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Career Development, Work-based Transitions, and Individuals with Neurological-based Disabilities

Abiola Dipeolu, Guest Editor

- Cognitive Information Processing Approach to Career Counseling Individuals with ADHD
- Career Connect: Employment Resource Model for University Students with ASD
- Career Guidance for Individuals with Asperger’s Syndrome
- Living with ADHD for Women
- Career Development and Vocational Behavior of Adults with ADHD
- A Returning Veteran with Attention Deficit Hyperactivity Disorder
- College Students with ADHD: Utility of Barkley Deficits in Executive Functioning Scale (BDEFS) for Career Planning
- Family of Origin Impact While Working with Individuals with ADHD
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- Career Development and Individuals with Dyslexia
- A Learning Skills Approach to the Career Assessment of Individuals with Dyslexia
- Working with Autism Spectrum Disorder I, NVLD, ADHD, Learning and Mood Disordered Clients--Addressing their Employment Needs
- Transitional Occupational Therapy Services for Youth with Neurologic and Developmental Disabilities
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Foreword

Looking Ahead with the Journal

We wish to thank the authors of this special issue of the Journal devoted to Career Development, Work-based Transitions, and Individuals with Neurological-based Disabilities.
A special thank you to Guest Editor Abiola Dipeolu of the University at Buffalo, The State University of New York.

Here is what we have planned for future issues of the Journal:

The Connection between Career and Mental Health, with Guest Editors Seth Hayden of Wake Forest University and Debra Osborn of Florida State University.

Online reputation management, Personal Branding, and Personal Search Engine Optimization, with Guest Editor and our Newsletter Columnist Susan Joyce of Marlborough, Massachusetts.

Job Search 6.0 with Guest Editor Marie Zimenoff of Fort Collins, Colorado.

Book Reviews 2016, with our Book Reviews Editor Maggi Kirkbride of San Diego, California.

Careers Related to the Internet, with Guest Editor and our Newsletter Columnist Melissa A. Venable.

The Military Life: A Career Defending our Nation, with Guest Editor Don Orlando of Montgomery, Alabama.

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INTRODUCTION TO THIS ISSUE

Career Development, Work-based Transitions, and Individuals with Neurological-based Disabilities

“The heady excitement of entering a new century now has abated. What remains is the serious task of considering what might or should occur in the years to come. To do this requires us...to appreciate the lessons of the past and to grasp the trends that already are beginning to shape the specialty” ~ Goodyear, Cortese, Guzzardo, Allison, Clairborn, & Packard (2000, p. 663).

Historical roots of the field of career development date back to 1901 with Boston-based advocacy efforts spearheaded by Frank Parsons for immigrant youth. Throughout 115 years, the career development field continues to be at the forefront of advocacy on behalf of marginalized populations such as individuals with disabilities (Dipeolu, 2009). With its recent centennial celebration, and the recent revision of ethical codes (National Career Development Association [NCDA], 2015; Mainzer & Dipeolu, 2015), career development professionals are poised to advance inclusiveness, especially on behalf of underrepresented groups. With current economic challenges, the provision of career services is becoming of greater importance to individuals with disabilities and trained career specialists and researchers can help.

The Bureau of Labor Statistics (2015), reports an unemployment rate for individuals with disabilities more than double than of those without disabilities (12.5 versus 5.9 per cent.). It is to be noted that career specialists, vocational psychologists and researchers have had little involvement in program development to improve transitional services for students with disabilities in the U.S. school system. Thus Creager (2011) and others enjoined career specialists and researchers to advocate for this understudied and underserved population, with hopes to offer smoother transitions in navigating a complex career trajectory. As current statistics reveal that unemployment rates for individuals with disabilities continue to increase, the field of career development must continue to use holistic and multidisciplinary efforts to embrace the diverse needs of the population and support the future growth of career development research and practice.

Though there are several trends emerging within the field of career development, five are particularly prominent in the content of this special issue. The impetus for more visibility for Career Development, Work-related Transitions, and Individuals with Neurological-Based Disabilities includes: (1) High unemployment rates among individuals with disabilities; (2) A gap in research and practice among career development professionals working with these individuals and groups; (3) Need for inclusive career counseling practice and social justice; (4) Support for a more holistic and multidisciplinary focus; and (5) Continuing expansion and exposure to international perspective.
As NCDA moves beyond celebrating its 100th anniversary to launch a new era of salient topics affecting the lifespans of individuals and groups, it is essential to center this special issue of career development on work-related transitions and individuals with disabilities. Education, advocacy and support have historically been provided for individuals seeking out future careers. Only more recently has it included people with neurological/brain disorders, such as autism spectrum disorder, learning disabilities, dyslexia, and ADHD. The field of career development can be strengthened by challenging vocational researchers and career specialists to embrace multidisciplinary work as it supports NCDA’s overall mission to "inspire and empower the achievement of career and life goals" of its professionals “by providing professional development, resources, standards, scientific research and advocacy” for all (NCDA, 2013).

With the above contextual background, it is with great pleasure and intellectual pride that I introduce this special issue on career development and work-related transition for people with neurological-based disorders; including autism spectrum disorders, learning disabilities, dyslexia, and ADHD. The idea of this special issue was born thanks to a strong recommendation from Dr. Debra Osborn, Past President, NCDA, to Steven Beasley, the Editor of the Career Planning and Adult Development Journal (CPADJ). Communicating with potential authors and coordinating submissions for the issue began in earnest once the invitation was accepted. Since then, it has been quite a process and experience, and it is exciting to see it all come together. There were 33 submissions, with less than half selected for the final publication of this special issue. I’m indebted to the reviewers who served as gatekeepers by spending a considerable amount of time going over each manuscript in order to improve clarity and quality. As the interest in this area of our work is increasingly becoming international, submissions were generated from countries as far away as India and the United Kingdom. It is my hope that the readers of the CPADJ will enjoy and be challenged by the articles in this special issue.

In the first article, “Cognitive Information Processing Approach to Career Counseling for Individuals with ADHD: A Match Made in Conceptual and Clinical Heaven!” my co-authors, Saunders, Leierer, Davies, Smyth and Deutch open with a discussion of why The Cognitive Information Processing (CIP) model is an appropriate framework to address the distinct vocational needs of individuals with ADHD (and possibly other neurocognitive-based disabilities). Understanding the importance of theory to describe, predict and explain individual career development and vocational behavior (Niles & Hartung, 2000), the authors offer CIP as a conceptual framework that matches well with the neurocognitive mechanisms associated with the difficulties noted in ADHD. We argue that the CIP with its focus on information processing domains, geared toward helping individuals become independent career decision-makers and career problem-solvers, should be considered as an appropriate intervention framework when working with individuals with ADHD. The goal is to help promote the continuing use of theory based understanding of career development research and practice when working with individuals with disabilities, particularly those with ADHD.

Two articles, one by Lisa Meeks, Tracy Masterson and Garret Westlake and the other by Barbara Bissonnette, focus on the provision of career development services for adults with Autism Spectrum Disorder (ASD). Both articles are in general agreement about the prospect of employment for individuals with ASD in the current labor market. Argument is made in the two articles that
individuals with this disability need assistance with strength based employment services/supports. They note that stable employment is positively associated with subsequent reductions in clinical symptoms and maladaptive behaviors, as well as improving daily life activities. Meeks, Masterson and Westlake discuss a model highlighting collaboration between disability services, career centers, and mental health counseling on college campuses. Given the rise in the ASD population, the development of increasingly effective models is needed. Bissonnette’s article highlights challenges faced by individuals with ASD and argues for a specialized approach to help them find a manageable job or career. The approach promoted by this article is one that highlights how ASD impacts the client and how exploring interests and skills during the career development process can help to determine the type of work environment that will be most conducive to their success.

One less visible area is the career development needs of women with ADHD. In this issue, Smyth, et al. discuss ADHD symptomatology in females and the occupational challenges that they face, which present unique challenges for career specialists. The authors provide information for counselors on the potential barriers that female clients with ADHD may face as they learn to work within the atypical reality of the disability and suggest interventions. In an additional article, Royal, Wade and Nickel discuss the various types of ADHD, distinguish the differences in symptomology among children/adolescents and adults, and include implications and strategies targeting career development and vocational behavior. Utilizing a case study approach, Bahny and colleagues focus on the career development needs of an African-American veteran with ADHD. Indeed, veterans with ADHD bring to the career counseling process unique difficulties and strengths that need to be acknowledged. Similarly, recognizing that many career-related difficulties exhibited by college students with ADHD can be traced to executive functioning (EF) deficits, Prevatt, et al. introduce the use of the Barkley Deficits in Executive Functioning Scale (BDEFS) to enhance the effectiveness of the career counseling process. To increase the understanding and significant impact of family in the career development process, Davies, et al., explore the influence of the family of origin to shed light on how career specialists could better utilize family factors in the process of career development of individuals with ADHD. Strategies are recommended to enhance the effectiveness of interventions directed at this group. In a paper that focuses on working memory deficit, Shinaver introduces CPADJ readers to innovative intervention to assist with improving the working memory recall of adult clients with ADHD to enhance the effectiveness of the career counseling process.

Centering on career development needs of adults with learning disabilities (LD) in the US, Schnieders, Gerber and Goldberg, introduce the reader to a new conceptual model based on two studies that identified elements of success in adults with LD. They espouse the superiority of this new model to previous ones and believe it will better assist practitioners and researchers when considering the multitude of tools that a client with LD needs to succeed into adulthood. The remaining two articles in this special issue point attention to therapeutic possibilities of career-based interventions. Price and Payne place the career counselor at forefront of efforts to improve employment prospect of adults with LD. Given the bleak unemployment figure reported for adults with LD, they note the critical role of the career specialist assisting with career planning for adults with LD, given their unique training in career development, work preparation, and work-based transitions. Authors provide a “Toolkit” containing useful strategies for career
specialists to assist clients with LD to reach their full potential as adults and employees. With regards to the use of metacognitive strategies in the career planning of clients with LD, Stipanovic examines the role that career-based metacognitive skill development plays in the career planning and exploration of clients with LD. The author points to the strong connection between learning-based metacognitive skills and the career development process, in that effective career development intervention requires self-awareness, understanding of learning/skills strengths and weaknesses, problem-solving skills, and self-efficacy to name a few, a connection that will enhance counselors’ work with clients in the career planning process.

Mainzer and Dipeolu remind us that the knowledge and action of career professionals based on law and ethics are central to the mission of the provision of career services. The article provides a practitioner friendly and accessible discussion of the legal statues and ethical codes to help guide career service providers as they serve and empower clients with disabilities. Authors point out that career professionals can better advocate for individuals with disabilities by having a clear understanding of the relevant laws and applicable codes of ethics. Included in the discussion are the applicable U.S. federal mandates such as section 504 of the Vocational Rehabilitation Act, the Individuals with Disabilities Education Act, and the Americans with Disabilities Act, as well as the newly revised Codes of Ethics of the NCDA, to challenge and enhance best practices with individuals with disabilities. In the end, individuals with disabilities are better served if and when career professionals are familiar with associated statutes and codes of ethics.

Though the internationalization of the career development profession is well documented (Hansen, 2003; Harris-Bowlsbey, 2003; Pope, 2003; Savickas, 2003; Whiston, 2003), the need to continue to increase the global reach of the profession is ever present. Thus, the international perspective is adequately represented in this special issue. Moody and McLoughlin, each with separate articles, provide readers with the United Kingdom’s perspective on career development and individuals with dyslexia. Specifically, Moody’s article includes a discussion of the workplace needs of those with dyspraxia and ADHD, while McLoughlin’s includes a review of current literature relating to the occupational success of individuals who have dyslexia plus how barriers to their success can be overcome through self-understanding, effective disclosure, as well as informed models of career counseling. With a case study illustration of the work-related impact of the disabilities involved, Moody explains how dyslexia, dyspraxia and ADHD collectively known as “specific performance difficulties” or "SPDs" are defined in the UK, and provides information on the ways associated difficulties can be addressed in a workplace context, including recommendations as to how career specialists can help clients with SPDs to obtain relevant occupational assistance and accommodations. Aravind, Nag, and Arulmani remind readers of the significant role that assessment can play in career counseling of children and adolescents in India. Authors introduce the readership to the International Classification of Functioning, Disability and Health for Children and Adolescents (ICF-CY), developed by the World Health Organization by way of two complementary frameworks for assessment: the Potential Profile and the Learning Skills Profile. According to Aravind, et al., besides knowing what to assess (e.g., interests, aptitudes), career specialists should also know how to assess the person with dyslexia. Authors made recommendations for the effective use of assessment in the career counseling process, especially in the case of children with dyslexia or those with similar difficulties.
In the final article of the special issue, Johnston-Tyler and Analla focus our attention on the employment needs of clients with Autism Spectrum Disorder I, Non Verbal Learning Disability, ADHD, Learning and Mood Disorders by describing a successful program specifically developed to prepare these “neurodiverse” clients with the skills they need to acquire and retain employment. The goal of the Workplace Adaptability Program is to foster true independence for this population while working in competitive employment.

Altogether, there are six themes that could help with readers’ understanding of each article within the career development framework:
2. Career Clients Need Assistance With Executive Functioning Skills/Metacognitive Skills.
3. Work-based Transitions as Ongoing Factor in Adulthood That Need to be Addressed by Career Service Providers.
5. International Perspectives Help to Recognize The Cultural Bias Which Informs Our Work and The Need For/Benefit of Reframing These Concerns Through Other Lenses.
6. Fear of Disclosing Disability Reminds us that no Matter How Well we Provide Services in Our Offices, The Real Test is When And How Our Clients Use These Skills in The Larger Environment.

I hope the articles will add to the knowledge base of the field of career development by providing useful resources and information for both career practitioners and researchers.

Editing the special issue has been tremendously gratifying. I learned from my interaction with authors and from reading their manuscripts. I would like to take this opportunity to thank the authors for their work and cooperation throughout this endeavor. I would also like to publicly express my gratitude to the reviewers, especially the CPADJ editor for guidance through the process. I hope this special issue will help to underscore the important work completed by career specialists and vocational researchers of all backgrounds. It is my hope and dream that the issue will provide more impetus for career development work in this area as well as motivate the readers to catch the NCDA vision for the second century of career development practice and research.

Abiola Dipeolu, Guest Editor

References


Chapter 1

COGNITIVE INFORMATION PROCESSING APPROACH TO CAREER COUNSELING FOR INDIVIDUALS WITH ADHD: A Match Made in Conceptual and Clinical Heaven!
by Abiola Dipeolu, Denise Saunders, Stephen J. Leierer, Leslie Davies, Alyssa Smyth, and Samuel Deutch

Abstract
Individuals with Attention Deficit Hyperactivity Disorder (ADHD) are faced with unique career development challenges. They exhibit greater dysfunctional career thoughts and struggle with career decision-making and problem-solving more than those without ADHD. The Cognitive Information Processing (CIP) model is an appropriate framework to address their distinct vocational needs. With its focus on information processing domains, this framework enables individuals with ADHD become independent career decision-makers and career problem-solvers, a sorely needed skills set for this population.

The Cognitive Information Processing (CIP) approach to career development and counseling aligns strongly with the defining characteristics of Attention Deficit Hyperactivity Disorder (ADHD) that impede successful career development in individuals with the disorder. The framework behind the CIP hierarchical information processing domains serves to make a strong case for addressing the difficulties commonly faced by individuals with ADHD. Underlying assumptions of CIP related to career decision-making, career problem-solving and self-determination allow for the practical application of the theory to sound career interventions for clients who present with ADHD.

