Giftedness in the Long Term

Joan Freeman

This ongoing investigation was concerned with why some children were labeled gifted while others of identical measured ability were not. Each labeled "gifted" child was matched for age, sex, and socioeconomic status (SES) with two others in the same school class. The first matched child had an identical Raven's Matrices raw score, and the second was chosen at random for ability (N = 210). The study, begun in 1974 across the UK, used a battery of tests, including IQ, personality, behavior, and in-depth interviews of children, parents, and teachers. The group labeled gifted were found to have significantly more emotional problems than the nonlabeled group, which they mostly grew out of. This follow-up study demonstrates that for the subjects now in their 40s, a gifted childhood has not always delivered outstanding adult success. Better predictive factors for adult success were hard work, emotional support, and a positive, open personal outlook. By 2005, the labeled and nonlabeled gifted groups were not very different in life outcomes, though both groups were much more successful than the random-ability group.

Longitudinal Studies

The major benefit of longitudinal studies of gifted and talented children is tracking behavior as it develops so that early indicators may be recognized and successful developmental procedures promoted for the benefit of others. The major disadvantage is that such studies inevitably began a long time ago when things were different, bringing into question the relevance of findings to current circumstances. In research terms, older methodology is always old-fashioned, in the sense of: "I wouldn't start from there if I were you."

Giftedness is a social construct, and this can be seen in the selection of samples of children seen as gifted. Virtually all follow-up studies of gifted children select participants based on extremely

Joan Freeman is Professor at Middlesex University, London, UK; founding President of the European Council for High Ability (ECHA); and was Editor-in-Chief of *High Ability Studies*. Her many publications and international presentations on the development of gifts and talents are based on her considerable research.

Journal for the Education of the Gifted. Vol. 29, No. 4, 2006, pp. 384–403.

high scores on IQ or other attainment tests; that is, children who are demonstrating recognizable giftedness acceptable within a society at that time (see Freeman, 2005). This limits the generalizability of predictions from such samples. Arnold and Subotnik (1994) have shown that giftedness may take many different forms; it may appear in quite unexpected situations and at different points during a lifetime. It is not always possible to identify future gifts, which means that theories and educational programs designed for children who are precocious in conventional areas may well be insufficiently flexible to support innovative ideas in a constantly changing society.

Attempting to avoid the trap of selection by achievement, the Fullerton Longitudinal Study in California began with 130 one-year-olds of unknown potential and their families; the only criterion being that they were healthy (Gottfried, Gottfried, Bathurst, & Guerin, 1994; see also this issue). Measures of intellectual, physical, and social development were taken regularly from 1979 to 1997. Those with an IQ of 130 or more on the Wechsler intelligence test were deemed gifted and compared with the others. Early indications of giftedness were discovered and parents proved to be good judges of high-level potential in their children. The researchers concluded that giftedness is a developmental phenomenon that can rise—and fall—over time so that "late bloomers" can be missed in a single testing.

Population statistics do not provide entirely satisfactory controls for longitudinal studies in gifted development because they are not focused on the subject matter of giftedness relative to the population from which the sample is drawn. Without this focus, the results are less clear and therefore less useful (Freeman, 1998). Yet, longitudinal studies of gifted children rarely make any comparisons with control groups matched for age, sex, educational experience, and socioeconomic status (SES). This was true, for example, in the Terman studies in California, which, in 1925, selected 856 boy and 672 girl "geniuses" with IQs of 130+, eventually producing more than 4,000 variables (Terman, 1925–1929). Even keeping the time period in mind, there were considerable flaws in the sampling (Holahan & Sears, 1995). In Chapter 2, "Nature of the Study," Holahan and Sears describe how "no private, parochial (religious) or Chinese schools"

(p. 11) were included. The subjects, between 2 and 22 years old, were almost entirely the progeny of White university staff along with "occasional recruiting from his colleague's families" (p. 13). Data was collected over a period of 7 years, and as early as 1928, a quarter of the original sample had been replaced. This replacement continued for many years, so that the sample was neither longitudinal nor valid. But, it was, of course, interesting and seminal.

