

Successful Careers: The Secrets of Adults with Dyslexia

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This article tells about research on highly accomplished people with dyslexia who succeeded in challenging professions, including medicine, law, business, psychology, education, and the arts and sciences. Pursuit of passionate interests was key to these men and women's career success. The article explains dyslexia and presents a Career Interest Inventory that is quick and easy to administer and will be useful to career counselors. A wide array of career choices is presented in an appendix that contains the names and professions of 60 highly successful successful men and women with dyslexia.

I am intrigued by two questions: How do men and women with dyslexia succeed in challenging careers that require training, skill, and responsibility? How is gender related to their career goals and development? There is increasing research on adults with dyslexia, but little of it is about successful individuals and their alternative pathways to challenging careers. This article fills this gap in the literature. It provides insights about gender issues as well as practical approaches that career counselors can use to steer adults with dyslexia toward satisfying, productive careers based on their own abilities and interests.

In the article, I describe research based on my face-to-face interviews and reading test results of 60 highly successful adults with dyslexia. I use the International Dyslexia Association research definition of dyslexia. Despite ongoing controversy, this definition is widely used and maintains the classic notion of an "unexpected" reading problem or "discrepancy" between the person's potential cognitive ability (often measured by the Full Scale IQ) and his or her actual reading achievement (often measured by individually administered standardized reading tests). The International Dyslexia Association definition conceptualizes dyslexia as: characterized by difficulties in single word decoding, usually reflecting insufficient phonological processing abilities. Dyslexia is manifest by variable difficulty with different forms of language, often including, in addition to problems reading, a conspicuous problem with acquiring proficiency in writing and spelling (Orton Dyslexia Research Committee, 1994, p. 7).

The successful men and women in my study were challenged by severe difficulties with reading, writing, and spelling and navigated through rough waters to success. Their ages ranged from 26 to 76, with a mean age of 45. These men and women included professionals in a variety of fields that require sophisticated reading (i.e., law, medicine, business, psychology, education, and the arts and sciences). Among them were Dr. Baruj Benacerraf, Nobel laureate in Immunology and Pathology; Professor Ann L. Brown, former Harvard and University of California educational researcher; George Deem, New York City artist, Dr. Florence Haseltine, author of *Woman Doctor* and Director of the Center for Population Research at the National Institutes of Health; Dr. Robert Knapp, Harvard University oncologist and author of *Gynecological Oncology*; Professor Ronald W. Davis, Stanford University biochemist; and Professor Sylvia Law, New York University attorney. (Appendix I lists the 60 men and women and their professional positions). These individuals were in the top echelons of their fields. Fifty-nine of the 60 men and women gave me permission to use their real names in the hope that their stories would inspire others with dyslexia who struggle in their search for meaningful work. (In a few cases, I felt information was sensitive and therefore decided to use pseudonyms within the text to protect individuals' privacy).

In conducting the project, I prepared and asked twenty interview questions in a semi-structured, open-ended format. I used Carol Gilligan's clinical interview methodology, which meant encouraging each individual to feel free to diverge from my questions, follow their own tangents, and tell their own stories in their own words.

Some of my questions were as follows:

- Tell me about your struggles, obstacles you faced, and learning and coping strategies that worked for you which you believe led to your present career success.
- What particular coping strategies do you use in your work today?
- What strategies did you use during your education and training to get through courses in technology, English, math, science, social studies, foreign languages?
- Do you think that being of a different gender with dyslexia would have made a difference? If so, how? If not, why not?
- How have you coped with your dyslexia at different stages of your life? Please begin as far back as you can remember and continue up to the present.
- How have you dealt with your dyslexia in interpersonal relationships with family, friends, educators, colleagues, and co-workers?