Characteristics of Individuals with ADHD
Many individuals with ADHD present with distinctive attention problems, which may prevent them from focusing at work and/or in occupational functioning. Problems with time management, maintaining focus, and initiating and completing assignments on time, along with marked procrastination, forgetfulness, low frustration tolerance, and difficulty with scheduling and setting priorities are a few of the symptoms that directly affect work and/or occupational functioning of these individuals (Dipeolu, 2011). The Diagnostic and Statistical Manual of Mental Disorders (DSM-5) outlines the diagnostic criteria for ADHD as the prevalence of six or more (five or more for older adolescents and adults) characteristics of Inattentention and/or six or more (five or more for older adolescents and adults) characteristics of Hyperactivity-Impulsivity (American Psychiatric Association [APA], 2013). For diagnosis, these symptoms must be persistent for at least six months, severity must exceed normal developmental levels, and symptoms interfere with or
reduce the quality of social, academic, or occupational functioning (APA, 2013).

Barkley’s (1998) Theory of Behavioral Inhibition, Sustained Attention, and Executive Function is one of the most frequently discussed theories of ADHD. According to Barkley, ADHD can be understood as a problem in behavioral inhibition leading to a false sense of time awareness and management. Additionally, he notes that persons with ADHD have difficulties with executive functions, specifically self-directed behaviors such as attention and working memory, inner speech, and self-regulation of emotions (Barkley, 2012). Casey, Durston, and Fossella (2001) concur with Barkley and suggest that the behavior of individuals diagnosed with ADHD is mediated more by instant gratification as compared to the behavior of non-ADHD individuals. Therefore, inhibition, self-control, time management, time boundaries, planning, initiation, and recognition of time-specific demands are influenced by deficits in the executive functioning area, all of which are important in the career problem-solving and decision-making process. While individuals with ADHD possess many of these aforementioned characteristics, individuals without ADHD symptoms tend to be better in forethought, future planning, and attention to rules and details (Adler, 2006), which increase personal effectiveness and feelings of control.

The Neurocognitive Mechanisms Underlying ADHD
There are four neurocognitive mechanisms associated with the difficulties faced by those with ADHD. These neurocognitive mechanisms – executive function, metacognition, working memory, decision-making and problem-solving – must be understood by career specialists in order to improve their strategies to help people with ADHD. The next section describes each of these four mechanisms.

Executive Function (EF)
A diverse but related and overlapping set of skills (Cooper-Kahn & Dietzel, 2008), executive functions (EFs) are prefrontal and frontal cortical processes that control the execution, regulation, planning, and inhibition of behavior (Elliott, 2003). Executive function can be defined as self-directed actions needed to choose goals and to create, enact, and sustain actions toward goals or simply to self-regulate to achieve goals (Barkley, 2012). EFs refer to cognitive skills or functions related to mental control and self-regulation. Specifically, these functions are a set of processes that help with self-management of an individual’s resources in order to accomplish a goal successfully (Cooper-Kahn & Dietzel, 2008). In addition, EFs are needed to maintain an appropriate problem-solving strategy for the attainment of a future goal (Welsh & Pennington, 1988). The particular abilities making up executive functions include inhibition/impulse control, shift/cognitive flexibility, emotional regulation, initiation, working memory, planning/organization, organization of materials, and self-monitoring. These executive functions also include career decision-making and problem-solving capabilities. The issues related to career problem-solving and decision-making can better be explained and understood with the CIP model. The model assumes that executive functioning skills are necessary for the processing of information related to career choices and these skills are an important component of effective career decision-making. A career decision-making model such as CIP, which focuses on the significance of these skills, can be logically applied in this area to help address the functional challenges of ADHD.
As noted, impaired executive functioning, a defining characteristic of ADHD, leads to deficits in the areas of inhibitory control, organized thinking, memory, decision-making, problem-solving, maintaining attentional focus, and planning and executing plans effectively (Barkley, 1998; Casey, Durston, & Fossella, 2001; Dipeolu, 2011; Power, 2003). EFs have an impact on an individual’s ability to perform four executive tasks: (1) Inhibition – being able to stop their own behavior at the appropriate time, (2) Shift – being able to move easily from one situation to another and to be flexible, (3) Emotional control – being able to regulate and modify emotional responses using rational thought to influence feelings, and (4) Initiation – being able to begin a task or activity and to independently generate ideas, responses, or problem-solving strategies. EFs are involved when an individual holds information in mind for the purpose of completing a task (Working Memory), manages current and future-oriented task demands (Organization/Planning), imposes order on work, play, and cognitive storage spaces (Organization of Materials), and monitors one’s own performance to measure it against some standard of what is needed or expected (Self-Monitoring) (Cooper-Kahn & Dietzel, 2008).

Barkley’s theory suggests that poor behavioral inhibition is the main impairment of ADHD. Concordantly, individuals with ADHD experience considerable difficulties in planning, prioritizing, and executing activities due to impairments of executive function when solving career-related problems (Dipeolu, 2011). The impulsivity that accompanies limited behavioral inhibition in individuals with ADHD often results in poor career choices, work-related problems, and difficulties in relationships (Power, 2003; Ratey, Hallowell, & Miller, 1997). Deficits associated with EFs affect individuals’ ability to grasp a problem and come up with feasible solutions (Fast, 2004). Thus, the ability to solve problems successfully in daily life is directly tied to an intact executive functioning domain (Dipeolu, Storlie, & Johnson, 2015).

**Metacognition**

A key component of the CIP model is the Pyramid of Information Processing, which includes three information processing domains – the Knowledge Domain, the Decision-Making Skills Domain, and the Executive Processing Domain. Executive Processing, located at the top of the pyramid, involves an awareness of metacognitions as a control and monitoring skill in the career decision-making process. In its broadest sense, metacognition refers to how one thinks, or thinking about thinking (Flavell, 1974). From the CIP perspective, metacognition serves as the keystone to synthesizing information into a cohesive, comprehensive, sound decision and subsequent plan for action in career development. Metacognitions are strategies used to solve a problem that incorporate self-talk, self-awareness, and help the individual career problem-solver. Using metacognitions, clients monitor the process involved in carrying out a chosen problem-solving strategy to determine if a targeted goal is executed (Peterson, Sampson, & Reardon, 1991). Metacognitive awareness in individuals with ADHD may be less developed than those without ADHD to perform the higher-level EF aspects of cognition required for self-awareness, insight, and self-knowledge (Wasserstein & Lynn, 2006).

**Working Memory**

Working memory is an important cognitive ability associated with executive functioning. Working memory involves the temporary storage and active manipulation of internal information and has been shown to be moderately or largely impaired in individuals with ADHD compared to
those without the disorder (Alderson, Hudec, Patros, & Kasper, 2013). From a CIP-based perspective, intact working memory helps individuals make informed and appropriate decisions to solve career-related problems with competence and confidence. Drawing relationships between the two domains of self-knowledge and occupational knowledge, which are at the base of the pyramid of information processing, requires a working memory that is not overloaded.

**Decision-Making and Problem-Solving**

Resolving the dilemma surrounding career choice requires informed decision-making and the ability to make realistic vocational choices (Dipeolu, et al., 2015). Individuals with ADHD have been shown to demonstrate marked difficulty in making appropriate decisions as well as increased risk-taking behaviors (Dipeolu, 2011; Mäntylä, Still, Gullberg, & Del Missier, 2012). As noted, these individuals also show compromised EF – cognitive abilities that are vital to the decision-making and problem-solving skills necessary for career decision-making. EFs facilitate the ability to be flexible and engage in decision-making and problem-solving. To work effectively with individuals with ADHD concerning career needs, it is important to understand and identify which executive function skills are weak and the severity of the weaknesses. To sufficiently guide such individuals through the complex tasks of career decision-making and problem-solving, counselors must attend to domains connected to the execution of effective and appropriate career choices.

**Structural Components of Cognitive Information Processing**

The CIP model suggests that cognition occurs in a series of stages, “beginning with the perception of external and internal stimuli or a recognition that a problem needs to be solved, and culminating in the implementation of a decision to solve the problem” (Peterson et al., 1991, p. 7). According to the CIP model, problem-solving is defined as a gap between an existing state of being and a desired state of being. The problem is considered solved when the gap is recognized, addressed, and a solution that eliminates or decreases the gap is reached (Peterson et al., 1991, Sampson et al., 2004). Peterson et al. (1991) define career decision-making as a broader concept that includes a combination of the problem-solving process, as well as cognitive, affective, and psychomotor processes that transition a problem-solving solution to an action. The CIP framework includes an understanding that memory is crucial in career problem-solving, such as processing information about career problems. The interaction between short-term memory and long-term memory helps transform career problems into solutions by way of six phases of decision-making. The model begins when the individual perceives a career-related problem and inputs this information into short-term memory where information is further screened, translated, encoded, and sent to long-term memory for storage. As the information passes from short-term memory to long-term memory, metacognitive memory is activated, retrieving rules that govern the decision-maker’s problem-solving. This information is sent to working memory where the problem is represented and appropriate solutions are identified. The series of phases in the CIP paradigm provides structure, which makes it applicable to working with individuals with ADHD. The process between the realization of a problem and its resolution provides an opportunity for the career specialist to address the client’s executive dysfunctions and weaknesses in the command and control system. (Peterson et al., 1991, p.14).
Pyramid of Information Processing, CASVE Cycle, and ADHD

The Pyramid of Information Processing (Figure 1) illustrates the information processing domains, including the CASVE cycle necessary for effective and informed career decision-making. Using The Guide to Good Decision Making (i.e. CASVE Cycle) (Figure 2) as a template (Sampson et al., 2004), counselors can describe the decision-making steps to explain the process of making career decisions to the client with ADHD. This guide offers specific tasks designed to help the client clarify the career information and commit to a choice. The CASVE cycle includes five stages:

- Communication - “Knowing I Need to Make a Choice”
- Analysis - “Understanding Myself and My Options”
- Synthesis - “Expanding and Narrowing My List of Options”
- Valuing - “Choosing an Occupation, Program of Study, or Job”, and
- Execution - “Implementing My Choice”.

This process engages the individual by recognizing that a choice needs to be made (awareness of a gap), analyzing information about him/herself and their options; and then by researching and synthesizing these options, clients are better equipped to make a choice that is consistent with their values. The cycle continues with the implementation of the choice and an awareness of the component of good decision-making skills, as well as new knowledge gained.

Brown (2013) posits that individuals with ADHD may experience challenges when trying to manage difficult emotions that can interfere with the attention and focus necessary in effective problem-solving and decision-making. At the top of the pyramid, metacognitions occur that impact an individual’s capacity to view their skills, abilities, and options accurately; allow for management of intense emotion that may occur during the process; and encourage monitoring and thinking that may impede effective engagement in the process. The Career Thoughts Inventory (CTI; Sampson, Peterson, Lenz, Reardon, & Saunders, 1996), a brief career readiness tool based on CIP theory, allows for identification of thoughts and subsequent emotional states that can serve as barriers to effective career decision-making (Saunders, Peterson, Sampson, & Reardon, 2000). When reviewing the items reflecting dysfunctional career thoughts, both counselors and clients develop a greater awareness of areas for exploration. This can serve to offer clients with ADHD additional self-understanding necessary for full engagement in the career decision-making process.

Specific CIP-Based Interventions

The CIP model provides practitioners and clients with visual tools illustrating the stages involved in the career choice process, thereby simplifying the application of the model to practice. In addition, the CIP model can be used to access areas of impairment manifested in the neurocognitive functions of individuals with ADHD. The following represent further considerations when counseling clients with ADHD.

Decision-Making and Problem-Solving

CIP aims to help individuals make appropriate career decisions and learn improved problem-solving and decision-making skills that can be used for future career choices. The ultimate goal of the CIP approach is to help develop capable, independent career decision-makers and problem-solvers. Individuals with ADHD face several challenges in decision-making, problem-solv-
ing (Dipeolu, 2011; Mäntylä, Still, Gullberg, & Del Missier, 2012), occupational stability, and success (Holmes, 2005). They must thoroughly weigh the risks and benefits of all aspects of the career development process. At the heart of the CIP approach is the proper functioning of these capacities that undergird career decision-making and problem-solving. The CIP approach offers visual tools of the Pyramid of Information Processing and the CASVE cycle to help translate the abstract concepts involved (Bahny & Dipeolu, 2012) and provide structure for decision-making and problem-solving tasks (Sampson, et al., 2004).

**Distractibility**
A definitive characteristic of ADHD is the high level of distractibility individuals with the disorder frequently possess. This characteristic presents challenges in several aspects of these individuals’ lives, not the least of which is planning and decision-making, particularly concerning work-related pursuits. Being able to maintain focus, organize thoughts, and utilize cumulative knowledge gained over time are all essential in successfully navigating not only the career development process, but also sustained success in the world of work. As a result, nondirective activities may not be useful strategies for individuals who have ADHD because of their inability to maintain focused attention (Dipeolu, 2011); a structured intervention is preferred. According to Lewandowski (2008), individuals with ADHD often do not continue in counseling because of the seemingly non-structured nature of the process. When the session is well-organized, any impulsive tendencies are likely to be significantly curtailed (Ramsay & Rostain, 2003). The structured framework of the CIP model makes it appealing for use with individuals with ADHD who would naturally crave a structured approach to counseling.

A CIP intervention that offers additional structure and focus to the career counseling and coaching process is the Individual Learning Plan (ILP). The ILP is developed when the career specialist works with the client to identify resources and activities to help the client achieve their goals. The ILP includes a sequencing of the activities and resources to be used as well as clarification and prioritization of specific goals for the client’s career decision-making and problem-solving (Peterson et al., 1991; Sampson et al., 2004). Using an ILP in the career decision-making process provides further structure and enhances working memory, focus, and management of individual tasks to be completed in the choice process.

**Self-Knowledge**
A pivotal component in career development, specifically from a CIP-based perspective, is self-knowledge. Individuals with ADHD often hold an inaccurate self-concept and possess lower self-esteem than their non-ADHD counterparts (Norwalk, 2009), both of which are based on the existing self-knowledge of the individual. Deciding on a choice of career requires extensive understanding of the self-knowledge and adequate occupational information (Sampson, et al, 2004). The CIP approach allows for structured intentional focus on aspects of self-knowledge including interests, values, and skills. Assessment of dysfunctional career thoughts using the Career Thoughts Inventory (Sampson, et al., 1996) may also provide individuals with ADHD further insight and awareness to begin to challenge negative and self-critical thoughts that affect accurate self-knowledge, which in turn interferes with self-esteem and self-confidence. Arming individuals with accurate self-knowledge will help them articulate the contributions that they can make in a career, including how they can benefit prospective employers.
Occupational Knowledge
Occupational knowledge, a domain of the CIP model, is specific to each client’s career decision process. Occupational knowledge reflects the amount and content of information that a client has about topics such as a major or program of study, occupations under exploration, specific job opportunities, or job offers. Making career-related decisions requires adequate occupational information (Sampson, et al, 2004). The primary characteristic of occupational knowledge is the amount of career information required for effective decision-making. Specifically, because individuals with ADHD exhibit working memory difficulties, they may be at a disadvantage during the career counseling process if the counselor overloads the client with too much information, causing the individual to feel overwhelmed, therefore bringing career decision-making progress to a standstill. To be effective, counselors must monitor and determine the amount of information provided to clients with ADHD in the course of the career counseling process.