Terman's (1925–1929) "geniuses" were considerably above average in every way, including height and leadership qualities, probably because they enjoyed well above the population norms of nourishment, exercise, and education. Holahan and Sears (1995) found that the "Termites" in their 70s and 80s were no more successful in adulthood than if they had been randomly selected from the same socioeconomic backgrounds—regardless of their IQ scores. This was somewhat mirrored in the findings of Subotnik, Kassan, Summers, and Wasser (1993) who investigated a sample of 210 New York children selected for the Hunter College Elementary School by nomination and high-IQ scores (M = 157). None had reached eminence by the ages of 40 to 50, nor were they any more successful than their socioeconomic and IQ peers in spite of their tailor-made gifted education.

The Seattle Longitudinal Study has been concerned with intelligence (though not focused on giftedness) and aging since 1956 (Schaie, 2005). It has examined expanding families over three generations (the constantly replenished sample reached 6,000) and found that social effects influence the stability of IQ with increasing age. Intellectual and perceptual abilities remain high for individuals who stay active and open-minded; notably, people satisfied with their accomplishments in midlife are at a considerable advantage as they age.

The Munich Longitudinal Study of Giftedness began in 1985 with a sample of 26,000 children identified by a wide variety of intellectual, personality, and achievement tests (Perleth & Heller, 1994). The team devised 30 identification scales that disclosed a significant number of gifted underachievers who were typically found to be more anxious, easily distracted, and with lower self-esteem than the high achievers.

In a review of 14 American and German follow-up studies of varied design, Arnold and Subotnik (1994) pointed to several important factors in conditions for the development of talent. Timing, they suggested, is the "inextricable link" in the identification of potential because of age-related stages of development. Thus, the older the sample, the more reliable the prediction. But, for the greatest reliability, information should be collected at different points in an individual's life, preferably within specific subject areas in which the child shows promise and interest.

Further evidence that high-level school achievement may not continue in adult life comes from a 15-year follow-up of 82 valedictorians (the highest grade earners in high school) from 32 schools across Illinois (Arnold, 1995). It showed that exceptional grades were not good long-term predictors of later high achievement. Each individual participated in five or six interviews after leaving school. They had enjoyed all aspects of school and had used it efficiently to prepare for their future lives. Their major academic advantage was in their determination to better themselves. Neither boys nor girls felt themselves to be outstandingly clever, nor had they been labeled as such. None of the individuals in this sample made outstanding progress in their careers (particularly the women), and by age 26, many were disillusioned. A longer follow-up might have shown different results.

The long-term benefits of early special provision for the gifted are uncertain. In spite of an initially higher measured achievement and student feelings of satisfaction, the advantage of gifted education tends to disappear over a few years (White, 1992). Without the long-term perspective, programs for the gifted may not be justified (Freeman, 2002). For example, a recent UK review of international published research on commercial Accelerated Learning programs found no transparent evidence of their effectiveness, though they were "voraciously marketed" and a placebo effect was detected (Comerford Boyes, Reid, Brain & Wilson, 2004). Additionally, the programs often borrow terms and ideas from neuroscience without any actual scientific reference to learning. Yet, for perhaps thousands of schools around the world, these are the programs of choice for the gifted and talented.

Measures of Giftedness in the Long Term

The measurement of intelligence is among the best and most resilient success stories in all of scientific psychology, according to the American Psychological Association's task force (Neisser et al., 1996). After a century of solid, replicated research, intelligence levels, the report concluded, reliably predict life outcomes in education and the workplace, as well as aspects of health, such as how long people live. For example, a step up of just one standard deviation in IQ in 11-year-old girls improves their chances of reaching the age of 76 by 25% (Whalley & Deary, 2001).

On Wednesday, June 1, 1932, practically every Scottish child born in 1921 ($N = 89{,}498$) took the same intelligence test (the Moray House) with the same time limit after hearing the same instructions (Deary, Whiteman, Starr, Whalley & Fox, 2004). The still ongoing study of their lives is concerned with the stability of intelligence differences across the lifespan, the determinants of cognitive change from childhood to old age, and the impact of childhood intelligence on health and quality of life in old age. Data were compared with public records for the whole UK. In this case, because a whole population was sampled, it does make more sense to use the national statistics for comparison. IQ has been found strongly stable across the lifespan. Current tests and interviews show those of higher intelligence to be both physically and mentally in better health.

