn Callahan, and Diane Goldsmith explore the attitudes of 284 gifted girls and boys in grades 6 through 8 who attended a summer institute at the University of Virginia. They examine students' expectations in three areas (future education, career, and family; attitudes about school and school achievement; and conceptions of gender differences) and found significant differences between the two groups. Their findings raise concern about the realization of potential in gifted females relative to gender role expectations, relationships, and families.

Puerto Rican females have largely been absent from the empirical literature about giftedness. Eva Diaz discusses the history of Puerto Rican female achievement and examines the experiences and perceptions of two adolescent girls who participated in an ethnographic study of culturally diverse high school students.

African-American, Asian-American, Caucasian, and Hispanic students who attended secondary schools of mathematics, science, and technology were surveyed by Carolyn Callahan, Cheryll Adams, Lori Bland, Tonya Moon, Sara Moore, Marianne Perie, and Jay McIntire. They explore the influences on young women's retention or attrition at these special schools.

Part III: Talent in the Domains

At the postsecondary and adult level, talent tends to be manifested in terms of outstanding performance in one or more domains. Each talent domain requires specific individual abilities and career trajectories. The third section of *Remarkable Women* describes gifted women in fields such as education, athletics, creative writing, science, and mathematics. The period between training and professional activity is featured in several chapters as a powerful place for intervention by mentors and clinicians.

Women remarkable for their brilliance and character strength have made major contributions to traditionally male-dominated professions such as science. Often the path was made more difficult by the competing demands of research and family life. Women have lacked guidance on how to negotiate the socialization process into science careers at the highest level while addressing their valued relational needs. Rena Subotnik and Karen Arnold discuss the challenges associated with top-level science careers, drawing from studies conducted with 1983 Westinghouse Science Talent Search winners and 1981 Illinois high school valedictorians.

Research on mathematically gifted females has demonstrated that they are less likely to pursue advanced mathematics courses in high school and college, and that they enter mathematics-related careers less frequently than their equally talented male counterparts. Paula Olszewski-Kubiius and Barry Grant pursue these issues with a sample of 160 male and female college students between the ages of 18 and 22, and study the impact of participation in a summer residential mathematics program during junior high school and support from significant others on the selection of college majors.

Joyce Van Tassel-Baska addresses the talent development process of two eminent women writers—Charlotte Bronte and Virginia Woolf. She examines the nature of outer forces and inner characteristics that influenced their evolution as writers, including the role of an intellectual home, early active experimentation with genres of writing, and the importance of solitude, and offers a model of talent development drawn from this research. Key themes found in each writer's life, including adversity, the influence of place, and loneliness, are also explored.

Sandra Kay investigates the spatial ability of talented visual artists. Spatial abilities tests consistently display bias favoring males. Research using these instruments reveals a strong connection with the visual-perceptual skills considered essential to the work of artists. Comparing performances of female and male artists (sculptors and painters) sheds light on gender differences depicted in the literature. Kay also discusses issues surrounding spatial ability as enhancers or inhibitors of female talent development in the arts.

In the last 20 years women have begun to excel in athletics in unprecedented fashion. With these achievements[1] however, issues such as homophobia and sexism in

training have arisen for women in sports. Kevin Wildenhaus reviews the origins of female participation in competitive athletics and the unique and problematic aspects of their achievement in that domain. Current implications and future directions for athletes, educators, and sports psychologists are also presented.

Part IV: Psychological Perspectives

Too often, works about women and achievement stop with the identification of obstacles, problems, and deficits. The fourth and final section of *Remarkable Women* centers on the conditions that enable the fulfillment of promise. Authors describe ways in which women successfully navigate novel or difficult achievement paths and describe counseling and other interventions that support the needs of extraordinary individuals.

Audrey Friedman reports on exceptional cognitive talent. The Reflective Judgment model describes stages of intellectual development that reflect how persons make assumptions about knowledge, create world views, and justify beliefs (Kitchener & King, 1981). Friedman's qualitative study investigates the relationship between the highest levels of reflective judgment; intellectual disposition; and personal, educational, and life-related history.

Kathy Evans's chapter addresses counseling gifted women of color. Using case studies and current multicultural literature, she describes the issues that can jeopardize women's recognition and expression of their giftedness and suggests attitudes, awarenesses, and clinical strategies that counselors and psychologists can effectively employ.

Gifted Black females encounter gender-specific internal and external obstacles to high achievement as well as barriers associated with membership in an ethnic minority group. Constance Hollinger examines the complex relationship between self-perception and achievement through data collected during a longitudinal study of gifted young women who participated as secondary school students in a 14-week career development project.