Conclusion
The task of independently solving and making career decisions requires intact cognitive abilities; however, individuals with ADHD face numerous challenges associated with career development, particularly with respect to making decisions about careers (Dipeolu, Sniatecki, Storlie, & Hargrave, 2013) due to neurocognitive impairments. The CIP approach is a model that can show great promise in addressing the career development needs of individuals with ADHD because of its overall structure and framework that put the concepts of independent decision-making and problem-solving at the center of its operations. The CIP approach to career development is an appropriate framework for career specialists to use while working with individuals with ADHD for several reasons. Its emphasis on structured heuristics to help individuals learn about the concepts and process of career decision-making allows clients to easily retain information in working memory. CIP-based interventions are learning events designed to help individuals develop information processing capacities, a missing dimension of functioning in individuals with ADHD. In essence, the learning process allows them to become self-determined, self-advocating, and capable of self-initiating – all of which are important career development tasks that must occur unaided and with confidence long after the career counseling process has ended (Ryan & Deci, 2000). Perhaps the most important contribution of the CIP-based approach is its assumption that to be effective, career interventions need to embrace career decision-making and problem-solving as a continuous, ongoing, lifelong task. This is especially significant for those with ADHD who can benefit from confidence and skill development in approaching tasks requiring independent problem-solving and decision-making. Once attained, individuals diagnosed with ADHD will be well equipped to recycle back through the decision-making cycle as often as their needs dictate and when life experiences and situations that threaten to derail previously resolved problems and/or established decisions arise (Dipeolu, 2011).

APPENDICES: Figures 1 and 2, Page 19

Figure 1. Pyramid of Information Processing Domains

Figure 2. The Guide to Good Decision Making (CASVE Cycle)
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APPENDICES:

Figure 1. Pyramid of Information Processing Domains

Figure 2. The Guide to Good Decision Making (CASVE Cycle)
References


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CAREER CONNECT:
A Collaborative Employment Resource Model for University Students with ASD
by Lisa M. Meeks, Tracy Loye Masterson, and Garret Westlake

Abstract
Individuals on the autism spectrum need additional assistance with employment-based services/supports that capitalize on their strengths. The U.S. Department of Labor developed a toolkit for the Employment First Initiative; however, there remains minimal assistance for individuals in higher education. A model highlighting collaboration between disability services, the career center, and mental health counseling that develops a cycle of support, referral, and employment targeting disability-focused employment programs are described. As more students with Autism Spectrum Disorder [ASD] have aspirations for higher education, it is imperative that college-based support services address the career development needs of these students (Mynatt, Gibbons, & Hughes, 2013). While there have been many improvements over the past decade with respect to special education and multidisciplinary treatment interventions, post-secondary transitions to employment for individuals with ASD remain fraught with challenges.

Employment is an essential part of developing self-efficacy (Gerhardt & Lainer, 2011; Larence, Alleckson, & Bjorklund, 2010). Stable employment is also positively associated with subsequent reductions in clinical symptoms and maladaptive behaviors, as well as improving daily life activities (Taylor, Smith, & Mailick, 2014). Specifically, research on ASD populations has demonstrated that employment leads to improved emotional state, greater financial gain, decreased anxiety, greater self-esteem, and greater independence (Hurlbutt & Chalmers, 2004; Mawhood & Howlin, 1999). Recent studies have also demonstrated the cost-effectiveness of supported employment for individuals with autism spectrum disorders. One study in the United Kingdom demonstrated both enhanced cost savings and improvements in quality of life, with a supportive employment model in contrast to standard care (i.e., day services) (Mavranezouli, Megnin-Vigars, Cheema, Howlin, Baron-Cohen, & Pilling, 2013).

While individual and societal benefits to employment are clear, students with ASD who have matriculated are finding it difficult to acquire and retain employment (Hendricks, 2010; Hurlbutt & Chambers, 2004). Unemployment and under-employment rates for individuals with ASD remain consistently high, even for individuals on the higher functioning end of the spectrum. It has been estimated that 50-70% of individuals on the spectrum are unemployed, with even more individuals receiving insufficient benefits and unequal compensation (Newman et al., 2011; Taylor & Selzer 2011).
Unfortunately, obtaining a college degree does not necessarily translate to improved employment outcomes for individuals with ASD (Howlin, 2000). The Asperger Training and Employment Program (ASTEP) reports that approximately 46 per cent of individuals on the autism spectrum who hold a bachelor’s degree or higher are unemployed, and of those employed, 75 per cent are underemployed (ASTEP, 2012). In a more recent study comparing employment outcomes among individuals with ASD to other disability categories, the ASD subgroup was ranked lowest with respect to job attainment (53.4 per cent) and job salary (mean income per hour was reported as $8.10) (Roux, Shattuck, Cooper, Anderson, Wagner, & Narendorf, 2013). Poor employment outcomes for the ASD population appear to be independent of intellectual ability (Schall, Targett, & Wehman, 2013; Taylor & Selzer, 2011). These statistics highlight the growing need for support services that capitalize on the strengths of individuals with ASD while fostering career development.

In fact, the United States Department of Labor (DOL) has developed the Employment First policy to, “facilitate the inclusion of individuals with significant… disabilities” into the workplace using “community-based, integrated employment as a first and preferred option” (http://www.dol.gov/odep/topics/EmploymentFirst.htm). Under this policy, states will receive funding to assist them in developing strategic plans, and will have online access to subject matter specialists. Building a community of practice teleconferences will encourage states to share their progress with one another. While the U.S. DOL has developed a toolkit for employers, researchers, policy makers, and individuals and family members, there remains no assistance or guidance for those working in higher education to implement the tenets of the Employment First Initiative.

Pro-Employment ASD Traits
Despite the challenges of finding and maintaining employment, individuals with ASD possess qualities considered attractive to potential employers, including detailed information about their subject area of interest, superiority in visual processing and visual search (Simmons, Robertson, McKay, Toal, McAleer, & Pollick, 2009), and attention to detail and tendency towards pattern-based memory (Happé & Vital, 2009). Employees with ASD are also more likely than their peers to have prompt and steadfast attendance, less personal interference with job responsibilities, more loyalty to their organization, and more adherence to organizational and task regulations (Hurlbutt & Chalmers, 2004).

Barriers to Employability
Many adults with ASD possess the knowledge and intelligence to perform specific job duties, but lack the social skills (e.g., empathizing, eye contact, “small talk”) often evaluated as part of the interview process, making the interview process a significant barrier (Strickland, Coles, & Southern, 2013). Individuals on the spectrum also experience difficulties with executive functioning (e.g., planning, organizing, managing time, etc.), which can lead to misunderstandings, poor interactions with potential work peers, and compromised work product (McCrimmon, Schwean, Saklofske, Montgomery, & Brady, 2011).

Work environment challenges for individuals on the spectrum may include the inability to control sensory stimuli (e.g., lights, noise, temperature), difficulty maintaining peer relationships, and maintaining control over stereotyped or repetitive behaviors (Hendricks, 2010; Hurlbutt &
The most notable challenge is the individuals’ inability to navigate the unwritten social rules of the workplace and make meaning of non-verbal cues and behavioral nuances (Hurlbutt & Chalmers, 2004; Speery & Mesibov, 2005). Finally, lack of experience contributes to the overall unpreparedness of individuals with ASD, given that they rarely take part in career development activities after high school, and often have limited work experience (Getzel, 2008). Individuals with ASD need additional support during the career development process with creating resumes, understanding the importance of personal appearance, presenting themselves as organized and efficient, and creating strategies for successful interviews (Geller & Greenberg, 2010).

While a host of challenges contribute to barriers for gainful employment, such challenges may be addressed through thoughtful planning and guided collaboration within the higher education setting. The Career Connect: Employment Resource Model, and the programs discussed below, provide valuable guidance for job coaches, career counselors, researchers, and practitioners who work to support employment skills for individuals with ASD. The difficulties experienced by individuals with ASD may be mitigated through job coaching, counseling assistance with organization, and institutional support (Gerhardt & Lainer, 2011), however, empirical research on the topic is scarce.

**Career Connect**

Disability Resource (DR) providers at Arizona State Polytechnic Campus and Case Western Reserve University developed working models of career development and support for undergraduate and graduate students with ASD, entitled, Career Connect. In this model, disability providers partnered with career center professionals and mental health counselors to develop a cycle of support, referral, and employment preparation for students in order to prepare for two disability-targeted employment programs: the United States Government Workforce Recruitment program and Entry Point, a program of The American Academy for the Advancement of Science (AAAS).

Workforce Recruitment (http://www.dol.gov/odep/wrp/) is a referral program that connects students and recent graduates with documented disabilities with federal and private sector employers across the United States. The Workforce Recruitment program offers students both summer internships and permanent employment in every sector of the government. This program places students from a wide variety of majors, from social science to engineering. Entry Point (http://ehrweb01.aaas.org/entrypoint/) actively recruits individuals with visible and invisible disabilities in the science, technology, engineering, and mathematics (STEM) fields, and business majors for internships and co-op opportunities with some of the most prestigious companies and government agencies in the U.S., including: NASA, IBM, Merck, Dow Chemical, Lockheed Martin, Ball Aerospace, and L’Oreal, as well as university-based research programs seeking to diversify their pool of interns.

As part of the Career Connect: Career Resource Model, students with ASD are able to access support through any one of three student support offices, increasing the likelihood of reaching the maximum number of students with ASD (Figure 1.0).
Description of Practice for Case Western Reserve University (CWRU)
The CWRU model was informed by Arizona State University’s success with a similar model that encourages a comprehensive approach to assisting students with job preparation and strategic career choices. Collaboration included: (1) multi-departmental training in ASD, (2) the identification of a liaison and point-person in all three departments, (3) multiple group and individual support meetings designed to help students develop career goals and career-seeking skills (e.g. resume writing, interview skills, networking etiquette), and (4) facilitating students’ application to, and interviews with, the two aforementioned programs.

Building Partnerships
Disability resources contacted both the career services and counseling centers to describe the model and invite collaboration. Disability resources developed the model and maintained a presence in all activities via an identified point-person with an expertise in ASD, and identified liaisons in the counseling and career centers, both of whom have an interest in working with the ASD population. Disability resources invited two employment programs to campus to conduct student interviews. They conducted the qualification screenings, scheduled the interviews, and maintained contact with both employment programs throughout the process.

The Employment Programs
Workforce Recruitment: A program of United States Government that recruits individuals with disabilities for internships and employment in all government sectors. Students must be current students, or must have graduated in the last year. Students with any major are eligible.
Entry-Point: A program of The American Academy for the Advancement of Science that recruits individuals with disabilities in higher education and a focus in science for 10-week competitive summer internships with top science and engineering companies throughout the country. Entry-Point is a paid internship with an average pay of $24.00 per hour.

Recruitment
An electronic invitation was forwarded to all students registered with Disability Resources at CWRU. Also, students with known or suspected ASD diagnosis receiving counseling were invited to participate via the counseling center liaison. Finally, students who were not registered with
disability resources, and who were not receiving counseling, but who disclosed an ASD diagnosis to a career center advisor, were also referred to the program via the career center liaison. All participants completed initial screening applications with disability resources to ensure they met eligibility for the program (e.g., class standing, grade point average, documentation to support their identity as a person with a disability). Twelve students participated in the program.

**Training**
Both the career center and the counseling center received specific training in the form of a four-hour workshop addressing DSM-V diagnosis, symptoms, and challenges for individuals with ASD in the higher education setting, as well as ASD-specific strengths. Training also included an overview of available disability service supports and community-based supports (e.g., psychologists, support groups, non-profit support programs), as well as an overview of the Career Connect program. The facilitator of the training included an ASD expert from disability resources and a clinical psychologist who specializes in working with students on the spectrum.

**Supports**
Students were supported and prepared for interviews with two employment programs as a collective effort between disability resources, the career center, and the counseling center, as described below:

**Disability Resources**
The disability resources department facilitated the program by enlisting the career center and counseling centers as liaisons, conducting all trainings, and managing the interface between the employment programs and students. The disability resources point-person performed initial screenings to ensure that students met the qualifications of the respective programs (grade point average, area of study, etc.). Students had an opportunity to engage in individual and collective support from the point-person through two means: (1) an existing ASD support group, and (2) weekly individual support meetings. Of the 12 students who participated in the program, only six were previously registered with disability resources. Six additional students registered for disability resources as a result of the program, although it was not a requirement. Four students requested individual weekly appointments with disability resources for ongoing support. The remaining eight students declined the offer of individual meetings after their initial evaluation. Three of the four students who requested individual weekly support meetings were already part of a weekly support group. One student who was not previously part of the support group joined the group as a result of his participation in the program. A review of the ADA in employment settings was discussed with all participants, to provide a comparison with the accommodations process in college versus the workplace.

**Career Center**
The career center liaison worked closely with disability resources to prepare participants for the employment process. The career center liaison agreed to host three employment workshops for all student participants, and conduct two individual follow-up meetings to review participants’ resumes and conduct mock interviews. The career center workshops focused on three agenda items: (1) an introduction to the program, (2) building a resume, and (3) interview preparation (i.e., appropriate dress for a job interview and appropriate responses to interview questions,
Two individual meetings were held between the participant and the career services liaison in order to provide personalized feedback on the student’s resume and to conduct a practice interview. In the first semester of the program, the career center contributed approximately 27 hours of the liaison’s time toward this collaboration. The individual meetings made up approximately 24 hours of this time.

**Counseling Center**

The counseling center held a center-wide training related to best practices in engaging students with ASD in higher education from a career services perspective, co-lead by the disability resources point-person for the program and a clinical psychologist. Eligible counseling center staff received three hours of continuing education credits for this training, and all participants reported a greater understanding of the diagnosis and supports available for students with ASD at their university. The counseling center liaison maintained individual appointments for approximately one-third of the participants (n = four students). The counseling center liaison also contributed to two weekly support group meetings specific to employment. The counseling center benefitted from the opportunity to receive continuing education on a topic that was timely and relevant as this is an increasing student population. The liaison’s total time commitment to the project was two hours, outside of the initial training and individual appointments. The number of hours spent with the four students in individual therapy cannot be determined, due to confidentiality around student appointments, however, this resource is available to students outside of the program, and did not likely tax the workload of the counseling staff.

**Evaluation of Observed Outcomes**

In this pilot offering of the collaborative employment resource model, data were not formally analyzed. However, anecdotal evidence via student feedback suggests that students experienced numerous educational benefits, including a heightened awareness of CWRU’s resources for career development, an introduction to the counseling center as a resource for both personal and professional development, an understanding of the role that disability resources can serve in career counseling, an awareness of the accommodations available in employment settings, and exposure to employment programs that actively recruit individuals with disabilities. On a personal level, participants reported a reduction in their anxiety about the interview process, an increased ability to communicate their long-term employment goals, a better understanding regarding their skill set, and desired level of support regarding career development. As a result of the pilot year program, 25% of students (n = four students) were accepted into formal internships through the aforementioned employment programs.

**Benefits**

This model shows promise on several levels; it acts as an additional opportunity for students with ASD to receive career development support while also learning about disability resources and the counseling center in a non-threatening manner. The program also encourages students to change their thinking from the short-term goal of graduation to the long-term goal of permanent employment, which is essential to transition-planning in higher education. Students are exposed to potential internships in top companies through the two employment programs. Finally, students are well-supported using existing university resources, while departments receive professional development on the topic of ASD. Future studies should utilize standardized assessments
of anxiety, depression, and self-efficacy before (pre) and after (post) program implementation. Formal comparisons of students with ASD who complete the program, matched with ASD students who do not, can provide valuable information about the impact of such a program on employment outcomes. Qualitative data regarding students’ perceptions and experiences can also provide researchers and program developers with a richer understanding of quantitative values.