My primary motive in conducting the project was to discover how these men and women had managed to succeed in prestigious careers despite having grappled with problems in basic literacy. I was also interested in the roles of their parents, spouses, teachers, mentors, and career counselors. I wondered about the influence of societal notions of gender and what, if any, differences the men and women had experienced. The 60 men and women were not selected randomly. Rather, they were selected (1) if they had achieved high success in a career that requires reading and demands extensive training, skill, and responsibility and (2) if they had met the International Dyslexia Association's research definition of dyslexia. This meant that they had had unexpected difficulties learning to decode single words and/or learn adequate reading and spelling skills, beginning by first grade and continuing at least until third grade. Adults between ages 26 and 50 had been diagnosed with dyslexia by learning disabilities professionals using established assessment instruments. For those older than 50 (educated when documentation was less common), a case history of early and continuing difficulties in reading unfamiliar words, spelling, and writing constituted the "diagnostic signature" of dyslexia (Shaywitz et al., 1994, p. 7). The men and women were matched for problems and severity of dyslexia and concomitant traits, shown in **Table 1**.

They Pursued Passionate Interests

What did I learn from the interviews and test results? First, I learned that the 60 men and women succeeded as readers and as professionals by following their own interests and passions. Driven by curiosity and a passion for knowledge, they read avidly (although slowly) to find out more about their topic of interest, engaging in what Jeanne Chall called "reading to learn". Their own fascination drove them to read, experiment, and pursue a career that intrigued them. Reading success and career success were often intertwined.

Ronald W. Davis (biochemist):

I became fascinated with nitrogen chemistry. So the way to understand that was to start reading chemistry books. So I got organic chemistry books and read as many as I could find.

James Bensinger (physicist):

I knew certainly as early as fifth grade that physics was what I wanted to do. So I did a lot of reading. You know, I read magazines and books and just spent a lot of time, just reading about physics.

These men and women were "turned on" to their topic, whether it was biology, physics, or psychology. Their imaginations took flight as they discovered their own interests and found books and hands-on activities that excited them. They pursued fields of interest that engaged their imagination so much that they experienced what Csikszentmihalyi calls flow — the exhilarating feeling of being carried away on a current. While reading, they were so engrossed that they seemed to "get lost" in good books. This total immersion based on involvement and enjoyment resulted in a loss of self-consciousness that was liberating and exciting, both intellectually and emotionally.

Priscilla Sanville (arts educator):

I was amazed that I could be so locked in a book. It was like the discovery of how a book could take me somewhere different and take me into a world and characters that I could identify with. Through avid reading in a content area of high interest, these individuals with dyslexia developed knowledge of the specialized vocabulary, concepts, themes, questions, typical text structures, and critical issues of a particular field. Avid reading in one field enabled them to gain

practice, which fostered fluency and development of increasingly sophisticated skills. [For further details about their reading ability, see article in *The Annals of Dyslexia* (Fink, 1998a)].

Since they had trouble sounding out new words, these individuals relied heavily on context — the surrounding words and ideas — as an aid to reading. The men and women with dyslexia explained how they had coped in school and the workplace.

Alexander Goldowsky (museum coordinator):

I tended to be fairly, you know, context-driven. So I made assumptions very quickly based on context and usually substituted a reasonable word. Barbara Bikofsky (special educator): I used context a lot to guess at new words.

Baruj Benacerraf (immunologist):

Even today, when I can't figure out a word, I guess from the context.

Contextual guessing strategies were more reliable than phonological decoding strategies for many of these men and women.

Susan Marlett (artist):

I cannot figure out how to pronounce a word based on its letters; I always guess it wrong. But I can figure out what words mean from the words around them.

By focusing on a single domain of knowledge, many of the individuals with dyslexia became virtual “little experts” about their favorite topic, sometimes beginning at an early age. For some, early reading interests later developed into high-powered careers; for others, early reading interests developed into lifelong hobbies.

Many entered and succeeded in high-powered careers in fields that demand voluminous reading. So I wondered: How do they get through huge amounts of lengthy, complicated texts despite their continuing problems with reading speed and lingering difficulties with decoding and spelling? What I discovered was that they had developed specific coping strategies for reading sophisticated texts. For example, Sylvia Law, a Professor of Law at New York University, explained how she reads huge amounts of highly technical legal documents.