The continuing multidisciplinary National Child Development Study recruited 17,414 children born in Britain during one week in March 1958 (Centre for Longitudinal Studies, 2005). When Hitchfield (1978) studied a sample of the brightest children, selected by multiple criteria, she found that in spite of the whole population sampling, those identified as gifted were largely drawn from the middle class. They were also "more stable and less unsettled and maladjusted than the birthweek children as a whole" (p. 24), although their parents worried more about them. One of the later studies, using male data only (a common practice of the time) looked at how the boys' intelligence, measured at the age of 11, was related to their lives at the age of 42 (Nettle, 2003). In Britain, which was becoming much more socially mobile in the late 60s, a boy's high intelligence

was found to provide the means to reach a social status higher than his father's. This would not have been true a generation before.

In Warsaw in 1974, a population cohort of 13,000 eleven-year-olds was tested for intelligence and school achievement (Firkowska-Mankiewicz, 2002). The subjects' achievement levels were about as closely related to their IQs as to their parents' education levels, a similar result to relationships found in "more traditional industrial societies." In this case, though, the research was carried out during a time of "egalitarian social policy," or before the fall of Communism. Of the high-IQ group, 90% had received secondary education, and by their 30s, many were in their professions. But, in the low-IQ group, only two youngsters had managed education beyond primary level (not quite the proportion in "traditional societies"). Both were the children of professionals, and one of them obtained a Ph.D.

Extracognitive Influences

Intelligence, however defined and measured, is only part of the complex dynamics of exceptionally high-level performance, which must include extracognitive dynamics such as self-esteem, support, and motivation—as well as opportunity (Dweck, 1999; Freeman, 2005; Shavinina & Ferrari, 2004). Barab and Plucker (2002), picking up Vygotsky's (1978) ideas of the social context of learning, have taken it further by arguing that perception and cognition are not properties of the individual but of an environmental transaction, such that talent is an opportunity available to all via "smart contexts"—although it may be actualized more frequently by some. Biometric studies involving families, twins, and adoptees provide reliable evidence of the environmental and genetic origins of developmental differences, both general and specific (Plomin, DeFries, McClearn & McGuff, 2001). Measurable hormonal differences for the gifted have also been claimed (Ostatníková, 2004).

In the National Child Development Study described above, childhood intelligence was not always related to how people perceived their success in life (Deary et al., 2004). The most reliable predictor in their early years was found to be positive self-esteem, and the most useful tools for actually climbing the career ladder were

optimism and pugnacity, similar to what Moon (2002) calls *personal talent*, which she describes as teachable. Indeed, Trost (2000), investigating prediction of giftedness in adult life, calculated that less than half of "what makes excellence" can be accounted for by measurements and observations in childhood; for intelligence, no more than 30% can be accounted for. The key to success, he wrote, lies in the individual's dedication. Others have suggested optimism as the key (Peterson, 2000; Ryan & Deci, 2000; Seligman, 1991).

Work for more than 10 years at the John Hopkins University Center for Talented Youth (CTY) has found that by the age of 12 the students, who were all volunteers, were significantly different from the general population on the personality test, the Myers Briggs Indicator (Mills, 1993). The most consistent finding was that the majority of the gifted students scored highly on intuition, as indeed is claimed of Nobel Prize winners (Shavinina & Ferrari, 2004). Mills interpreted this as a preference for abstract and theoretical thinking, whereas most nongifted students prefer to be factual and pragmatic.

Some follow-up studies are very small. In Australia, for 20 years Gross (2004) has followed 10 boys and 5 girls originally aged 11 to 13, chosen because their Stanford-Binet IQs were more than 160. In general, the youngsters were found to have low self-esteem, "moderate to severe levels of depression," not to mention "loneliness, social isolation and bitter unhappiness" (p. 199), which Gross lays at the door of a severe failure to match the level and pace of their learning. As there were no controlled comparisons with any other children, it is difficult to tell whether the subjects were representative of other Australian high-IQ children. Of the six American boy "prodigies" followed-up for 10 years, none continued their advantage into adult achievement, a feature of hot-housed children (Feldman, 1986). Child case studies provide richness but can miss the wider environmental influences, whether of society or, within the family, the different interactions of parents with siblings. Each member of a family reacts personally to expectations and encouragement, the outcome being influenced by their genetic, developmental, and social perspectives (Freeman, 2000a; Ronald, Spinath, & Plomin, 2002; Rutter, 2005).

A 15-year Chinese study of 115 extremely high-IQ children showed the strong influence of family provision, both in achievement and emotional development (Zha, 1995). The children were first identified by parents and then validated as gifted by a psychologist. Every year, the parents were interviewed several times. By the age of 3, many children could recognize 2,000 Chinese characters, and at age 4, many could not only read well but also wrote compositions and poems. However, these hot-housed children were found to lack easy social relationships, so the parents were given lessons in how to help their children get along with others.