**Summary**
Given the rise in the ASD population, the growing number of students with ASD matriculating into higher education, and an increasingly competitive job market, colleges and universities should develop tailored supports for this population. Institutions of higher education, often under financial constraints for funding resources, must consider inter-departmental collaboration as a cost effective approach to serving students with ASD. In addition, building on the experiences of peer institutions, and sharing the triumphs and shortcomings of their respective models, leads to the development of promising practices. The development of increasingly effective models will eventually lend itself to empirical research on the efficacy of their use, which informs our work in adapting and improving such resources for individuals with ASD.

**References**


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Chapter 3

CAREER GUIDANCE for INDIVIDUALS with ASPERGER'S SYNDROME (Autism Spectrum Disorder)
by Barbara Bissonnette

Abstract
In the right job, with the right support, individuals with Asperger’s Syndrome and similar autism spectrum profiles have much to offer employers. However, placing too much emphasis on interests can lead these students and clients to unsuitable jobs or careers. This article, interspersed with examples, explains how Asperger’s impacts adults in the workplace, and why career professionals must use caution when applying standard assessments and protocols to this population.

Keywords: Career and ASD, workplace challenges and ASD, Career choice and ASD, Asperger and ASD

The emails below, which originate from worried parents around the country, follow a predictable pattern:

“My (son/daughter) NAME has a (bachelor's/master’s degree) in (subject). S/he is very intelligent, and received many academic honors throughout college.”

“S/he has been trying to find a job for the past (6, 12, 16 months, or more). So far, all that s/he has been able to find is a part-time position at (retailer). We’d like to talk to you about coaching…”

The sons and daughters have Asperger’s Syndrome (autism spectrum disorder). Early diagnosis and services starting in grade school have made college or other post-secondary education possible. Yet even those who earn four-year and advanced college degrees find themselves struggling to find and maintain employment. Helping someone with Asperger’s Syndrome to find a manageable job or career requires a specialized approach. In addition to exploring interests and skills, career professionals must understand how Asperger’s impacts a specific student or client, and determine the type of work environment that will be most conducive to his or her success.

Standard assessments and protocols alone do not address the particular challenges faced by those on the autism spectrum.

Asperger’s Syndrome and the Autism Spectrum
Asperger’s Syndrome was first recognized in 1944 by an Austrian physician named Hans Asperger. He wrote about a group of children with unusual characteristics including difficulty making friends, pedantic speech accented with odd vocal tones and rhythms, and consuming preoccupations with topics of special interest (Attwood, 2007, p. 11). Writing in his native German, Asperger’s work remained largely unknown until 1991, when it was translated into English by a British researcher, Dr. Uta Frith. In 1943 another Austrian-born physician who had moved to the
United States, Leo Kanner, described individuals with what became known as classic or Kanner’s autism. These severely impacted children were withdrawn, with limited or no language, and cognitive impairment. Both Asperger and Kanner used the word autism, which is from the Greek autos, meaning self. A British psychiatrist named Lorna Wing first used the term Asperger’s Syndrome in 1981 to describe autistic individuals who did not match Kanner’s description (Attwood, 2007, p. 35).

Asperger’s disorder was first included in the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) in 1994. Asperger’s disorder was considered to be a mild form of autism. It was differentiated from classic, or Kanner’s autism by the absence of both language delays and cognitive impairment. In 2013, the American Psychiatric Association eliminated Asperger’s disorder from the fifth edition of the DSM. It is now classified as an autism spectrum disorder. This new spectrum is vast, with non-verbal individuals at one end and professionals with families and doctoral degrees at the other. For this reason, it is likely that the term Asperger’s Syndrome will continue to be used informally to designate high-functioning individuals.

The Centers for Disease Control and Prevention estimated in 2014 that 1 in 68 children has autism. There are several theories as to why the number of children being diagnosed with an autism spectrum disorder has surged. One is refined diagnostic criteria. Adults on the spectrum are often under- or un-employed. Almost half of young adults who have jobs earn less than $7.25 per hour, and work less than 20 hours per week. In 2009, 33 per cent of young adults with autism had jobs compared with 59 per cent of all young adults with disabilities (Standifer 2011, p. 5). The number of individuals being diagnosed, and the abysmal employment statistics, are forcing professionals, parents and business leaders to find ways to utilize the skills of those with autism.

Although individuals with Asperger’s Syndrome face a number of challenges, there are certain strengths associated with the autistic style of thinking and perceiving. Among these are strong logic and analytic skills. These are attributable to the bottom-up processing style that is characteristic of (but not exclusive to) autistic individuals (Frith, 2003, p. 163). Bottom-up processing is data driven. An individual analyzes information from their physical senses based on its own merit. Various pieces of data are pieced together and then a conclusion is drawn (Fritscher, 2014). In contrast, top-down processing is conceptually driven. Meaning is derived from context, knowledge, memory and past experience (Cherry, 2014). Neurotypicals tend to favor top-down processing.

Individuals on the autism spectrum are described as detail oriented because of their bottom-up processing style. It enables them to perceive complex patterns, and to analyze data impartially, which can reveal insights or solutions that other people miss. It is also why many excel at spotting errors and anomalies in large sets of data. Other autistic strengths are the ability to hyper-focus on a task for extended periods of time, and having a high tolerance for repetition and routine. These traits are assets in many occupations, such as scientific and academic research, computer programming, writing, assembly work, statistical analysis, fine arts and crafts, and data entry. As employees, their excellent long-term memory for facts and events enables them to amass vast stores of institutional knowledge. Their work style is usually methodical, resulting in high quality, accurate work. And they are faithful followers of rules and procedures. They want to do a good job and do it right.
Workplace Challenges
Difficulty with interpersonal communication is the most noticeable feature of Asperger’s Syndrome. The profundity of this difficulty cannot be overstated. It impacts everything from interviewing skills to understanding expectations on the job and working effectively with others. People with Asperger’s Syndrome communicate mostly to exchange information. Typically this includes sharing detailed facts about topics that interest them. There is often little interest in seeking out information about others, or sharing emotional experiences. This should not be interpreted as antisocial or not wanting to interact with others. A person with Asperger’s Syndrome wants to interact, but doesn’t know how.

*Case Studies*
Newly hired at an information technology firm, 33-year-old *Robert was determined to establish good relationships with his co-workers. He purchased a book about how to start conversations, and decided to try some of the techniques on a colleague during lunch. His effort was not successful. He followed the instructions to make inquiries about the other person. However, Robert asked his co-worker a series of unrelated questions about his job, hobbies, educational background and where he lived. Robert didn’t understand that instead of a conversation, he had engaged in an interrogation.

*Christine was tired of being labeled a poor team player. Extremely bright and a recognized expert, with more than 20 years of experience in her field, she was determined to improve her communication skills. Her first coaching assignment was to appear friendly by looking at co-workers, smiling and saying, Hi or How is it going? A week later, at her next coaching session, Christina exclaimed, incredulously, This stuff really works! She was delighted that colleagues smiled back at her, and that she had engaged one in a pleasant conversation.

Since interpersonal communication factors heavily into employment success, it is useful to think in terms of how sophisticated a level of interaction is required in various occupations. Some Aspergians manage quite well when interaction is limited to persons within their department or work group. Others can handle more complex exchanges, such as those involving customers. Only very high functioning individuals can succeed in jobs that involve working with colleagues in different parts of the organization, or with vendors and customers. Additionally, the ubiquitous job requirements for teamwork, good people skills and the ability to multitask may confuse these literal-minded individuals. They may disqualify themselves from jobs that would be a good match. "I know my people skills aren’t good,” they say. Be certain that your student or client understands that these are not absolute terms, and mean very different things depending on a job, industry, or even a particular company. Do not assume that an individual will make these connections. Help him to imagine what a work setting will be like and the type of interactions or level of multitasking there will be.

**Communication problems commonly manifest as:**
- Literalness, causing misunderstanding of job descriptions and interview questions
- Difficulty adjusting communication based on situational context (e.g. blurting out the first thought that comes to mind, sometimes offending others)
- Problems with nonverbal communication, such as making eye contact or forgetting to smile; standing too close; and difficulty noticing and/or correctly interpreting the nonverbal signals
of others
- One-sided interactions, for example only discussing topics of personal interest, or dominating conversations
- Providing too little or too much detail; telling events out of sequence; presuming that others share his perspective or understanding
- Misunderstanding the motives, intentions and actions of other people

**Rigidity and Narrow Interests**
The diagnostic criteria also includes, *Restricted, repetitive patterns of behavior, interests, or activities*, that may consist of, *inflexible adherence to routines*, dislike of change, rigid thinking, and *highly restricted, fixated interests that are abnormal in intensity or focus* (American Psychiatric Association 2013, p. 50).

Restricted interest is a term with particular relevance to career professionals. It refers to the autistic tendency to focus on parts rather than the whole. A child who fixates on spinning the wheel of a toy truck, instead of driving the vehicle on an adventure, is demonstrating restricted interest. The impact of restricted interests on occupational choice will be discussed later in this article.

Mental rigidity is a well-known characteristic of autism. Aspergians can be quite inflexible in their thinking, insisting on having or doing things their way. An individual may reject a job or an entire career because he doesn’t want to work overtime, ever. One man wanted a job, but didn’t want to wear shoes at work.

As a result of a rigid mindset and narrow interests, an individual may:
- Focus on too few, or the wrong details, about an occupation and pursue work that he is unqualified or unsuited for, or that offers limited employment opportunities
- Fixate on a particular job or company, and refuse to consider other options
- Reject an occupation for the wrong reason, such as not wanting to perform a single undesirable task

The diagnostic criteria of autism spectrum disorder also includes problems with sensory processing. This can show up as hypo- or hypersensitivity to stimuli, such as odors, sights, sounds and tactile sensations. It may be necessary for an individual to avoid certain physical environments, or receive workplace accommodations. Productivity problems can occur when a person is unable to look and listen, look and write, or engage in other types of dual-track processing. Auditory processing problems are common, and can make it hard to participate in group discussions. Aspergians frequently experience chronic, elevated levels of anxiety and may have difficulty with executive function (although these are not part of the diagnostic criteria) (Dipeolu, Storlie, & Johnson, 2015).

**Choosing the Right Occupation**
There is no *short list* of right jobs for people with Asperger’s Syndrome. Individuals are represented in all types of jobs, such as: accountant, administrative assistant, bus driver, chemist, computer programmer, creative writer, data entry clerk, editor, electrician, engineer, fine artist, grocery bagger, lawyer, nurse, paralegal, personal assistant, physician, political canvasser, retail sales associate, sound technician, teacher, technical documentation writer, warehouse worker, and Web site developer. Many have at least one *special interest* that is pursued with unusual intensity. The interest can lead to a fulfilling career. Temple Grandin, who is autistic, is a well-
known example. A childhood visit to her aunt’s Arizona ranch sparked an interest in cattle and cattle chutes (Grandin, 2006, p. 109). She went on to earn a doctorate in animal science and developed a very successful career designing humane livestock facilities. Almost half of the cattle in North America are handled in systems she designed. However, it is a mistake to assume that interests, special or otherwise, will lead to gainful employment. The pattern of “restricted interests” that is a feature of Asperger’s Syndrome can cause an individual to make decisions about occupations based on too few or the wrong details. For example, one Aspergian wanted to be an airline pilot so that he could wear a uniform!

It is crucial that career professionals probe the interests of these clients. They may have little understanding of what jobs are available, what they involve, and whether they will be manageable. It is true that many people do not work in jobs related to their post-secondary schooling. However, people with Asperger’s Syndrome are less adaptable than neurotypicals. They begin with a smaller pool of suitable jobs to choose from.

*Case Study Illustration*
Richard earned a degree in communications, and said that he wanted a job designing Web sites and utilizing search engine optimization (SEO) techniques. It was critically important to Richard that employers think of him as *special* (however, he could not define what this meant). He envisioned himself participating on a team, and developing SEO strategies. Asked to give an example of such a strategy, he admitted that he didn’t know very much about SEO. His Web design skills were similarly rudimentary. Richard also explained that he was easily confused, and needed to be told exactly what to do and when. His preference was to work on one task at a time. Asked to summarize the type of tasks and/or work environment that would be very difficult, Richard responded, “Anything too demanding and too fast paced.” Richard did not have a concept of what it meant to develop commercial Web sites, or the ability to work at a rapid pace and manage tight deadlines. After a few weeks, he began looking for data entry positions, since they offered structure and limited multitasking, and would place him in a business environment.

An interest inventory is a helpful tool for individuals who are confused about their career direction, too limited in their thinking, or who have too many interests. However, there are caveats when administering such an assessment to persons with Asperger’s Syndrome. An individual may not know how to rate items that are novel or too abstract. One woman asked, “What exactly does it mean to ‘care for others’?” Differentiating strongly liking an activity from liking or somewhat liking can also be challenging. It can happen that nearly every item on the assessment is rated neutral (neither likes nor dislikes the subject or activity) or as disliked. One or two items are scored as strongly like. Thus a recommended career cluster is based on only one or two responses. A benefit of the Self-Directed Search® is its emphasis on work environment. This can be as important, or even more important, than job tasks. It is wise to explore Conventional type occupations, even with those who do not score high in this preference.

People with Asperger’s Syndrome tend to perform best in work environments that have:

- Minimal interruptions during the day
- Limited multitasking
- Ability to complete one task before beginning another
- Relaxed pace without urgent deadlines
- Structured job with clearly defined duties
• Some elements of routine
• Explicit instructions
• Quantifiable performance expectations
• Supportive supervisor and co-workers
• Quiet workspace free of strong odors and bright lights

Although it is not a career tool, an up-to-date neuropsychological evaluation can provide valuable information related to occupational choices. The evaluation is used to diagnose a variety of disorders, including autism. The evaluation process includes testing of cognitive ability in areas such as attention, memory, language, visual-spatial ability, and executive functioning.

In the evaluation report, clinicians summarize their findings using lay person’s language. This information is helpful for understanding how an individual’s strengths and weaknesses could impact employment. Someone with poor working memory will have difficulty in jobs that require multitasking.

**Focus of the Career Counseling Process**

The more that an individual understands about how Asperger’s Syndrome impacts him or her, the easier it will be for them to find a manageable job. Some individuals are deeply troubled to be told that they are on the autism spectrum. They challenge the diagnosis, and focus on all of the symptoms that do not match. Some who attend Asperger’s events or support groups are quite uncomfortable being around people who are more significantly impaired. More commonly, Aspergians say that they are relieved by the diagnosis, particularly those who receive it in their 30’s, 40’s or 50’s. It explains difficulties that they have had all of their lives. It can be comforting to know that the basis of their problems is neurological and not any type of character flaw.

When discussing personal challenges, Counselors should stress that every human being has limitations of one kind or another. State clearly that the information will be used to identify occupations that emphasize the person’s strengths, and minimize their areas of weakness. It can be useful to think of limitations as fitting into two distinct categories. One is limitations that can be mitigated by learning new skills, utilizing assistive technology, or receiving job accommodations. The second is limitations that an individual cannot change. Knowledge of these limitations enables a person to avoid occupations that would be frustrating or impossible to manage. Slow brain processing speed or poor working memory cannot be changed. Occupations that require rapid decision-making or attention-shifting would not be good choices for someone with these difficulties.