Carolina Yahne provides unique insights into the psychological issues addressed by highly capable women in group settings. Her chapter explores the ways in which therapy and support groups can nurture gifted and talented women, both personally and professionally.

Kathleen Noble draws from her own research findings and clinical practice to address the psychological and sociocultural challenges faced by gifted women in their academic, personal, and professional lives. Although these issues can seem overwhelming, many women have found ways to cope with and transcend pressures to be less than their best. Noble utilizes three case studies to illustrate the attitudes, beliefs, and psychological skills that enhance women's resilience and empower them to participate more fully in the world.

The final section of this volume consists of a concluding chapter in which the editors synthesize study outcomes and propose a model for adult female talent development. This synthesis draws implications for future research, educational and psychological application, and policy development. Insights into the roles that gender and other socially constructed variables play in talent development can enhance educators'

and clinicans' ability to support individuals as they create beauty, generate good will, and enhance the human condition.

REFERENCES

Arigelou, M. (1970). *I know why the caged bird sings.* New York: Random House.

Anderson, B.S., & Zinsser, J.P. (1988). *A history of their* own: *Women in Europe from prehistory to the present.* New York: Harper & Row.

Arnold, K.D. (1993). Academically talented women in the 1980s: The Illinois Valedictorian Project. In K. Hulbert & D. Schuster (Eds.), *Women's lives through time: Educated American women of the twentieth century* (pp. 393—414). San Francisco: Jossey-Bass.

Astin, H.S., & Leland, C. (1991). *Women of influence, women of vision.* San Francisco: Jossey-Bass.

Belenky, M.F., Clinchy, B.M., Goldberger, N.R., & Tarule, J.M. (1986). *Women's ways of knowing.* New York: Basic Books.

Ben-Dor, T.R. (1979-80). Interaction between sexual stereotypes and high IQ: The case of the gifted woman as reflected in the Terman study. *Interchange, 10,* 67—77.

Betz, N.R., & Fitzgerald, L.F. (Eds.). (1987). *The career psychology of women.* Orlando: Academic Press.

Bolen, J.S. (1984). *Goddesses in everywoman: A new psychology of women.* San Francisco: Harper & Row.

Brabeck, MM. (Ed.). (1989). *Who cares?: Theory, research, and educational implications of the ethic of care.* New York: Praeger.

Braxton, J.M., & McLaughlin, A.N. (Eds.). (1990). *Wild women in the whirlwind: Afro-American culture and the contemporary literary renaissance.* New Brunswick, NJ: Rutgers University Press.

Cheng, N. (1986). *Life and death in Shanghai.* New York: Penguin Books.

Clark, B. (1988). *Growing up gifted: Developing the potential of children at home and at school* (3rd ed.). Columbus, OH: Merrill.

Conway, J. K. (1990). *The road from Coorain.* New York: Vintage Books.

Cook, B.W. (1992). *Eleanor* Roosevelt. New York: Viking Press.

Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience.* New York: Harper & Row.

Csikszentmihalyi, M., & Robinson, R.E. (1986). Culture, time, and the development of talent. In R.J. Steinberg & J.E. Davidson (Eds.), *Conceptions* of giftedness (pp. 264—284). New York: Cambridge University Press.

Drake, W. (1987). The *first wave: Women* poets *in America (1915—1945).* New York: Macmillan.

Dubois, E.C., & Ruiz, V.L. (Eds.). (1990). *Unequal sisters: A multicultural reader in* U.S. *women's* history. New York: Routledge.

Estes, C. P. (1992). *Women who run with the wolves: Myths and stories of* the wild *woman archetype.* New York: Ballantine.

Faludi, S. (1991). Backlash: The *undeclared war against American women.* New York: Crown.

Feldhusen, J.F. (1992a). From the editor: Talent identification and development in education. *Gifted Child Quarterly, 36,* 123.

Feldhusen, J.F. (1992b). *Talent Identification and Development in Education (TIDE).* Sarasota, FL: Center for Creative Learning.

Fleming, E.S., & Hollinger, C.L. (1994). Project CHOICE: A longitudinal study of the career development of gifted and talented young women. In R.F. Subotnik & K.D. Arnold (Eds.), Beyond Terman: Contemporary *longitudinal studies of giftedness and talent* (pp. 316—348). Norwood, NJ: Ablex.

Fraser, A. (1988). *The warrior queens.* New York: Vintage.

Gagne, F. (1993). Constructs and models pertaining to exceptional human abilities. In K.A. Heller, F.J. Monks, & A.H. Passow (Eds.), *International handbook of research and development of giftedness and talent* (pp. 69—88). Oxford: Pergamon Press.

Gardner, H. (1983). *Frames of mind.* New York: Basic Books.