There are many concerns about the emotional effects and expectations of those labeled gifted. When emotional disturbance is associated in a stereotyped way with gifts and talents, and so anticipated by parents, it is more frequently found. Culturally, whereas some children are permitted to be recognized as gifted and talented (those who fit the current description), others (e.g., minorities, the disabled, and the socially awkward) may not be (Freeman, 2003, 2005). Parents who use the term gifted have been found to be more achievement-oriented and diminish their children's emotional expression, typically producing less well-adjusted children than the parents who did not use this term (Cornell & Grossberg, 1989; Freeman, 2001).

The Freeman Follow-Up Study

A controlled comparison study was begun in 1974 of labeled gifted, nonlabeled gifted, and random ability children in Britain. The initial concern was to find why some children were labeled as gifted while others—of identical measured ability and achievement—were not so described. The investigation has used psychological testing and in-depth interviews with the subjects, their parents, and their teachers in both school and home environments. The study was designed to combine statistical and in-depth interview approaches.

The target group was 70 children aged 5 through 14, who had been described as gifted by their parents (almost entirely without testing), all of whom had joined the National Association for Gifted Children (NAGC; the UK association is made up mostly

of parents). Each target child was matched with two control children of the same sex, age, and SES, sharing educational experience in the same school class. This careful matching enabled ability to be assessed through the Raven's Progressive Matrices test's raw scores, rather than with the less-accurate percentiles. This group pattern test is nonverbal, and scores are very much less affected by home and school educational effects; therefore, it is internationally widely used as a "culture-free" test.

The first control group was selected for ability identical to the target identified gifted children, though not labeled as such. The second control group was taken at random from the class, culling a wide range of abilities from gifted to below average depending on the school class makeup. Some of the schools in the sample selected pupils by ability so that in the triad matching, the random second control group child would more likely be gifted; other schools were more heterogeneous in nature, so that the second control group child might be below average. As there was no discernible difference in the achievements or measured abilities between the target and first control children, the essential difference between them was whether or not they had been labeled as gifted by their parents.

The battery of tests given to all the sample children included a second individually given intelligence test, the Stanford-Binet, which scores learned material, such as vocabulary and arithmetic problems skills (not to mention the Protestant work ethic, see Freeman, 2005); Cattell's personality tests; the Bristol Social Adjustment Guides (Stott, 1987; for school behavior); and music and art tests (specially constructed). From the 63 schools, ratings were made of the teachers' reports on the children's school achievements (no uniform measure was available) and the head teachers' descriptions of school ethos and population. Children and parents were interviewed, the audiotaped transcriptions were rated, and together with other data, produced 229 variables that were statistically analyzed with orthogonal comparisons and nonparametric analyses. The interview transcriptions were also carefully scrutinized for further information that may not have been anticipated in the original ratings.

The uniqueness of this investigation was in the methodology of using carefully matched controls, in addition to the long, deep

interviews over more than three decades. Of the whole sample, 170 children scored at the 99th percentile on the Raven's Matrices scale. Stanford-Binet IQs ranged from the 46 children with an IQ of less than 120 to 18 children with IQs above 160; 13 reached the Stanford-Binet IQ test ceiling of 170. Calculations to increase this quotient do not appear to be either reliable or meaningful. Family finances ranged from very poor to very rich.

Unexpectedly, the audio recordings demonstrated the unreliability of memory, such as when the same incident was described by children and parents, even shortly afterwards, or when, as adults, the subjects remembered their youth. One student I interviewed at Oxford University in the 1980s had been grade skipped by 3 years, and was young, lonely, and often in tears, but 20 years later, she remembered that time as blissful. I did not disillusion her. The police are familiar with memory distortion, but researchers and biographical writers seem strangely unaware of it.

There has been attrition over the years so that by 2005, the original sample (which is still under search) was not more than 100 subjects. Fortunately, the original groupings are emerging in the same proportions so that outcomes are systematic and recognizable, although not yet analyzed statistically.

Findings From the Freeman Follow-Up Study

The Label

As children, the labeled gifted were usually treated differently by their parents and teachers, whether positively or negatively, and naturally they were aware of adult expectations. Parents might tell me, for example, that their child was too clever to play with others of the same age—in front of the child—and the child may indeed have found it difficult to have friends. Whether this was a personality feature of the child or a consequence of life experiences would be difficult to say. The forces from school and parents spurring the gifted on to greater advancement could be strong, as discovered in

the rated questionnaire responses; several subjects rose to the challenge, obtaining doctorates in their early 20s.