Once a profile has been developed of a person’s interests, abilities, right work environment and the impact of Asperger’s Syndrome, the next step is occupational research. The focus should be on specific jobs, primary tasks, and the skills needed to perform those tasks. Particular attention should be paid to the amount and type of interpersonal interaction required. Additionally, be mindful that many entry level jobs demand strong executive functioning, which could pose a problem for some individuals. Informational interviewing, job shadowing and volunteering can help a student or client form a more accurate idea of what it is like to work at a certain job or in a particular field. Extensive preparation will be needed for these activities.

A college degree is not right for everyone, nor is it the only path to gainful employment. Vocational or other post-secondary education that provides training for specific jobs is a viable option
for some people with Asperger’s Syndrome. More community colleges are offering programs that prepare students for the many mid-level jobs that do not require a four year degree.

**Creating Employment Opportunities**

In order to realize better employment outcomes for people with Asperger’s Syndrome businesses must be educated on how to utilize their specialized talents. There is exciting evidence of this happening. In 2013, the international enterprise software company SAP AG announced a goal that by 2020, one per cent of its workforce will be individuals on the autism spectrum. This is not a charitable initiative. SAP sees it as an opportunity to utilize an untapped pool of creative, skilled workers who can help move the company forward. In particular, qualified individuals are being tapped to fill STEM positions. In addition to software development and testing, SAP is hiring workers with autism as technical documentation writers and business process analysts. SAP is collaborating with Specialisterne, the organization that pioneered the concept of creating jobs that match the abilities of those on the autism spectrum. Founded in Denmark in 2004, Specialisterne continues to train individuals as software testers, and outsource their services to companies such as Microsoft and Oracle. Founder Thorkil Sonne also established The Specialist People Foundation with the goal of creating one million jobs around the world for people with autism and similar challenges (see [www.specialisterne.com](http://www.specialisterne.com)). Not everyone with Asperger’s Syndrome has the interest or aptitude to work in high technology. However, this model can be adapted to many different fields, such as the life sciences, finance and service businesses.

**Conclusion**

Assisting individuals with Asperger’s Syndrome is both challenging and rewarding. It takes time, patience, and an appreciation of the value in this way of perceiving the world. Thorkil Sonne sums it up quite well with his Dandelion Philosophy: “*When dandelions pop up in a lawn, we call them weeds; but the spring greens can also make a tasty salad. A similar thing can be said of autistic people — that apparent weak-nesses (bluntness and obsessiveness, say) can also be marketable strengths (directness, attention to detail). Every one of us has the power to decide, do we see a weed, or do we see an herb?*” —Thorkil Sonne

In closing, career specialists are positioned to help achieve successful outcomes for people with Asperger’s Syndrome given their training and preparation (Dipeolu, et al. 2015).

*The case studies represent close approximation to real client scenarios. Pseudo names are used in place to actual names.*

**References**


**Books**


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LIVING WITH ADHD: The Unique Career Development Challenges Facing Women with ADHD
by Alyssa Smyth, Abiola Dipeolu, Leslie Davies, Stephanie Hargrave, and Amy Renee Stevenson

Abstract
Symptoms of Attention Deficit-Hyperactivity Disorder (ADHD) in females impact their career development process in significant ways. This paper discusses research findings related to ADHD symptomatology in females and the occupational challenges that women with this disability may face, including low self-efficacy, dysfunctional career thoughts, career indecision, and personal-professional role expectation conflict. Interventions, including those from a Cognitive Information Processing (CIP) perspective, are suggested, and recommendations for career specialists working with female clients with ADHD are noted.

*Emma is a 44-year-old female with a diagnosis of ADHD. She works in an administrative level position. Her ADHD causes significant issues with her work performance and she questions her current career choice. She feels pressure to make decisions about her future for which she no longer feels prepared, and is overwhelmed with stress, anxiety, and fear. She struggles to feel capable of her responsibilities on a daily basis at work and at home.

Emma’s work-life balance was affected by symptoms of ADHD. She was unable to start and complete projects at home, including daily chores such as laundry and cleaning up after making dinner. Her house was perpetually messy and her identity as a woman, tied up in external judgments about her abilities to fulfill responsibilities, was threatened. She rarely had people over and constantly felt despair about the state of her home. Her relationships with her children, two teenage daughters, suffered as she believed that she was unable to serve as a positive role model, and she lacked sufficient motivation to follow through with consequences for non-compliance with her requests. Her relationship with her husband followed suit, culminating with him feeling abandoned, both physically and emotionally, due to her stunted emotional responses related to symptoms associated with her diagnosis. Eventually this led to the failure of her marriage.

Unorganized, lazy, incapable, and crazy are all adjectives that women with Attention Deficit-Hyperactivity Disorder (ADHD), such as Emma, have heard or thought about themselves while trying to meet the demands of career, relationships, and/or taking care of a family. Though she experienced a later onset of an ADHD diagnosis, Emma’s circumstances, as described above, are not unlike other diagnosed adult females who struggle with the disorder. Similar to Emma, women with ADHD may face significant barriers throughout their life due to their symptoms of ADHD, particularly in the context of career development and occupational functioning. Career
specialists face unique challenges working with women diagnosed with ADHD; this article can serve to inform counselors on the potential barriers that female clients with ADHD may face as they learn to work within the atypical reality of the disability. In order to better understand the complex nature of this disorder, the theory of Behavioral Inhibition, Sustained Attention and Executive Function (Barkley, 1998) is frequently discussed. Within this theory, Executive Function is used as an umbrella term for the neurologically-based skills of mental control and self-regulation. Specifically, executive functions are processes that help an individual self-manage their cognitive resources in order to successfully accomplish a goal (Cooper-Kahn & Dietzel, 2008), which many individuals with ADHD struggle with.

**Gender Differences**
Research suggests that females with ADHD are consistently under-identified compared to males with the disability (Quinn, 2005) due to the differences in symptom presentation across genders. Males with ADHD tend to present externalizing symptoms of hyperactivity and impulsivity, whereas females more often present with the inattentive subtype (Hinshaw, Owens, Sami, & Fargeon, 2006). The externalized behaviors of men can be more easily identified, contributing to the greater likelihood of males being referred for testing and receiving treatment for ADHD at an earlier age. Contrastingly, females with ADHD display less easily recognized symptoms which are often missed, affecting the chances of those individuals being identified at an early age and receiving treatment.

Polanczyk and Jensen (2008) estimated that within a community, the ratio of males to females with ADHD is 2.5 to 1; however, for every six males, only one female with ADHD is referred to a U.S.-based clinic. By adulthood, the ratio of females to males is 1:1 (Biederman, Faraone, Spencer, Wilens, Mick, & Lapey, 1994); however, females who are diagnosed later in life are not included in this estimate. The women diagnosed later in life are exposed to serious consequences and are more likely to have comorbid symptoms and emotional dysregulation (Robinson, Reimherr, Marchant, Faraone, Adler, & West, 2008). They are more likely to internalize their problems, often resulting in depression, anxiety, and self-image struggles. Even after women who display these symptoms receive a diagnosis and treatment for ADHD, many continue to face significant internal barriers and may struggle to find the assistance and support that they need to successfully overcome daily life and work-related struggles. Specifically, women with ADHD face monumental challenges in psychosocial functioning, role expectations, and significant inter-personal relationships. This article will focus on core deficits of ADHD to highlight challenges germane to women with ADHD with implications for the practice of career counseling.

**Psychosocial Functioning**
Females with ADHD are reported to possess significant deficits in psychosocial functioning, particularly with communication and social skills (Lindstrom, 2012; Scriberras, Ohan, & Anderson, 2012). They are more likely to experience social challenges including being disliked by peers, conflict with peers, a paucity of social support, and higher rates of overt and relational victimization (Scriberras et al., 2012). Moreover, females with ADHD have higher amounts of negative emotional intensity than their male counterparts, including greater levels of frustration, guilt, internalized anger, and self-aggression in daily activities (Lynn, Carrol, Houghton & Cobham, 2013), with significant consequences on romantic and social relationships.
Role Expectation
Tuckman (2009) noted that the biggest difference between men and women with ADHD is traceable more to societal expectations than to ADHD itself. Society as a whole has made significant strides on matters of equality for women; however, despite the progress, many still hold predominantly traditional views concerning a female’s role both in the home and at work. For example, in heterosexual couples, females continue to be the parent of choice to stay home and care for children (Perrone, 2009) and are more likely to have greater responsibility for managing a household. Being a parent requires great organizational skills, an area of struggle for anyone with a diagnosis of ADHD. This role – primary caregiver – alone may present numerous challenges for females with ADHD, including creating structure and managing family time by remembering appointments and scheduled activities. The ability of an individual to successfully engage in and complete the aforementioned tasks is dependent upon the possession of intact executive functioning skills, which is sorely lacking in individuals with ADHD.

The spouse of the individual with ADHD may depend on them to create structure within the home environment that subscribes to the traditional prescribed role for females. Tasks that may appear to come easily for a female without ADHD (e.g. remembering their child’s doctor appointment) may present significant challenges for the mother with ADHD. A female with ADHD may therefore be at a disadvantage as she struggles to create structure in her own life, and she is faced with a particularly difficult task when asked to create structure for the whole family. For example, Emma was unable to provide the structure and accomplish the tasks that would be relatively easy without the ADHD symptoms, ultimately resulting in a failed marriage. Moreover, her whole identity may be derived from being a good mother and a good home keeper, which may leave her feeling defeated and unfit to be a wife, a mother, or a contributing member of society. However with appropriate interventions, women with ADHD will likely overcome many of these barriers and find greater success in organizing their life.

Significant Relationships
Bruner and colleagues (2015) found females with ADHD reported a negative relationship between their relationship satisfaction and total ADHD symptoms. This suggests that the more symptoms of ADHD a female exhibits, the less satisfaction they will perceive in their romantic relationships. It is no surprise that a higher divorce rate is found among couples in which at least one partner has ADHD compared to couples where neither partner has a diagnosis of ADHD (Kessler, Adler, Ames, Barkley, Biederman, Conners & Zaslavsky, 2005), which is similar to Emma’s experience. Thus when dealing with a case like Emma’s, a discerning career specialist will consider referral to couples counseling and/or consider this as an adjunct to the career counseling.

Women with Cognitive Disabilities and the Work World
Career development is thought to be one of the most important developmental tasks that an individual will face throughout their life (Dipeolu, et al., 2013). Women with ADHD face difficult career development challenges (Cinamon & Rich, 2002). To make matters worse, they are rarely able to find a practitioner who is well-versed in both ADHD and career development, which creates a significant barrier towards resolving career-related difficulties (Nadeau, 2005). Aside from challenges faced by women in their personal lives, the workplace holds its own set
of trials that women with ADHD may face. In general, women with cognitive disabilities such as ADHD are underrepresented in the work world. Approximately 53.4% of women participate in the US Labor force (www.bls.gov, 2014). Of these, only 14.5% is comprised of women with disabilities, and an even lower percentage includes individuals with cognitive disabilities such as ADHD (www.bls.gov, 2014). Of the females who reported a cognitive disability, only 4.8% were employed (Disability Statistics, 2013). Similar to this statistic, a study found that fewer adults of both genders with clinically-diagnosed ADHD were in paid employment than those without ADHD (Halmøy, Halleland, Dramsdahl, Bergsholm, Fasmer, & Haavik, 2009). Employment-related issues that women with cognitive disabilities may face include problems with concentration, remembering, or making decisions (Disability Statistics, 2013). Similarly, Gjervan, Torgersen, Nordahl, & Rasmussen (2011) found adults with ADHD often struggle to keep a job and, overall, have a lower level of employment. Of those who obtain paid employment, significant deficits in workplace performance, frequent changes in jobs, and less satisfaction on the job were reported (Weiss & Hechtman, 1993). It is of particular interest if the underrepresentation that is noted is due to the barriers related to the performance of career development tasks that often times accompany ADHD.

Targeted Interventions
Despite the numerous challenges women with ADHD face in their personal and professional lives, there remains a paucity of research on females with the disorder (Gaub & Carlson, 1997). Particularly challenging to the ADHD population is the process of career development, which is believed to be one of the most important developmental tasks an individual will face throughout their life (Dipeolu, et al., 2013). This barrier poses significant problems for career practitioners while working with females with ADHD. Although there is limited information on the career development of females with ADHD, what is currently available can be used to prescribe better practices and assist career specialists in helping females with ADHD develop and attain their desired career.

Career Decision-Making Skills
Individuals with ADHD have been found to struggle with making decisions about their career and often possess significantly more dysfunctional career thoughts than those without ADHD (Dipeolu et al, 2013; Painter et al., 2008). Workers who have symptoms of ADHD often report feeling anxious about making career decisions, hence less satisfaction with their career choices (Levrini & Prevatt, 2012). To become self-determined, women with ADHD must learn to be less anxious, make appropriate decisions, and competently solve career-related problems. However, these deficiencies in decision-making skills, with the accompanying anxiety, pose a hurdle. Thus, one of the first steps in counseling a female with ADHD is to determine the extent of challenges in career decision-making, including information processing capacity and the hindrances faced due to these deficits (Bahny & Dipeolu, 2010).

Dysfunctional Career Thoughts
A thorough career assessment may be indicated to find the best career fit given the particular strengths and weaknesses possessed by an individual with ADHD (Tuckman, 2009), while taking into consideration the potential limitations of a self-administered self-scoring instrument in addressing complex issues often faced by female career counseling clients (Lonborg & Hackett,
The Career Thoughts Inventory (CTI, Sampson, et al., 1996) can be used to assess for specific career-related difficulties, including the presence of decision-making confusion, commitment anxiety, and external conflict. As an adjunct to counseling, Emma took the CTI in order to identify dysfunctional career thoughts, clearing the way of further exploration of career options and opportunities. Her scores indicated that Commitment Anxiety was a primary cause of her anxiety in the workplace. Her newly acquired disability was linked to her inability to commit to previous decisions regarding her career choices. The CTI was useful as she was able to identify her major hurdles and challenges, and address them in ways that were necessary for her continuing success in the workplace. The CTI is accompanied by a workbook designed to further assist with the career planning process of women such as Emma, and it can also be a helpful tool for career specialists when working with such clients (Lonborg & Hackett, 2006).

**Working Memory**

Executive functioning deficits in the area of working memory are particularly important when considering the career development and occupational functioning of individuals with ADHD. Working memory is defined as a temporary storing system used to process and manage information in order to learn, reason clearly, and achieve set goals (Baddeley, 1992). Research suggests that adults with ADHD often suffer from significant challenges in the area of working memory, which may also indirectly contribute to low self-worth and lower levels of motivation (Miller, Nevada-Montenegro, & Hinshaw, 2012). Altogether, these have the potential to contribute to poor job performance, an inability to complete work tasks, and/or difficulty with maintaining a job, all of which pose challenges to an individual’s trajectory of career development. With this knowledge, a career specialist may choose to recommend a working memory training program for the female client with ADHD with the goal of strengthening her abilities in this area. The specialist might also recommend ways that the client can make tasks more active, minimize distractions, and learn to write things down (Tuckman, 2009).

**Alternative Creative Career Options**

It is important to select a job consistent with one’s strengths and weaknesses. Career specialists should challenge women with ADHD to expand their options by looking at self-employment alternatives and/or consider other ADHD-friendly careers, such as Art, Acting, and Marketing. Adults with ADHD are three times more likely to be self-employed, according to Young (2000); self-employment can be a suitable option for some women and should be included in the career counseling process. Career specialists may find it useful to utilize the resources at the Small Business Administration web page (www.sba.gov), as this site may serve as a useful starter for those with an entrepreneurial bent.