Gordon, L.D. (1990). *Gender and higher* education *in* the progressive *era, 1890—1920.* New Haven, CT: Yale University Press.

Gruber, H.E. (1985). Giftedness and moral responsibility: Creative thinking and human survival. In F.H. Horowitz & M. O'Brien (Eds.), The *gifted and talented: Developmental perspectives* (pp. 30 1—330). Washington, DC: American Psychological Association.

Gruber, H.E. (1993). Creativity in the moral domain: Ought implies can implies create. *Creativity Research Journal, 6,* 3—15.

Holland, D.C., & Fisenhart, M.A. (1990). *Educated in romance: Women,* achievement, *and college culture.* Chicago: The University of Chicago Press.

Hollinger, C.L., & Fleming, E.S. (1992). A longitudinal examination of life choices of gifted and talented young women. Gifted *Child Quarterly,* 36, 207—212.

Hulbert, K.D., & Schuster, D.T. (Eds.). (1993). *Women's lives through time: Educated American women of the twentieth century.* San Francisco: Jossey-Bass.

Josselson, R. (1987). *Finding herself: Pathways to identity development in women.* San Francisco: Jossey-Bass.

Keller, E.F. (1983). *A* feeling *for the organism: The life and work of Barbara McClintock.* New York: W.H. Freeman.

Kellian, J. (1983). Personality characteristics of intellectually gifted secondary students. *Roeper* Review, 5, 39—42.

Kerr, B.A. (1985). *Smart girls, gifted women.* Columbus, OH: Ohio Psychology.

Kerr, B.A. (1994). *Smart girls two.* Dayton, OH: Ohio Psychology. Kitchener, K., & King, P.M. (1981). Reflective judgment: Concepts of justification and their relationship to age and education. *Journal of Applied Developmental Psychology, 2,* 89—116.

Lerner, G. (1972). *Black women in white America: A documentary history.* New York: Vintage Books.

Lightfoot, S.L. (1988). *Balm in Gilead: Journey of* a *healer.* New York: Addison-Wesley.

Lubinski, D., & Benbow, C.P. (1994). The study of mathematically precocious youth: The first three decades of a planned 50-year study of intellectual talent. In R.F. Subotnik & K.D. Arnold (Eds.), *Beyond Terman: Contemporary longitudinal studies of giftedness and talent* (pp. 255—281). Norwood, NJ: Ablex.

Menchu, R. (1984). *I, Rigoberta Menchu: An Indian woman in Guatemala* (A. Wright, Trans.). London: Verson.

Mernissi, F. (1987). *Beyond the veil: Male-female dynamics in modern Muslim society.* Bloomington: Indiana University Press.

Mernissi, F. (1991). The veil *and the male elite: A feminist interpretation of women's rights in Islam.* Reading, MA: Addison-Wesley.

Miller, J.B. (1976). *Toward* a *new psychology of women.* Boston: Beacon Press.

Moon, S.M., & Feldhusen, J.F. (1994). The Program for Academic and Creative Enrichment (PACE): A follow-up study ten years later. In R.F. Subotnik & K.D. Arnold (Eds.), *Beyond Terman: Contemporary longitudinal studies of giftedness and talent* (pp. 375—400). Norwood, NJ: Ablex.

Morrison, A.M., White, R., & Van Velso, E. (1992). *Breaking the glass ceiling: Can women reach the top of America's largest corporations?* Reading, MA: Addison-Wesley.

Nakano, M. (1990). *Japanese American women: Three generations 1980—1990.* Berkeley, CA: Mina Press.

National Center for Education Statistics. (1991). *Race/ethnicity trends in degrees conferred by institutions of higher education: 1978-1979 through 1988—1989.* Washington, DC: National Center for Education Statistics.

National Research Council. (1991). Women in science *and* engineering: Increasing their numbers in *the* I 990s. Washington, DC: National Academy Press.

Noble, K.D. (1987). The dilemma of the gifted woman. *Psychology of Women Quarterly, 11,* 367—3 78.

Noble, K.D. (1989a). Counseling gifted women: Becoming the heroes of our own stories. Journal for the Education of the Gifted, 12,131—141.

Noble, K.D. (1989b). Living out the promise of high potential: Perceptions of 100 gifted women. *Advanced Development, 1,* 57—75.

Noble, K.D. (1994). The *sound of a silver* horn: Reclaiming the *heroism in* contemporary women's lives. New York: Fawcett Columbine.

Noble, K.D., Robinson, N.M., & Gunderson, S. (1993). All rivers lead to the sea. A follow-up study of gifted young adults. Roeper Review, 15, 124—131.