Others, though, felt they could never live up to the expectations of giftedness and became big fish in small ponds, as Zeidner & Scheyler (1999) described. Typically, this would be like the student of extremely high IQ who chose a small college where her cultivated gifted image could shine unchallenged. Some largely ignored their gifts, following their low-SES parents into fairly mechanical work. Others, in spite of opportunity, never managed to fit comfortably into the cut and thrust of challenging work, eventually settling for modest but secure jobs supervised by others. As so many other researchers have found, precocity, extremely high IQ scores and school grades, as well as grade skipping, were not a route to grown-up high achievements for this sample—except perhaps for those who continued in a similar path, becoming teachers and academics.

Emotional Development

As children, the labeled gifted had a far higher incidence of emotional problems ($p < .01$) when compared with the nonlabeled equally gifted. Although the labeled and nonlabeled students in each triad were in the same school class and thus experienced identical teaching, parents of the labeled children made significantly ($p < .01$) more complaints about school provision. The long parental interviews in their own homes disclosed that the labeled gifted children with emotional difficulties had significantly ($p < .01$) more problematic domestic circumstances, such as parental divorce or experiences that would disturb most children. One cannot imply that the distinctly higher level of emotional and behavioral problems measured in these labeled gifted children were caused by their parent's pressure on them. One can only report that this in-depth investigation discovered significantly more disturbing features in the home lives of the more problematic gifted children when compared with those of the nondisturbed equally gifted children. Using both the Stanford-Binet IQ and the Raven's scores along with the rated data from the interviews, it was possible to see that it was not intelligence as such that caused these disturbances, but other matters in the children's lives

(e.g., divorce, moving frequently) and parental attitudes to their children's upbringing (e.g., TV watching, homework, and punishment). When asked why they had joined NAGC (UK) for their children, most parents cited the children's problems as typical of giftedness. The gifts often got the blame. Fortunately, as the children grew up and became more independent, most of these problems disappeared, though not all. My impression of the labeled group in their 40s is of more depression than in the other groups.

Grade Skipping

Only 17 of the whole sample had been grade skipped, as this is not a common practice in the UK. Sixteen of them are now determined that they would not allow this for their own children; just one, who was tall and mature for his age, said it had been good for him, notably because he could leave school earlier. As one of the fathers said of his adolescent son accelerated by 2 years in an all-male school, "I felt very sorry for him; he was still a boy, and they were men."

Influences on Success in Life

The most successful adults had been more robust and sociable as children, as seen in the group comparisons of the 1970s and 1980s. Werner and Smith (1992) coined the term *resilient children* to describe successful survivors in very poor conditions, but strangely the same environmental and personality factors seemed to benefit these relatively privileged youngsters, notably those who were "engaging," with supportive adults, responsive schools, sometimes sincerely felt religion, and well-above-average intelligence. In terms of conventional success in life, such as high examination marks, rising up the corporate ladder, or making money, the primary building blocks were always keenness and hard work allied with sufficient ability, formal educational opportunity, and an emotionally supportive home. The literature review above shows that these factors are found in conventionally successful lives over and over again.

High-level creativity, as seen in adult careers, has demanded a particular type of personality that is relatively independent of oth-

er's opinions and at times greatly courageous. The successful gifted architect who was a regular school truant, for example, did not do well in his exams and did not show his talents until long after he left university with a modest degree.

Whether conventional and rule abiding or constantly straining at the leash, the children have usually carried their personal style through to adulthood. One of the myths about gifted adults is that as children many had unhappy lives, notably writers, such as Edgar Allan Poe or Rudyard Kipling, or for that matter Winston Churchill. However, for this sample, poor home circumstances, such as a constant change of "uncles," did nothing but harm to the possibility of adult success. In general, it was true that poverty disables while wealth enables. The very rich highly gifted girl, for example, took her first degree at Harvard University as her rightful and natural progression before entering Cambridge University for her higher degree. She then left for South America and returned with a husband who had little formal education. She now has a prestigious position at the Foreign Office while being the main financial support for her two children and her husband.