**Work-Life Challenges**

Work and family experiences are logically interconnected. Work experiences spill over to family experiences, and family experiences likewise carry over to work experiences (Heller & Watson, 2005; Zedeck, 1992). There is a crossover effect of both strain and contentment at work and in family life (Dunn & O’Brien, 2013). Career specialists can work with female clients to find organizations that are family-friendly during the job search process in order to minimize the potential strain between work and family life that may exist during the process of obtaining and continuing employment. Working in an organization that understands the challenges associated
with having a disability can help balance the work-family life, thereby heading off family and/or work disintegration. Career counseling is paramount in assisting women to recognize and make the mental shift necessary from negative to positive overflow of work-family life. Emma has the skills and talents to succeed but her ADHD is creating that negative overflow from home to work life, preventing her from showing her best work. The role of career counseling is that of helping the client manage their disability in such a manner that success in both the work and family arenas is attainable (Tuckman, 2009). Without adequate career intervention, the cycle of failure for women such as Emma will continue.

Conclusion
Females with ADHD face unique challenges across their personal and professional lives. Specifically, they are vulnerable to self-doubt as they struggle to balance a career, relationships, and a family. Career counselors possess training and skills to assist these female clients, hence can play a crucial role in optimizing the social, personal, and occupational functioning of females with ADHD by providing them with structured interventions that will enhance self-awareness, self-efficacy, self-determination, decision-making, and problem-solving capabilities. Without the assistance of trained career specialists, females with ADHD like Emma will likely continue to experience challenges across the personal and professional domains.

*The case represents a close approximation to a real client situation. A pseudo name is used in place to actual name.

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CAREER DEVELOPMENT and VOCATIONAL BEHAVIOR of ADULTS with ATTENTION-DEFICIT/HYPERACTIVITY DISORDER [ADHD]
by Chadwick Royal, Wesley Wade, and Heather Nickel

Abstract
Adults with Attention-Deficit/Hyperactivity Disorder (ADHD) have a history of poor occupational performance and are more likely to face unemployment than those adults without an ADHD diagnosis (American Psychiatric Association, 2013). The purpose of this article is to review the types of ADHD and discuss the implications of career development and vocational behavior of adult clients with ADHD. Specific strategies for career counselors working with adults with ADHD are provided.

Attention-Deficit/Hyperactivity Disorder (ADHD) is a neurobehavioral developmental disorder characterized by inattention, hyperactivity/impulsivity, or both inattention and hyperactivity/impulsivity (American Psychiatric Association, 2013; Briggs, 2010). Adults with ADHD have a history of poor occupational performance and are more likely to face unemployment than those adults without an ADHD diagnosis (American Psychiatric Association, 2013). The purpose of this article is to review the types of ADHD (with accompanying symptoms), distinguish the differences in ADHD between children/adolescents and adults, and discuss the implications of career development and vocational behavior of adult clients with ADHD. Specific strategies for career counselors working with adults with ADHD are provided.

Attention-deficit/Hyperactivity Disorder
ADHD is the most common childhood psychiatric disorder affecting 5% of children worldwide (American Psychiatric Association, 2013). Boys are two to four times more likely than girls to be diagnosed with ADHD (Rasheed, Fathima, & Altaf, 2013). ADHD was originally considered a problem associated with childhood; however, research has confirmed fifty percent of children with ADHD continue to experience impairment into adulthood (Briggs, 2010). While symptoms of ADHD are treatable with medications, behavior therapy, or both medications and behavior therapy, there is no cure (Feldman, 2015).

A diagnosis of ADHD in childhood requires the presence of six of nine symptoms in either or both the inattention or hyperactivity/impulsivity categories listed in the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2013). Several symptoms of either inattention or hyperactivity/impulsivity must have been present before the age of twelve and must occur in two or more settings like home, school, work, or during leisure activities.
An ADHD diagnosis also requires evidence that the symptoms negatively affect the individual's social life, academic capacity, or work performance. Further, it must be established that ADHD symptoms are unrelated to, or are not better explained by, another disorder (American Psychiatric Association, 2013). There are three distinct subtypes of ADHD: Predominantly inattentive type, predominantly hyperactive/impulsive type, and combined type.

**Predominantly Inattentive Type**
A child with predominantly inattentive type meets the diagnostic criteria for inattention (Attention Deficit Hyperactivity Disorder, 2009). He or she may fail to recognize important details and may struggle to sustain attention during work or play activities. He or she may find it difficult to get organized or to follow through with tasks and activities. Children with symptoms of inattention may appear not to listen when spoken to and are likely to be easily distracted by external stimuli. Affected children may lose necessary items like keys, wallets, eyeglasses, mobile phones, and school supplies. They often struggle to remember appointments, chores, or other daily activities (American Psychiatric Association, 2013). Because children with predominantly inattentive type are less likely to demonstrate behavior problems that might more clearly suggest ADHD, their symptoms are often overlooked by parents and teachers and are therefore less likely to be diagnosed (Briggs, 2010). Girls are more likely than boys to be diagnosed with inattentive type (Rasheed et al., 2013).

**Predominantly Hyperactive/Impulsive Type**
Children with this type meet the diagnostic criteria only for hyperactive/impulsive type. These children may fidget, squirm, or have difficulty remaining in their seats at times when sitting still is expected. They often find it challenging to remain still for extended periods of time and may seem to be in constant motion. Other symptoms may include talking excessively or interjecting at inappropriate times during conversation. These children frequently have problems waiting for their turn in games or while standing in line (American Psychiatric Association, 2013).

**Combined Type (Both Inattention and Hyperactivity/Impulsivity)**
A diagnosis of combined type requires the presence of six or more symptoms of both inattention and hyperactivity/impulsivity. There is a combination of symptoms from both the inattentive type and the hyperactive/impulsive type. For example, a child with the combined type of ADHD may display difficulty with sustained attention and get distracted easily -- in addition to having difficulty remaining in their seat when expected to sit still. Most children diagnosed with ADHD fall into this type (Briggs, 2010).

**ADHD in Adolescence**
Children with ADHD face significant difficulties as they enter adolescence, and later, adulthood. Nearly half of children with ADHD fail to finish high school. They are at greater risk of a variety of negative outcomes including automobile accidents, physical injury, early sexual activity, and teen pregnancy (Attention Deficit Hyperactivity Disorder, 2009). Children with ADHD are also more likely to develop conduct disorders and to be rejected by their peers. They are at increased risk for substance abuse and incarceration (American Psychiatric Association, 2013).
ADHD in Adults: Symptoms
Identifying ADHD in adults is potentially more challenging for mental health professionals as adult symptoms are more varied and less clear-cut than symptoms in children. Many adults with ADHD are unaware they have the disorder though they are conscious of their struggles to organize tasks and remain focused (Attention Deficit Hyperactivity Disorder, 2009). By adulthood, individuals with ADHD tend to have developed coping mechanisms that may make symptoms of the disorder obscure (Rasheed et al., 2013). In most cases, hyperactivity symptoms diminish somewhat in adulthood. In general, it is believed that the hyperactivity is an element that the child/adolescent grows out of or develops beyond. Perhaps the adult develops excellent coping mechanisms to address the symptoms – or perhaps the brain physically develops beyond being affected by whatever was causing ADHD symptoms. However, some adults with ADHD can (and do) continue to struggle with restlessness, inattention and disorganization (American Psychiatric Association, 2013).

In addition to potentially suffering ramifications from the adolescent symptoms discussed above, adults with ADHD may have a history of poor occupational performance --and are more likely to face unemployment (American Psychiatric Association, 2013). Adult ADHD impairment frequently also complicates: interpersonal relationships, marriage, parenting, health, and financial status (Briggs, 2010). Parenting may be of particular concern as studies have demonstrated a genetic component in which parents with ADHD are more likely to have children with ADHD (Simsek, Gokcen, & Fettahoglu, 2012). Heritability of the disorder has been estimated to be above 75 per cent (Feldman, 2014).

For an adult to be diagnosed with ADHD, he or she must have symptoms of inattention, hyperactivity, or both that began prior to age twelve. Diagnosis of adults differs somewhat from diagnosis in children in that only five symptoms in either the inattention of hyperactive/impulsivity categories are required. In addition, some ADHD symptoms may present themselves differently in adults (internally, rather than externally). For example, an adult affected by inattention may be distracted by unrelated thoughts whereas a child with ADHD might react more to external stimuli. Similarly, hyperactivity/impulsivity in adults may manifest itself as feelings of restlessness rather than the inappropriate running or climbing common in children with the disorder (American Psychiatric Association, 2013).

Impact of ADHD on Career Development
There were several studies between 1998 and 2013 on the impact of ADHD on career development. These studies elaborated on the effects of ADHD for career development in adults and how they factor vocational safety into their selected workplace. While this is not an exhaustive review of every study relating to ADHD and career development, there is not an overwhelming abundance of studies examining this subject either. One study published in 2007 mentioned that a PsycINFO database keyword search in early 2006 combining attention-deficit disorder with hyperactivity and occupational interests or work (attitudes towards) or occupational preference yielded no citations (Canu, 2007). In 2015, this same search of the literature provided only a few more results. Considering the increasing number of people diagnosed with ADHD who are entering the workforce, this issue is relevant for career development and career counselors, and therefore needs more research.
One group of researchers in 2012 specifically focused on negative aspects of ADHD on career development in adolescents (Dipeolu, Sniatecki, Storlie, & Hargrave, 2013) and adults, highlighting the impact of ADHD on common workplace-related mood fluctuations such as heightened irritability, frustration, and impulsivity (Küper et al., 2012). These mood fluctuations occurred with greater frequency and volatility in adult and adolescent employees who were diagnosed with ADHD, and potentially contributed to an average of 35 workdays missed per year in addition to $19 billion of lost revenue, just within the US economy. This loss in productivity has triggered increased rates of unemployment within the adult and adolescent ADHD workforce (Küper et al., 2012). Workplace frustration and stints of unemployment have led to lower rates of overall job satisfaction, promotion, and self-esteem (Painter, Prevatt, & Welles, 2008). In addition, workplace anxiety, decision-making confusion, and increased external conflict create cycles of self-defeating behaviors and chronic dysfunction (Dipeolu, et al., 2013; Painter et al., 2008).

A more narrow study (Canu, 2007) examined a sample of undergraduate men with ADHD combined type and ADHD inattentive type (since undergraduate men with ADHD outnumbered their female counterparts by ten to one). What this study indicated is that ADHD appeared to have a greater negative influence on the participants when it came to things such as picking a job that was physically safe (and more likely to provide long-term employment for someone with ADHD). Participants were not able to recognize their strengths and weaknesses as employees and align these traits with jobs that matched well. This characteristic was consistent with ADHD-diagnosed participants, regardless of the location of the individual.

While the majority of research concerning ADHD has been conducted within the US, there have been reports in Africa, Asia, and the Middle East concerning ADHD as well. In some of these studies, there have been reports of co-occurring disorders such as anxiety disorders, mood disorders, anti-social personality disorder, and substance misuse (Adamou et al., 2013). There is also a high rate of hidden impairments such as autism spectrum disorders, dyspraxia, dyslexia, and dyscalculia. These added disorders can greatly increase the difficulty in finding a correct diagnosis, which in turn creates more instability concerning career development. Adults who either did not receive treatment for ADHD as children, or who were just diagnosed with ADHD as adults tend to display higher levels of co-occurring disorders and hidden impairments (Adamou et al., 2013). The research shows overwhelming support for the additional complications adults with ADHD face with their career development. The later in life ADHD is detected, the greater the impact ADHD will have on overall career development and job satisfaction. However, there has also been some counselor-focused research that outlines methods and practices to help this population.

Counselors who work with adults diagnosed with ADHD need to have a balance of information and skills in career counseling and mental health counseling. Research emphasizes the importance of early diagnosis, providing a supportive structure, and combining career and mental health interventions. Nadeau (2005) believes that counselors should focus on and incorporate internal and external resilience factors -- shared traits that highly successful adults with ADHD have demonstrated. Internal resilience factors are elements such as: Gaining and maintaining control of one’s life, desire, motivation, and reframing the disability into a strength (Nadeau, 2005). External resilience factors are things such as finding a job that is a good fit, having a mentor, and support for goal achievement.
Implications for Career Counselors and Career Development

To effectively serve an adult client with ADHD, we suggest that a career counselor have a basic understanding of concepts such as human development, co-occurring disorders, and ADHD signs, symptoms, and behaviors. These concepts are important to understand as they can inform the career counselor regarding what client behaviors might be contributing to work difficulties – and what behaviors will need to be targeted in their work with the client. Career counselors are critical key players in helping clients with ADHD as career counseling is a vitally important avenue to contend with career-related issues for these clients (Dipeolu, 2011). We believe that there are two directions for the work that a career counselor could employ with an adult client with ADHD: Internal or self-regulating strategies, and an external or person-environment fit approach. The two techniques are not exclusive and can be used simultaneously with a client.

Self-regulating Strategies

Self-regulating strategies are techniques that can be discussed and practiced in session – and are designed to help a client develop internal mechanisms to combat inattentiveness and restlessness. Some techniques are behavioral techniques and some are cognitive in nature. They would be techniques that a client could develop over time and implement on their own in specific contexts or work situations. Regardless of other treatments that might be implemented for ADHD (e.g., medication), these techniques assist a client in developing self-control and the ability to regulate their own distractedness or hyperactivity.

Organization.

A counselor can work with a client to develop methods for organizing materials. This might mean developing protocols for organizing work materials, or it could be as simple as working with a client to develop a plan for organizing the items in their garage at home. Being organized in one area of their life (i.e., at home) could help in organizing another area of their life (i.e., at work). They might feel successful in one area and be able to apply what they learned in another area. It could be that a disorganized work area contributes to their distractedness. Working at cleaning-up and organizing their work area can assist with attention and productivity (there is less clutter to distract them). The career counselor would help the client to develop a plan for organizing their environment, wherever that may be.

Hyper-focus.

There tends to be two modes of behavior in an individual with ADHD: Easily distracted or hyper-focused. Being able to hyper-focus, or excessively focus, is the opposite of distractibility. It usually refers to the inability to distract (or even gain the attention) of someone with ADHD. When excessively focused on a task, it is hard to shift their attention to something else. This is typically noticed in children with ADHD who are watching television or playing a video game; it is difficult to distract their attention from the screen. The child may be easily distracted in a school environment, but when focused on something in which they have significant interest (e.g., a television program or favorite video game), it is difficult to get their attention. Although frustrating for a parent of a child in this circumstance, it could be advantageous for an employer in a work environment. A worker with ADHD could be significantly productive when hyper-focused. The ability to hyper-focus requires that the client have an adequate amount of self-awareness to understand the circumstances in which they can become hyper-focused. For some with ADHD,
they are at their peak performance when they are working in environments that minimize the number of visual and audio distractions (i.e., very quiet and non-stimulating environments). If the client understands that they work best in non-stimulating environments, then they can make attempts to reduce and minimize the stimuli in the environment. For others with ADHD, they perform better when they can manipulate their environments to control what is stimulating them (i.e., if there is stimuli in the environment, the client is in control of it). An example of this manipulation is playing music through headphones while working. In this situation, the individual with ADHD cannot pay attention to much but what they have manipulated in the environment. They are not able to hear much other than what they have played through the headphones. Although they may be attending to the music, they can work and not be distracted by any other environmental noises. For some clients, however, the music serves only to provide additional distraction. They will perform better with minimal auditory and visual stimulation.