Sylvia Law (attorney):

When you're immersed in a field, you kind of know what the forest looks like, and you're looking to see if there's a particular tree in here. So it's easy to just skim and zero in on the important stuff in the law. You know, the most important sentence in a 100 page document, where it says, “The court says...” So there are a lot of techniques and filtering devices that I use to get through lengthy legal documents.

They Developed Persistence and Empathy

These men and women with dyslexia succeeded by dint of grit, hard work, and unrelenting persistence. I administered a self-concept inventory to them and discovered that, for two thirds of the men and women, persistence was a key personality trait central to their enduring self-concept. They related this trait to their own learning struggles and their need not to give up but, rather, to work extra hard and try again whenever they met with failure.

In addition, empathy was also viewed by the majority of these adults as central to their core self-concept. There were no significant differences by gender, with approximately 67% of both men and women citing empathy as part of their core self-concept. They believed that their own struggles with dyslexia had played a strong role in their development of the ability to empathize with others insofar as they had “been there” and, therefore, had personal knowledge of what it felt like to struggle as learners, both in school and at the workplace.

Men had More Mentors

Both men and women reported being supported by their parents — most often their mothers — during the elementary school years. However, the mentoring situation changed as they got older. Beginning in middle school and extending throughout each stage of life to the workplace, men overall had twice as many mentors as women. Mentors included

people who guided and supported them, such as teachers, counselors, co-workers, and family members (including spouses, grandparents, uncles, aunts, etc.).

Career Expectations were Lower for Women

Men overall believed that, despite their dyslexia, others held high career expectations for them. S. Charles Bean's remarks about his mother were typical:

S. Charles Bean (neurologist):

My mother had me picked for being great. My sister was pressured to become a wife and mother, but I was the one that was going to succeed.

However, both men and women perceived lower career expectations for women.

Tania Baker (biologist):

My high school guidance counselor transferred me out of a more difficult college track English curriculum to an easier one because I was a girl. He said that since my spelling was so bad, I could never be a secretary, but I could be a receptionist. Little did he imagine that I would become a professor at MIT!

Marlene Hirschberg (arts administrator):

My brother and I both had learning problems, but my mother pushed him to go to law school, which he did. She didn't push me.

Women were "Educated in Romance"

Overall, women with dyslexia were encouraged to develop their femininity — to enhance their attractiveness and social relationship skills. Women spontaneously reported that they were "educated in romance;" that is, they were raised with the belief that prettiness and popularity mattered more for them than being smart and succeeding in the world of work. For many women, the challenge of "doing school" was subordinated to the notion of "doing girl". For women with brothers, this stood in sharp contrast to what was emphasized in their brothers' upbringing.

Terry Bloomberg (special educator):

I always got the sense at home that my academic career wasn't that important, wasn't as important as my brother's. I was social, and my parents expected me to marry well, *marry a doctor* (which I did). My parents focused on helping my brother *become a doctor* (which he did) — even though he wasn't a very good student earlier — and he was less motivated than I was.

Families espousing gender equity apparently were not immune to the effects of traditional gender views.

Maureen Jacobson (social worker):

My family prides itself on being liberal. But in reality, we all have it; we're all part of the society. When a woman isn't able to accomplish something academically, it's usually considered okay, because she'll go get married. Someone will support her. So she's not supported or encouraged to fight the battle that a man would be kicked to do.

Denial of Access to Math and Science

I discovered that these men and women had been discouraged from pursuing courses and careers in math, science, and technology. And, some were barred outright from them. Due to their difficulties with reading, seven women and one man were explicitly told not to take courses in science and math. They vividly recalled being given this advice, even when they expressed interest and demonstrated ability in these subjects.

Dale Brown (advocate for individuals with learning differences):

I wanted to be a scientist but wasn't encouraged; I was told to avoid science courses because of my learning disability.