Yet, many of the sample had accepted their parents' views that some of the good things in life, such as a professional career, were not for them, even though they had the ability to do almost anything they could imagine and more. Many opted for modestly paid clerking-type work and called it coming to terms with reality. The 13 individuals who hit the top of the Stanford-Binet IQ scale at 170 have shown great variety of adult occupation: one became a professional gambler, another is a janitor at a sports club, one has a small business, another is a full-time mother, one never uses his early Ph.D. and works in IT, and so on. Some outcomes were largely predictable and some were not, such as the boy with a disability from an educationally and financially poor background who became a millionaire banker at age 34.

Pressure. A clear warning against too much academic pressure on youngsters with high IQs emerged from the research. Much pressure came from highly academic schools aiming their pupils towards prestigious universities. Some youngsters seemed to subdue their

personalities while striving for perfect grades, so that their healthy emotional development, including the freedom to play and be creative, was severely curtailed. Such pressure could have the opposite effect from what was intended when the students took unexpected life routes. The worst affected were the accelerated boys specializing in science, eyes on microscopes, who missed out on social relationships. Most of them now say they regret the loss of childhood fun.

Sometimes far too much of the gifted young people's energy had gone into fighting their school regimes and teachers supposedly there to help them. Too many had dissipated their time and energies into wrong channels because of poor educational guidance. At times, the youngsters told me that they had known exactly what they had wanted to do but were thwarted by reasons such as school time tables or teacher opinion. They instead went into areas for which they were less well suited. One girl at a high-powered school, for example, was told that biology was not for her. Defying the school's advice, she secretly entered a competition with her own biological research and won. Only then did the school recognize her potential and permit her to study in the subject area of her choice. She is now a research pharmacist.

The social pressures that can diminish a growing child's feelings of worth were not helped much by the universities they attended. For example, there was neither adequate preparation from her school nor support from Oxford University for the gentle, sensitive girl with the IQ of 170 from a financially poor family. The social hurdles were too much for her, and she soon left to take a modest but emotionally secure job. Of course, no institution should have the power to direct the lives of its students, but without some help, especially for those whose home cannot provide it, the final link in a delicate situation can be lost.

Other Ways. There are, of course, many nonscholastic routes to satisfaction in achievement, such as with the woman with the IQ of 170 who I had described 30 years earlier as empathetically gifted. Throughout school, she was effectively the class counselor, the one to whom the others brought their troubles. She gained a psychology degree and further qualifications, and as of 2005, cares with love and

serves with deep satisfaction the down-and-outs of her city. She is neither well paid nor recognizably a high flyer.

Most subjects with an exceptionally high IQ, whether labeled as gifted or not, did much better in life than those with an average score, despite their original SES. The most successful had found ways of organizing their powerful mental abilities; they were more aware and made more efficient use of their personal learning styles. This not only helped them in examinations, but they could elaborate on their learning and take it into adult life. Most high achievers in adulthood enjoyed a mutually rewarding situation both at home and school, a feeling of comfort with their desire to learn, based on their parents' early pride and support as individuals. The less successful, even with high IQs, had remained with less mature, less efficient, short-term techniques like rote memorizing their lesson notes.

To support the development of gifted potential most effectively throughout life, it is important to follow indicators such as personal interests (Hany, 1996). Using children's precocity as the prime identifying feature of gifts and talents, with the expectation that precocity would last, could be responsible for their later apparent loss—often called *burn out*. This may be due to age-mates catching up or the gifted losing interest in the area of their exceptionality. Drawing on my own and others' work, I propose the following system of keeping the door to opportunity open for all giving giftedness a chance to develop in its own manner and time.

Freeman's Sports Approach

Freeman's sports approach works on identification by provision in school by providing a smart context for learning. It advocates that given the opportunity and with some guidance, the highly able and motivated (features recognized as essential for building excellence) should be able to select themselves to work at any subject at a more advanced and broader level (Freeman, 2000b). This does not necessarily mean grade skipping, but in the same way as those who are talented and motivated in sports can select themselves for extra coaching and practice, they could opt to take, for example, extra

Table 1
The Freeman Sports Approach

- Identification should be process based and continuous
- Identification should be by multiple criteria, including provisions for learning and outcome
- Indicators should be validated for each course of action and provision
- The pupil's abilities should be presented as a profile rather than a single figure
- Increasingly sharper criteria should be employed at subsequent learning stages
- Recognition should be given to attitudes possibly affected by social influences such as culture and gender
- The pupils must be involved in educational decision making, notably in areas of their own interest

foreign languages or physics, class subjects that are part of normal school educational provision. Beyond school, though, high flyers will take private coaching and lessons to reach international competitive standards. Of course, such facilities must be available to all—as sports are—rather than only to those preselected by tests, experts, or money. It is an inclusive formula. This is neither an expensive route, nor does it risk emotional distress to the children by removing them from the company of their friends and age-mates. It makes use of a research-based understanding of high ability, notably the benefit of focusing on a defined area of the pupil's interest, as well as providing students with what they need to learn.