The goal is for the client to develop an understanding for how they best hyper-focus and what type of environment provides the best chance of success so that they can focus on work tasks. In the end however, their sustained attention may be dependent upon the task and their level of interest. A task in which they have less interest will be more difficult on which to hyper-focus. We believe that being able to hyper-focus is a skill that must be practiced in order to improve. After assisting a client develop some self-awareness of how they best hyper-focus, a career counselor can work with them on a plan for developing this skill.

**Follow-through.**

A client with ADHD may have difficulty with following-through in various activities. They begin one activity, become distracted, and move on to something else. Their initial activity is left unfinished. This can be particularly important for an adult at work. Their productivity (and therefore employability) is at risk. A career counselor can work on this area from both a behavioral and cognitive approach. Behaviorally, the career counselor may design multiple behavioral exercises (for use in-session and out-of-session) that help the client to practice return to an activity once distracted. For example, the counselor could simulate one or more of the client’s work activities in session. During the simulation, the client’s attention is intentionally distracted. Then the client is asked to return to their work activity. A cognitive approach could be incorporated to include a component of self-talk, where the client makes statements and reminders to get back on task once they realize they have been distracted. Some of the discussion during sessions may include checking-in regarding what tasks at home and at work are unfinished.

**Remembering.**

Individuals with ADHD often struggle to remember appointments, chores, or other daily activities (American Psychiatric Association, 2013). It is possible that these difficulties arise because of a client’s inattention when information is conveyed. When a person’s attention is spread in multiple directions, it is difficult to focus on any one thing accurately. It is difficult to remember something important if it was never cognitively processed to memory. In general, all people who multi-task (processing multiple incoming streams of information at the same time) are more apt to pay attention to irrelevant information and then remember the irrelevant information (Ophir, Nass, & Wagner, 2009). Persons with ADHD are continuously “multi-tasking” by nature – and may be constantly attending to multiple stimuli, therefore constantly processing irrelevant infor-
They have a reduced ability to filter out the irrelevant information. A career counselor can work with an adult ADHD client on focusing on skills related to attending when communicating with other people in their life (i.e., teaching attending skills). For example, a client may want to make eye contact with someone who may be scheduling an appointment for them. The client may want to write information down, verbally repeat information conveyed, or attempt to summarize the content of the information that was relayed. All of these skills (i.e., attending skills) focus attention, and can be practiced in various contexts with different people. Attending skills assist with filtering out irrelevant information and processing relevant information to memory.

Relaxation.
As mentioned above, hyperactivity symptoms (if present in childhood or adolescence) typically diminish somewhat in adulthood. However, adults with ADHD can continue to struggle with restlessness (American Psychiatric Association, 2013). This can be difficult for someone whose job may require him or her to sustain attention and be seated for extended periods (meetings might prove to be particularly difficult). A career counselor could assist a client to develop strategies for addressing feelings of restlessness. This could involve relaxation strategies (e.g., progressive muscle relaxation - a la Edmund Jacobson) or guided imagery exercises. These techniques might be practiced in session and at home. The more the client can practice the techniques, the more likely that they can implement them successfully when needed. A career counselor could also help a client to develop strategies for what to do when the feelings of restlessness become overwhelming (for example, knowing when to take a five-minute break to stretch or go for a walk). The intention is to expend excessive energy.

Person-Environment Fit
Person-environment fit (or trait-and-factor theory), as a career development theory, attempts to match an individual’s traits to characteristics of an environment (or characteristics of individuals that typically work in that environment). For an adult with ADHD, it may be important to seek out work environments that will serve as a good match for ADHD characteristics. Rather than the traits that are typically addressed by trait-and-factor theory (e.g., personality type, interests, abilities, values), a career counselor may need to consider the traits associated with ADHD (attention, distractibility, restlessness). It may be valuable to work with clients on finding a work environment that will accommodate ADHD characteristics. An environment that is accommodating will be more likely to set a client up for a successful work experience. For example: An environment that allows freedom of movement during the day (as opposed to being sedentary for extended periods, requiring sustained attention). An adult with ADHD may benefit from having the ability to move around during the day. An environment that requires a worker to complete a series of short (or short-term) projects or tasks. Their attention would not need to be sustained for long periods of time. In this setting, a worker with ADHD could be sure that they did not leave anything undone, if it doesn’t take long to complete. An environment that requires long sedentary periods of sustained attention would not be ideal. An environment that has minimal distractions. Large, open spaces with multiple activities and conversations (e.g., cubicles) may not be the best environment. An environment in which the client has more control over noises and stimuli is desired. An environment that allows the client to have a separate setting or office. A client can minimize his or her own distractions in a separate setting.
Environments that require independent work. For some clients, they may be more successful with independent work – as opposed to working with others in a group. Working with others may invite distractions.

Conclusion
Adults with ADHD may have a history of poor occupational performance -- and are more likely to face unemployment. This does not have to be the case, and career counselors can assist in enhancing worker performance, improving employer satisfaction, and reducing unemployment for adults with ADHD – by using some of the strategies mentioned above. A career counselor can incorporate, teach, and practice self-regulating strategies with their clients (as indicated above), and focus on helping their client to find a more ideal environmental fit. We believe that more work should be done in this area, applying and evaluation some of the strategies indicated above with ADHD clients.

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THE CASE of a RETURNING VETERAN with ATTENTION DEFICIT HYPERACTIVITY DISORDER
by Rob Bahny, Abiola Dipeolu, and Jessica L. Sniatecki

Abstract
Authors discuss the case of a returning veteran with Attention Deficit Hyperactivity Disorder whose goal was to pursue a degree in business, but he was unsure of the specific area. This lack of clarity caused some difficulties moving forward in college. In identifying areas of dysfunctional career thinking, several career counseling issues became apparent. A description of the process his counselor employed as well as an exploration of the considerations that allowed for effective results are included.

More than two million troops have been deployed to Iraq and Afghanistan since September 11, 2001 (United States, 2011). Employment has been identified as a primary concern of many returning veterans (Redmond, Wilcox, Campbell, Kim, Finney, Barr & Hassan, 2015). Yet, research on previous military conflicts has indicated that combat involvement is associated with higher rates of unemployment and job loss (Prigerson, Maciejewski, & Rosenheck, 2002). Such findings suggest that veterans may face greater challenges than civilians in finding and maintaining satisfactory employment.

What follows is a case study focused on a veteran of the war in Iraq, who has chosen to return to college in the hopes of obtaining satisfying, lucrative future employment. Analysis of the career counseling considerations and challenges relevant to this case as well as the steps that were taken in assisting this client are discussed.

The Case of Steve*
Steve is a 26 year old African American male, first generation college student pursuing his associate’s degree after serving in the US Army during Operation Iraqi Freedom. He has been diagnosed with Attention Deficit Hyperactivity Disorder (ADHD) and was attending a junior college which is very supportive in accommodating his disability. He wanted to enter the business field though he wasn’t quite sure what area of specialization in the business field he wanted to pursue. He earned good grades and was planning to transfer to a four year school and pursue a bachelor’s degree in business after completing his associate’s degree. He had his sights set high and felt that his veteran and minority status, along with his role as the student body president at his college, would be very helpful when applying for transfer admission. At the same time, the ambiguity of his interest in business was causing him some difficulty because after graduation he wanted to go right into the workforce, and he was concerned that a generalized degree in business will not offer him that opportunity. He wanted to transfer to a college with strong connections in the
business field so that he could participate in top notch internships to add to his record of military service.

**Career Intervention Focus**

Steve approached the Transfer and Career Office trying to narrow down his specialization in the business field, along with seeking guidance about which colleges he should be applying to. The counseling intervention began with an exploration of his interest in the field of business as a whole, and an exploration of why he came to the conclusion that he should pursue this field. The answers Steve provided displayed a level of uninformed, flawed career thinking that may be typical of some returning adult students. “Business is the way of the world”, “I liked my Intro to Business professor”, “I want to be able to make a decent living” were all reasons given for pursuing this major. Upon further discussion, it was apparent that Steve was unaware of the amount of math courses he would have to take (especially at the high end business schools he was hoping to attend after earning his associate’s degree). Due to his disability, Steve reported that he struggles with math and indicated that he was fearful that he would not be able to pass the requirements. He was also unaware of the fundamental nature of a business program and turned out to not be very interested in many of the required courses.

In the course of the career counseling sessions, Steve also spent some time completing selected career inventories measuring his interests, values and personality type. Based on his uninformed statements of why he’d like to pursue business major he was asked to complete the Career Thoughts Inventory (CTI; Sampson, Peterson, Lenz, Reardon, & Saunders, 1996) to measure his level of dysfunctional career thinking. This inventory provides students with concrete examples of career difficulties they may be experiencing, and because it is easy to understand, most students with learning disabilities (LD) and/or ADHD are able to complete the inventory (Bahny & Dipeolu, 2012). He also completed the Self-Directed Search (SDS; Holland, 1994); the Myers Briggs Type Indicator (MBTI; Briggs-Myers, Briggs, & McCaulley, Quenk, & Hammer, 1998) and the O*Net Career Values Inventory (US Department of Labor, 2012).

Steve was able to quickly assess his situation and determined that he needed a new plan. He had not taken many business courses which meant that he could change his major easily, so he decided to switch from business to liberal arts and take classes that were of interest to him and would also not require him to perform an inordinate amount of tasks that were impacted by his ADHD, namely math and large volumes of reading. This provided some degree of breathing room but did not do anything to assist Steve in progressing toward his career goals.

Steve’s main concern (as may be the case with many veterans) was earning his degree quickly and in a cost effective manner. He wanted his degree to translate directly into the workforce and he was open to exploring his options. Consistent with research findings, his CTI scores were in the normal range for college students though his score in the area of Decision Making Confusion was somewhat higher than average (Dipeolu, Sniatecki, Storlie, & Hargrave, 2013). As a result, it was discovered that he was concerned that if he chose “the wrong major” in college, his time and money would be wasted, and he’d be no better off than when he was separated from military service. The concern was mainly financial and so it was discussed that the GI Bill along with the tuition waiver he’d receive as a veteran attending an in-state college in his home state made his
college education quite affordable. He also agreed that a college degree (regardless of major) was better than no college degree in the long run. He indicated that his family would also be extremely proud of him for having served in Iraq and having a college degree.

In reviewing Steve’s career inventories it was found that there was a degree of congruity amongst the results. His Holland code was SAI (Social, Artistic, Investigative) and his Myers-Briggs personality type was ENTJ (Extroversion, Intuition, Thinking, Judging) and his work values had a clear tilt toward Achievement, Recognition and Relationships. When previous academic interests were examined, Steve mentioned that he always liked classes where he could write. He regularly received praise for the quality of his writing, though his overall grade frequently suffered due to lateness. When it was suggested that he consider writing and journalism as a career choice, he was initially hesitant due to the lack of a nine-to-five structure for the writing-related work. He was accustomed to a high degree of workplace structure having been in the military, and he was also hesitant due to his disability. Discussion in the session addressed these concerns by assisting Steve in identifying possible compensatory strategies to help maximize his strengths and minimize his disability-related challenges. Upon further consideration, Steve decided this new academic path was manageable and that he would start taking courses in this area. He was also pleased to learn that one of the colleges in his home state offered these majors so he could attend tuition free. He would also still plan to apply to some highly selective colleges along with some historically Black colleges and universities to see what kind of scholarship and transfer credit offers he could receive.

Implications for Career Counseling Interventions
As a returning veteran, Steve had advantages that allowed for successful career counseling intervention outcomes. These can be informative for career professionals considering future work with this population. They include: (a) adaptability learned in the military; (b) a high degree of congruence among interests, values and personality type; (c) a high level of determination and self-efficacy; (d) self-awareness regarding disability-related limitations; (e) being in a supportive educational environment; (f) a career development specialist versed in military student needs; and (g) use of the Office of Career Services early on in his college career.

Examination of Steve’s case also resulted in practical suggestions for career professionals, particularly those working with veterans. First, career professionals need to be trained to elicit and recognize dysfunctional career thinking, whether it be subtle or overt, with their clients, especially those with ADHD. Secondly, asking clients to revisit and assess their decision-making processes can be challenging, but is well worth the effort. Finally, asking clients to quantify their limitations is equally as important as knowing their strengths.

The session ended with a discussion with Steve which emphasized that obtaining a job in this field would be less dependent on where he earned his degree and more based on the quality of his writing, the connections he made along the way, and participating in internships at quality organizations, all of which played to his strengths. Steve also indicated that he felt comfortable being judged on his portfolio when attempting to re-enter the workforce. Upon enrolling at his next college, he reported that he would immediately focus on getting involved with the campus literary magazine and student newspaper and would pursue opportunities with the local newspa-
per in his hometown. By identifying and addressing the dysfunctional career thinking early on in the relationship, it allowed the career practitioner to quickly establish a course of action with Steve. This was important based on the fact that he’d already accumulated credits in a major that he subsequently determined he no longer planned to pursue. The CTI was particularly useful for identification of non-functional career thoughts; hence the intervention plan was put in place early, well before career difficulties became endemic and resistant to change (Bahny & Dipeolu, 2012).

Conclusion
Student veterans with ADHD bring to the career counseling process unique difficulties and strengths that need to be acknowledged and addressed. Sensibly using the CTI as an adjunct intervention can enhance the career counseling and career decision making processes with this population.

*The case represents a close approximation to a real client scenario. A pseudo name is used in place to actual name.

References


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Chapter 7

UTILITY of the BARKLEY DEFICITS in EXECUTIVE FUNCTIONING SCALE for CAREER PLANNING in COLLEGE STUDENTS with ADHD
by Frances Prevatt, Debra S. Osborn, and Theodora Passinos Coffman

Abstract
College students with ADHD may have difficulties identifying career goals and moving into employment opportunities. They may be unrealistic in identifying goals that match their abilities. Many difficulties can be traced to executive functioning (EF) deficits. A new measure of EF is the Barkley Deficits in Executive Functioning Scale (BDEFS). The BDEFS can be used to identify areas of impairment and use that knowledge for more effective career counseling with college students.

Research has shown that Attention Deficit Hyperactivity Disorder (ADHD) often persists past childhood for about 50-60 PER CENT of those with a childhood diagnosis, causing impairments across many stages of life (Booksh, Pella, Singh, & Gouvier, 2010). ADHD is one of the fastest growing disability categories on college campuses (Weyandt, et al., 2013), and estimates of prevalence of ADHD in college students ranges from 2-8% (DuPaul, Weyandt, O’Dell & Varejao, 2009). Research documents that young adults with ADHD are at an increased risk of impairment in academics (Barkley, 2004; Barkley, Murphy, & Fischer, 2008). College students with ADHD are more likely to have lower grade point averages (GPA), poorer academic coping skills, poorer study skills, a greater likelihood of being placed on academic probation, and a higher dropout rate than those without ADHD (Barkley, Murphy, & Fischer, 2008; DuPaul et al., 2009; Reaser, Prevatt, Petscher, & Proctor, 2007; Weyandt et al., 2013). Academic achievement is often tied to occupational requirements, and thus a key topic for consideration in career counseling conversations (Osborn & Zunker, 2016).