Women who were interested in science were channeled into more traditional female courses, roles, and occupations under the apparent assumption that, cloaked in these traditional “cultural costumes,” their learning differences would be invisible and inconsequential. A woman from a science-oriented family reported that she had not been supported to pursue her scientific interests due both to her dyslexia and to being female. Maureen Jacobson (social worker): Science is a favorite direction in my family; my father is a medical doctor. My brother, brother-in-law, and my husband are also doctors. But, being female, it wasn't anything taken seriously. I was never pushed towards the sciences or given any support even though I always wanted to be a veterinarian. So instead of becoming a vet, I became a social worker.

Ronald W. Davis was discouraged from pursuing science and forbidden from taking algebra due to his reading difficulties and low scores on intelligence and achievement tests (taken under standard timed conditions).

Guidance counselor:

Take shop. You can't be a chemist; you don't even qualify to be a chemist's assistant washing dishes. Your aptitude is not high enough even for that. ...With an IQ of 90, you'll never pass elementary algebra. I forbid you to take it. Take shop instead; major in shop.

Davis' father was a carpenter and would have been happy for his son to major in shop and become a carpenter — just like Dad. Davis' parents hadn't gone beyond the eighth grade, so they didn't have the background to recognize his scientific talents. But Davis was driven by intense curiosity about science. He wanted to go to college to become a scientist and knew that, to be accepted, he had to study algebra. So he defied his counselor.

Ronald W. Davis (biochemist):

I'm going to go and take the class...and I don't care if you don't want me to take it. I'll take shop, but I'm taking the algebra, too.

Davis borrowed an elementary algebra textbook during summer vacation and read it slowly and methodically in a manner typical of many individuals with dyslexia. And, reading at his own slow pace, he ultimately mastered the algebra concepts.

Ronald W. Davis (biochemist):

Then I got a 95, the highest grade in the class.

Davis encountered serious obstacles at every stage of life, from elementary school through graduate school and into the workplace. Yet he persisted. He failed French repeatedly in graduate school and failed freshman English in college, yet he was undaunted.

Ronald W. Davis (biochemist):

So I researched all the English comp. teachers and figured one who would give me a passing grade, given my spelling abilities. Davis learned which teacher would be likely to understand his difficulties with spelling and grammar; he discovered ways to make things work for him and passed freshman English the second time around, eventually graduating from college. His approach demanded the kind of persistence, reinterpretation, and adaptive behavior that Gerber and his colleagues call “reframing.” Davis reinterpreted his experiences of failure and engaged in appropriate behavior to cope with the obstacles and setbacks that inevitably occurred due to his struggles with dyslexia. Later, he earned a Ph.D. in chemistry, becoming an internationally acclaimed scientist known for groundbreaking research in biology and genomics. Today he works on The Human Genome Project. What carried him through were his persistence and his passionate interest about a field that he found fascinating: Science.

Fascinating — this word appeared repeatedly in interviews as individuals described their experiences. These men and women discovered what fascinated them and prepared for careers that were spurred by fascination, passion, and enjoyment. As Csikszentmihalyi has so aptly proclaimed, enjoyment “is not a hedonistic goal, but the energy that propels a person to higher levels of performance” (Csikszentmihalyi, 1991, p. 133).

Implications for Career Counselors

Consider Fields that Tap into Interests

Based on the results of this study of highly successful adults with dyslexia, career counselors should consider the powerful role of joy and fascination and help individuals with dyslexia consider fields that tap into their own passionate interests. How can counselors obtain information on interests while engaged in the time-consuming process of career counseling? One way is by administering interest inventories. These are quick and easy to administer and can be modified to fit each client's age and developmental stage. To elicit information about interests from an inventory, I have included a Career Interest Inventory with examples of relevant questions:

Career Interest Inventory by Rosalie P. Fink

1. What is the most exciting and fulfilling career that you can imagine?
2. What would be your dream career if you had no constraints of time, money, imagination, desire, talent, or lack of training holding you back?
3. What are your favorite hobbies? Sports? Arts? Books? Magazines? Newspapers? TV programs? TV specials? Movies? Video games? Computer games? Trips you've taken? Trips you'd like to take?