To practice the sports approach, teachers need training in differentiated teaching methods in addition to a variety of specific techniques for bringing out high-level potential, such as helping students to collect information for a portfolio. Most importantly, education authorities should coordinate and share the approach and facilities. Recognition of gifts and talent in this way would also include recognition of the provision to which the students had access. This could be done by a rating scale so that children who were excelling within their context would be seen to be doing so and not penalized because they had poorer provision than others to teaching and material to learn with. An overview of the approach is presented in Table 1.

Postscript

After innumerable hours of interaction with and investigation of the individuals in this sample as they grew to adulthood, I had to conclude that many influences on happiness and success are like love—it is possible to say how it feels and what happens because of it, but there is no sure recipe to apply to others. We do, however, have very clear information about what the gifted and talented need by way of support towards self-fulfillment—an education to suit their potential, opportunities to flourish, and people who believe in them.

References

Arnold, K. D. (1995). *Lives of promise: What becomes of high school valedictorians?* San Francisco: Jossey-Bass.

Arnold, K. D., & Subotnik, R. F. (1994). Lessons from contemporary longitudinal studies. In R. F. Subotnik & K. D. Arnold (Eds.), *Beyond Terman: Contemporary longitudinal studies of giftedness and talent* (pp. 437–451). Norwood, NJ: Ablex.

Barab, S. A., & Plucker, J. A. (2002). Smart people or smart contexts? Cognition, ability, and talent development in an age of situated approaches to knowing and learning. *Educational Psychologist, 37,* 165–182.

Centre for Longitudinal Studies. (2005). *National child development study*. Retrieved April 14, 2005, from http://www.cls.ioe.ac.uk/studies.asp?section=000100020003

Comerford Boyes, L., Reid, I., Brain, K., & Wilson, J. (2004, March). *Accelerated learning: A literature survey*. Unpublished report, Department for Education and Skills, London.

Cornell, D. G., & Grossberg, I. N. (1989). Parent use of the term "gifted": Correlates with family environment and child adjustment. *Journal for the Education of the Gifted, 12,* 218–230.

Deary, I. J., Whiteman, M. C., Starr, J. M., Whalley, L. J., & Fox, H. C. (2004). The impact of childhood intelligence on later life. *Journal of Personality and Social Psychology, 86,* 130–147.

Dweck, C. S. (1999). *Self-theories: Their role in motivation, personality and development*. Philadelphia: Psychology Press.

Feldman, D. H. (with Goldsmith, L. T.). (1986). *Nature's gambit: Child prodigies and the development of human potential*. New York: Basic Books.

Firkowska-Mankiewicz, A. (2002). *Intelligence and success in life.* Warsaw, Poland: IFiS.

Freeman, J. (1998). *Educating the very able: Current international research.* London: The Stationery Office. Retrieved March 30, 2005, from http://www.JoanFreeman.com

Freeman, J. (2000a). Families: The essential context for gifts and talents. In K. A. Heller, F. J. Mönks, R. Sternberg, & R. Subotnik (Eds.), *International handbook of research and development of giftedness and talent* (pp. 669–683). Oxford: Pergamon Press.

Freeman, J. (2000b). Teaching for talent: Lessons from the research. In C. F. M. Lieshout & P. G. Heymans (Eds.), *Developing talent across the lifespan* (pp. 231–248). London: Psychology Press.

Freeman, J. (2001). *Gifted children grown up*. London: David Fulton Publishers.

Freeman, J. (2002). *International out-of-school education for the gifted and talented.* Retrieved March 30, 2005, from http://www.JoanFreeman.com

Freeman, J. (2003). Gender differences in gifted achievement in Britain and the USA. *Gifted Child Quarterly*, *47,* 202–211.

Freeman, J. (2005). Permission to be gifted: How conceptions of giftedness can change lives. In R. Sternberg & J. Davidson (Eds.), *Conceptions of giftedness* (pp. 80–97). Cambridge, UK: Cambridge University Press.