Noble, K.D., & Smyth, R.K. (1995). Keeping their talents alive: Young worn-en s assessment of radical acceleration. Roeper Review, *1* ~ 1).

Oakes, J. (1990). Lost talent: The underparticipation of women, minorities, and the disabled persons *in* science. Santa Monica, CA: RAND.

Ochse, R. (1990). Before the gates of excellence: Detemiinants *of creative* genius. New York: Cambridge University Press.

Pagels, E. (1988). Adam, *Eve,* and the serpent. New York: Random House. Pearson, C.S., Shavlik, D.L., & Touchton, J.G. (1989). *Educating* the majority: *Women challenge*

tradition *in* higher education. New York: American Council on Education/TvlacMillan.

Piirto, J. (1991). Why are there so few? (Creative women: mathematicians, visual artists, musicians). Roeper Review, *13,* 142—147.

Piirto, J. (1994). Talented children *and* adults: Their development *and* education. New York: Merrill.

Pluta, M.J. (1991). *National higher education statistics, Fall 1991.*
Washington, DC: United States Department of Education, Office of
Educational Research and Improvement, National Center for
Educational Statistics.

Reis, SM. (1989). Reflections on policy affecting the education of gifted and talented students: Past and future perspectives. *American* Psychologist, 44, 399—408.

Reis, S.M., & Callahan, C.M. (1989). Gifted females: They've come a long way—or have they? *Journal* for the *Education* of the *Gifted, 12,* 99—117.

Rodenstein, J., Pfieger, 1., & Colangelo, N. (1977). Career development of gifted women. Gifted *Child Quarterly, 21,* 383—390.

Schuster, D.T. (1990). Fulfillment of potential, life satisfaction, and competence: Comparing four cohorts of gifted women at midlife. Journal of *Educational Psychology, 82,* 471-478.

Scott-Jones, D. (1991). From 'voice' to 'fugue in females' development. *Educational Researcher, 2~1),* 31—32.

Sears, P.S., & Barbee, A.H. (1975). Career and life satisfaction among Terman's gifted women. In J. Stanley, W. George, & C. Solano (Eds.), *The gifted and creative: A 50-year perspective* (pp. 28-65). Baltimore: Johns Hopkins University Press.

Silverman, L.K. (1986). Whet happens to the gifted girl? In C.J. Maker (Ed.), *Defensible programs for the gifted* (pp. 43—89). Rockville, MD: Aspen.

Solomon, B.M. (1985). *In the company of educated women.* New Haven, CT: Yale University Press.

Stone, M. (1976). When *God was a woman.* San Diego: Harcourt Brace, Jovanovich.

Subotnik, R.F., Duschl, R. & Selmon, E. (1993). Retention and attrition of sc~ ence talent: A longitudinal study of Westinghouse Science Talent Search winners. *International Journal of Science Education, 15,* 6 1—72.

Subotnik, R.F., Karp, D.E., & Morgan, E.R. (1989). High IQ children at midlife: An investigation into the generalizability of Terman's genetic studies of genius. *Roeper Review, 11,* 139—1~.

Subotnik, R.F., & Steiner, C.L. (1994a). Adult manifestations of adolescent talent in science: A longitudinal study of 1983 Westinghouse Science Talent Search winners. In R.F. Subotnik & K.D. Arnold (Eds.), *Beyond Terman: Contemporary longitudinal studies of giftedness and talent* (pp. 52—76). Norwood, NJ: Ablex.

Subotnik, R.F., & Steiner, C.L. (1994b). Problem identification in academic research: A longitudinal case study from adolescence to early adulthood. In MA. Runco (Ed.), *Problem finding, problem solving, and creativity* (pp. 188—200). Norwood, NJ: Ablex.

Subotnik, R.F., & Strauss, SM. (1995). Gender differences in classroom participation and achievement: An experiment involving Advanced Placement calculus classes. *Journal for Secondary Gifted Education*, 6, 7745.

Terman, L.M., & Oden, M.H. (1959). *Genetic studies of genius: Vol.* 5. *The gifted group at mid-life.* Stanford, CA: Stanford University Press.

Vetter, E.M. (1991). *Professional women and minorities: A manpower data resource service.* Washington, DC: Commission on Professionals in Science and Technology.

Walker, B.A., Reis, S.M., & Leonard, J.S. (1992). A developmental investigation into the lives of gifted women. *Gifted Child Quarterly, 36,* 201—206.

Walker, B.A., & Mehr, M. (1992). *The courage to achieve: Why America's brightest women struggle to fulfill their promise.* New York: Simon & Schuster.

Zuckerman, H., & Cole, J. (1987). Marriage, motherhood, and research performance in science. *Scientific American, 256,* 119—125.