If a formal interest inventory does not suit your counseling style, another way to assess individual interests is informally to interview adults with dyslexia about their passions and interests; then counsel and guide them so that they match their career goals with their personal passions. Griggs and Wright (2001) have noted the importance of aligning individuals' internal purposes with their external work. How aptly this notion fits with my project's finding of the powerful role of personal interests — interests that propelled adults with dyslexia into increasingly higher literacy levels and successful, productive careers!

Consider Fields that Value Empathy

Empathy was found to be central to the enduring self-concept of a majority of these adults. There were no differences by gender, with 67% of both men and women citing the ability to empathize with others as key to their sense of who they are. These men and women seem to have developed their empathic abilities through their own painful, humiliating struggles with dyslexia. What are the implications of this finding for career counselors? Careers in education, special education, psychology, social work, and medicine — fields in which the ability to empathize with others is an important asset — are appropriate for both men and women with dyslexia. These careers should be considered seriously when exploring work options. When guiding men with dyslexia, it is particularly important not to overlook fields that value empathy but have traditionally been considered women's domains, especially in view of the finding that men with dyslexia perceived empathy as central to their self-image.

A disturbing result from this project was the finding of lower career expectations for women than men at home, at school, and in the workplace. This finding fits with research on individuals without dyslexia. Regardless whether this attitude is conscious or not, career counselors need to be aware of this type of gender discrimination. Not only is it wrong on ethical grounds, but it is also counterproductive; it prevents each individual from developing her full potential and using her full array of talents in making career choices.

Consider Careers in Math, Science, and Technology

One of the findings to come out of this project was that some individuals with dyslexia were excluded from math, science, and technology courses and careers due to their reading difficulties. But, according to Moses and Cobb, mathematical literacy is a civil right. In their book *Radical Equations*, Moses and Cobb explain that math literacy is a civil right commonly denied to disadvantaged minority youth. They link denial of math literacy directly to lack of access to one particular course: Elementary algebra. Apparently, this course acts as a gatekeeper that excludes large numbers of minority students from the opportunity to pursue higher education (since algebra is a prerequisite to higher math and college entrance). Like many minority students, men and women with dyslexia are at risk for denial of access to algebra and other challenging courses and careers. Individuals with dyslexia were explicitly discouraged from taking higher level courses in math, science, and technology because their difficulties with reading led others to the misperception that they would have difficulties with quantitative and scientific reasoning. Females with dyslexia experienced this admonition more frequently than males, a result consistent with research on individuals without

dyslexia (Wigfield et al., 1998).

However, studies reveal that women and men with and without dyslexia have succeeded in science at the highest possible levels. The lofty goal of preventing a learning disability like dyslexia from inadvertently stunting an individual's career development in math, science, technology (or any other field) requires personalized analysis of each adult's individual profile. Career counselors need to recognize that a problem with reading may obscure ability — even talent — in another area. The case histories discussed in this article underscore our need to ensure that men and women with dyslexia are encouraged to pursue courses and careers that tap into all of their talents and interests.

It's Never too Late to Imagine

It is never too late to imagine and pursue an interesting, challenging career based on passion. If individuals with dyslexia lack the necessary background and training but are interested in pursuing challenging fields, career counselors can brainstorm with them to help figure out how to obtain the necessary training. Today, many adults enter college later in life, so institutions of higher learning offer training on-line and during evening hours to fit the busy schedules of working adults. Career counselors can inform those with dyslexia about the full array of training and career options. They have the opportunity to become pivotal mentors who help individuals with dyslexia transform the dream of a satisfying career into a reality.

The men and women in my study experienced success and fulfillment in careers based on their passions. I hope the results of this project inspire and empower career counselors to guide adults with dyslexia to capitalize on their passionate personal interests and pursue truly rewarding careers.

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