Gottfried, A. W., Gottfried, A. E., Bathurst, K., & Guerin, D. W. (1994). *Gifted IQ: Early developmental aspects*. New York: Plenum.

Gross, M. (2004). *Exceptionally gifted children*. London: RoutledgeFalmer.

Hany, E. A. (1996). How leisure activities correspond to the development of creative achievement: Insights from a study of highly intelligent individuals. *High Ability Studies, 7,* 65–82.

Hitchfield, E. (1978). *In search of promise: A long-term natural study of able children and their families*. Atlantic Highlands, NJ: Humanities Press.

Holahan, C. K., & Sears, R. R. (1995). *The gifted group in later maturity*. Stanford, CA: Stanford University Press.

Mills, C. J. (1993). Personality, learning style and cognitive style profiles of mathematically talented students. *European Journal for High Ability, 4,* 70–85.

Moon, S. M. (2002, October). *Developing personal talent*. Paper presented at the 8th Annual Conference of the European Council for High Ability (ECHA), Rhodes, Greece.

Neisser, U., Boodoo, G., Bouchard, T. J., Boykin, A. W., Brody, N., & Ceci, S. J. (1996). Intelligence: Knowns and unknowns. *American Psychologist, 51*, 77–101.

Nettle, D. (2003). Intelligence and class mobility in the British population. *British Journal of Psychology, 94*, 551–561.

Ostatníková, D. (2004). Internal environment and the role of hormones in the development of natural abilities. *High Ability Studies, 15,* 163–164.

Perleth, C., & Heller, K. A. (1994). The Munich longitudinal study of giftedness. In R. F. Subotnik & K. D. Arnold (Eds.), *Beyond Terman: Contemporary longitudinal studies of giftedness and talent* (pp. 77–114). Norwood, NJ: Ablex.

Peterson, C. (2000). The future of optimism. *American Psychologist, 55*(1), 44–55.

Plomin, R., DeFries, J. C., McClearn, G. E., & McGuff, N. F. (2001). *Behavioral genetics* (4th ed.). New York: W. H. Freeman.

Ronald, A., Spinath, F. M., & Plomin, R. (2002). The aetiology of high cognitive ability in early childhood. *High Ability Studies, 13*, 103–114.

Rutter, M. (2005). How the environment affects mental health. *British Journal of Psychiatry, 186,* 4–6.

Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology, 25*, 54–67.

Schaie, K. W. (2005). *Developmental influences on adult intelligence: The Seattle longitudinal study.* New York: Oxford University Press.

Seligman, M. E. P. (1991). *Learned optimism*. New York: Alfred A. Knopf.

Shavinina, L. V., & Ferrari, M. (Eds.). (2004). *Beyond knowledge: Extracognitive aspects of developing high ability*. Mahwah, NJ: Erlbaum.

Stott, D. H. (1987). *The social adjustment of children: Manual to the Bristol Social Adjustment Guides*. London: Hodder and Stoughton.

Subotnik, R., Kassan, L., Summers, E. & Wasser, A. (1993). *Genius revisited: High IQ children grow up*. Norwood, NJ: Ablex.

Terman, L. M. (1925–1929). *Genetic studies of genius* (Vols. 1–5). Stanford, CA: Stanford University Press.

Trost, G. (2000). Prediction of excellence in school, university and work. In K. A. Heller, F. J. Mönks, R. Sternberg, & R. Subotnik (Eds.), *International handbook of research and development of giftedness and talent* (pp. 317–327). Oxford: Pergamon Press.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: MIT Press.

Werner, E., & Smith, R. (1992). *Overcoming the odds: High risk children from birth to adulthood*. New York: Cornell University Press.

Whalley, L. J., & Deary, I. J. (2001). Longitudinal cohort study of childhood IQ and survival up to age 76. *British Medical Journal, 322*, 1–5.

White, K. R. (1992). The relation between socio-economic status and academic achievement. *Psychological Bulletin, 91,* 461–481.

Zeidner, M., & Scheyler, E. (1999). The big-fish-little-pond effect for academic self-concept, test anxiety and school grades in gifted children. *Contemporary Educational Psychology, 24,* 305–329.

Zha, Z. (1995, July–August). *The influence of family education on gifted children*. Paper presented at the World Conference on Gifted and Talented Children, Hong Kong.

Author Note

The Freeman Follow-up Study is generously supported by the Esmée Fairbairn Foundation, UK.