As college students proceed to identify career goals and move into employment opportunities, ADHD-related impairments continue. They may be unrealistic in identifying career goals that match their abilities (Painter, Prevatt, & Wells, 2008). Young adults with ADHD often experience deficits in attention, impulse control, self-regulation, and organization; as such, they will have difficulty in jobs that require independence of supervision, acceptance of responsibility, and training in new skills (Wender, 1995). They may do poorly in jobs that require careful attention to detail (Murphy & Barkley, 1996). Faigel (1995) adds that adults with ADHD are promoted less often and fired more frequently. Murphy and Barkley (1996) looked at the work history of adults with ADHD and found that they had been fired at a rate of 53 per cent versus adults without ADHD, who had been fired at a rate of 31 per cent. Those with ADHD were also three
times more likely to impulsively quit a job, and changed jobs significantly more often than those without ADHD. They cited common difficulties such as the following:

- impulsive speech
- careless errors
- disorganization
- lack of timely completion of paperwork
- tardiness
- inconsistent attendance
- missing of deadlines
- lack of follow through
- poor time management
- short temper
- problems with supervisors and coworkers
- inattention in meetings
- general inconsistency in performance

Adults with ADHD may leave jobs because of an inability to tolerate what they view as a boring, repetitive, and unrewarding daily routine. Significant ADHD impairment can also result in dysfunctional career beliefs, decision-making confusion, anxiety, and conflict regarding the career decision-making process (Painter, Prevatt, & Wells, 2008). Recent research suggests that much impairment associated with ADHD is the result of executive functioning (EF) difficulties (Barkley, 2012). As such, an understanding of EF can be helpful in designing career-related interventions for a college student population.

**Executive Functioning Deficits**

College students with ADHD may have particular difficulty during college and in their career planning due to their limitations in executive functioning (EF) and self-regulation (Biederman, Spencer, Wilens, Prince, Faraone, 2006; Niendam, Laird, Ray, Dean, Glahn, & Carter, 2012; Nigg & Casey, 2005; Parker & Boutelle, 2009; Weyandt, 2009; Willcutt, Doyle, Nigg, Faraone, & Pennington, 2005). EFs can be described as the capacities needed for individuals to manage the goal-oriented and purposeful tasks of daily life (Suchy, 2009). EF has traditionally been thought to involve discrete cognitive processes such as working memory, inhibition, problem-solving, set-shifting, vigilance and attention (Dehili, Prevatt, & Coffman, 2013). However, there is a growing belief that EF related to ADHD might be better measured by identifying specific behavioral, emotional and social impairment (Barkley, 2011a). As such, researchers are beginning to focus more on the actual behaviors that are problematic in individuals with EF deficits. For example, deficits in EF can affect time management, organizational skills, problem-solving abilities, motivation, sustained attention, and regulation of emotions and behaviors (DuPaul, Weyandt, O’Dell, & Varejao, 2009; Parker & Boutelle, 2009). Consequently, EF deficits commonly impact academic, social, occupational, and psychological functioning (DuPaul et al., 2009; Swartz, Prevatt, & Proctor, 2005; Weyandt et al., 2013). Evaluating and treating these behavioral areas may be a more productive way of remediating EF impairments in adults with ADHD.

Barkley (2012) has developed a theory of EF that is anchored in self-regulation; he refers to EF behaviors as “those self-directed actions needed to choose goals and to create, enact, and sus-
tain toward those goals” (p.168). In order to better evaluate EF deficits, Barkley developed the Barkley Deficits in Executive Functioning Scale (BDEFS; Barkley, 2011a; Barkley, 2011b). The BDEFS is an 89-item self-report, behavior rating scale designed to assess functional impairment. It yields five sub-domains: self-management of time, self-organization/problem solving, self-restraint or inhibition, self-motivation, and self-regulation of emotion. The ADHD-EF scale has age norms, with the youngest being 18-35 year olds. However, a college student may have a different pattern of responses than an adult aged 30 or above, because the anatomical areas of the brain responsible for EFs are not fully developed until an individual’s late 20’s or early 30’s (Barkley, 2012). A subsequent study by Coffman (2014) utilized discriminant function analysis on 596 college students to create a 14-item index that discriminated between college students with and without a diagnosis of ADHD. The resulting 14-item brief screener had an overall classification rate of 91 per cent (the ability to correctly classify students as ADHD or non-ADHD). All of the items came from two domains, Time Management and Self Organization/Problem Solving. The BDEFS full scale and the 14-item screener can be important tools in career planning for college students. The remainder of this paper discusses the use of the BDEFS in career planning.

Career Planning Utilizing the BDEFS
College students who request career counseling can be given a brief screener to assess for ADHD-related executive functioning deficits. The 14-items on the BDEFS screener found by Coffman (2014) to best predict ADHD in college students include the following behavioral difficulties (item number in parentheses):

- Forgets things (7,10)
- Can’t accomplish goals (8)
- Difficulty judging time (12)
- Trouble completing things (16)
- Not motivated (14)
- Can't prioritize (20)
- Difficulty getting started (21)
- Trouble organizing thoughts (24)
- Distracted (39)
- Poor reading comprehension (40)
- Can't focus (41)
- Confused (42)
- Difficulty concentrating (43)

The career counselor can begin immediate remedial work by using these critical items as a brief screener, and discussing each behavior identified as problematic for the student.

Time Management
The majority of the 14 critical items refer to time management issues. These include difficulty prioritizing, judging how much time a task or project will take, and getting started. If these items are endorsed, a career counselor might help the student practice this skill by discussing how a particular session might be organized and estimating how long an activity or discussion might take. For example, “Today we wanted to identify some possible majors and look at possible internship sites. How long do you think this might take?” Adults with ADHD are often poor at
making accurate time estimates, so they can be encouraged to break behavioral estimates regarding large tasks into small blocks of time (Prevatt, Proctor, Baker, Garrett, & Yelland, 2010). For example, they might practice taking a large task, identifying the specific behaviors that will lead to completion of that task, and predict how long each smaller behavior will take. With respect to exploring options, a career counselor might recommend considering careers that require a minimum of advance planning to organize a task. Examples of careers that might be recommended include lab technician, teacher's aide, physician, physical therapist, counselor, or mechanic. Careers such as project manager or teacher would not be recommended, as they require a great deal of planning.

Memory
Additional critical items on the BDEFS include forgetting to do tasks. There are numerous memory skill-building techniques that can be recommended. The process of career planning and job searching requires keeping track of a great deal of information, so memory-building suggestions will be crucial. Students with ADHD are frequently encouraged to use planners, carry a small notebook for jotting down ideas, keeping a whiteboard in a prominent place in their home, and using clear folders or bins to store information so that the contents are visible (Prevatt & Levrini, 2015). In addition, Dipeulo (2011) suggests that reminder apps or digital calendars with reminders can help students. Finally, using a tool such as an individual learning/action plan (Sampson, Peterson, Reardon & Lenz, 2004; http://www.career.fsu.edu/Tech-Center/Designing-Career-Services/Basic-Concepts) might help provide a visual structure for career activities that relate back to the student’s goals for career counseling.

Reading
Several items on the 14-item BDEFS screener involve difficulty with reading (not comprehending, needing to reread material, not being able to concentrate on reading, and being distracted). Career counselors should consider student preferences and abilities with respect to reading when choosing career interventions. For example, a career counselor might ask a student to read a brief paragraph of an occupational description and then paraphrase the key points. Comfort with reading should also be considered when choosing career assessments. A career counselor might provide information about the assessment, such as the number of items, or show the client the assessment, and ask them if this is something that they would like to do. Another option would be to provide two possible assessment options, such as a traditional career assessment and a card sort, and asking the client which they would prefer (Osborn & Zunker, 2016). Finally, if the task of reading is onerous, this should be considered by the client when evaluating career options. A book or magazine editor might not be the best position for someone struggling with reading, but there are plenty of career options that do not emphasize reading. A client can be directed to O*NET (www.onetonline.org), and through the “advanced search” function, find occupations that do not require a great deal of reading comprehension on a regular basis, such as plumber, graphic artist, chefs, salespersons, and so forth. Finally, if there is the possibility that the client might have a learning disability in reading, the career counselor might refer the client for an evaluation to a campus assessment center or a local clinical practitioner who specializes in learning disabilities.
Concentration

Two critical items on the 14-item BDES screener involve an inability to sustain concentration and confusion when given directions or trying to organize a task. In order to build concentration skills, the student might be encouraged to set a timer for small increments (5-10 minutes) while working on a task. When the timer rings, they make a note of whether they have been focused on the task. The timer also gradually conditions them to be more aware of when and how their mind wanders, and can eventually be discontinued when this process becomes more under their conscious control. Another suggestion is to work for short periods of time (30-60 minutes), after which a 5-10 minute break is taken to engage in a pleasurable activity. Finally, students are encouraged to keep a pad of paper on their desk; when they find themselves being distracted by thoughts of something else they need to do, they can write that down for later consideration, thus removing the idea from their immediate thought (Levrini & Prevatt, 2012).

A career counselor can also pay attention to non-verbal cues that a student is having difficulty, and use immediacy techniques, such as “You look a bit distracted” or “I’ve just shared a lot of information – is this making sense?” The counselor may also want to vary the activities that happen in a session, rather than rely solely on “talk therapy.” If a counselor observes that the client is losing focus, redirecting the client to look at information online, or using a hands-on assessment like a card sort, or watching a video about an occupation can add variety into the session. The counselor may also want to be more specific when outlining tasks related to a career intervention. Instead of saying, “Read over this resume guide and work on creating a first draft of your resume,” a counselor might say, “For this week, look at the section on writing a career objective. Find two examples that you like and try writing two possible career objectives.”

If a student endorses many of the 14 critical items on the BDEFS, then the full 89-item measure can be utilized to determine whether additional impairment is likely in the areas of self-restraint, motivation, and regulation of emotions. In this case, a career counselor might discuss how each of these additional areas might influence one’s choice of a career. It is very common for college students with ADHD to have an unrealistic view of their suitability for their chosen major. Many times decisions are made based on parent pressure, current trends (business, medicine and law seem to be popular choices), or merely falling into a major without careful thought or planning. For some people, many careers can be rewarding and doable, but for adults with ADHD, it is imperative to select a career that fits their particular needs.

If students have difficulties in the areas of the BDEFS that measure self-restraint or motivation, they should avoid jobs that include sitting at a desk all day doing repetitive, detail oriented work. More suitable jobs might be ones that involve creativity, spontaneity, the ability to set one’s own hours, and a degree of variety. But they should be careful about selecting a job with too much flexibility; some adults with ADHD need clear deadlines and someone to hold them accountable. Otherwise, their tendency to procrastinate may prevent them from following through on tasks. Some potentially appropriate career options for adults with ADHD might include teaching, sales, or marketing. Managerial or administrative jobs might be quite suitable if there are support staff who take care of structure, organization, and day to day details. Many adults with ADHD become entrepreneurs and are quite successful. Adults with ADHD can thrive in jobs that allow them to create new endeavors, solicit contracts, and envision the big picture. Then, they turn the
implementation and monitoring over to their detail oriented support staff. In sum, the career counselor can try to link specific behaviors or areas of impairment on the BDEFS with a list of likely versus unlikely career matches.

Additional Strategies for Career Practitioners
Given the increased prevalence of college students with ADHD, career advisors can expect to see an increase in students with ADHD seeking career services. The BDEFS can be used in making initial hypotheses about a student’s strengths and weaknesses, and can lead to specific strategies. However, career service providers should also be aware of the following considerations when working with a student with ADHD symptoms:

Preparation for working with students with ADHD:
Seek out continuing training and consultation on ADHD and strategies for working with college students who present with indicators of ADHD such as: “(a) excessive talking in sessions, (b) evidence of low frustration tolerance, (c) lack of focused attention, (d) excessive procrastination, (e) poor time management, (f) being late for appointments, (g) difficulty with planning, and (h) making impulsive career decisions” (Dipeolu, 2011, p. 411).

Diagnosis
If a student has not been formally diagnosed but is demonstrating these symptoms or complaining about the impact of these symptoms in areas of life such as academic, social, personal or career, a career counselor should recommend formal testing and offer appropriate referrals. If the student has been formally diagnosed, ask about when the diagnosis occurred. Someone with a recent diagnosis may still be struggling with understanding what the diagnosis means and may need to address thoughts, feelings and myths related to that diagnosis (Dipeolu, 2011).

Be aware of the possible impact of ADHD on a student’s completion of career assessment inventories (Dipeolu, 2011), and make adjustments when possible.

Strength-based Approach
Discuss how the student has made accommodations to increase success, and how those strategies might work in the career exploration and job search process. Focus more on the student’s unique skills and strengths as opposed to how their ADHD might limit their options (Osborn & Zunker, 2016).

Counseling Strategies
Consider adding more structure to the career counseling session, with activities that will engage the student in the process (Ramsay & Rostain, 2003). For example, card sorts are an active, hands-on activity that can keep a student actively involved (Osborn & Zunker, 2016). Another way to structure a session is by creating an action plan that clearly defines goals, activities to meet those goals, and deadlines (Sampson, Peterson, Reardon & Lenz, 2004).

Be sensitive to and address negative self-talk with respect to career decision-making and job searching (Painter, Prevatt, & Welles, 2008). Because students with ADHD may have experienced multiple failures (Lewandowski, Lovett, Codding, & Gordon, 2008), there may be accompanying negative self-talk associated with the likelihood of success for future career goals. Cognitive Information Processing theory (Sampson, Peterson, Reardon & Lenz, 2004) provides a
framework for identifying, exploring and addressing negative career thinking. Consider the unique aspects of the student when choosing career interventions. Discuss with the student preferences for type of information (e.g., print materials, video, informational interviews), and ask for preferences in terms of office lighting and amount of information being presented.

Career Search

Be aware of how these symptoms might present difficulties in the job search. For example, if a student talks excessively in a job interview, not allowing for give and take in the conversation, this might have a negative impact on the interviewer’s perception of the student. A career service provider can help the student through applying behavioral rules such “aim for equal amounts of conversation” and then role-play with mock interviews.

Be realistic when discussing career options. Students should consider values, interests, skills, and specific aspects of their ADHD when narrowing their list of options. For example, if poor focus is a primary aspect of a student’s ADHD, a job that requires constant focus might not be the best option. Alternatively, if a client needs a great deal of variety in order to stay engaged, this should be a criterion for consideration when exploring different options (Dipeolu, 2011).

In summary, college students with ADHD experience significantly more academic consequences than college students without ADHD (Reaser Prevatt, Petscher, & Proctor, 2007). It is important to efficiently identify these students in order to offer treatment and assistance. The BDEFS, both the 14-item screener and the full measure, can be useful tools in working with college students who have ADHD. Career counselors will be most successful if they identify specific ADHD-related impairments, select techniques and remediation that align with those specific impairments, and utilize practices known to facilitate functioning for adults with ADHD.

References


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Chapter 8

INCLUSIVE CAREER COUNSELING: Family of Origin Impact While Working with Individuals with ADHD
by Leslie Davies, Cassandra A. Storlie, Abiola Dipeolu, and Alyssa Smyth.

Abstract
For individuals with ADHD, family serves an essential role in life and vocational success. Recent career development theories are embedded within relational contexts that support cross-contextual family-based interventions. Though extensive empirical attention has been directed toward understanding ADHD, limited attention has been devoted to investigating the effects of ADHD and family of origin on work and home life. This article argues for an inclusive perspective that incorporates family factors into the career counseling process.

Attention Deficit-Hyperactivity Disorder (ADHD) is a disability that affects approximately 4.4% of adults in the United States (Kessler, Adler, Barkley, Biederman, Conners, Demler et al. 2006) and impacts several important areas of functioning: including social skills, decision-making, focus and attention, academic and vocational success, and interpersonal relationships. The reciprocal nature of human interaction recognizes that the entire family is affected when one or more of its members have ADHD (Corwin, Mulow, & Feng, 2012). As such, contextual factors affecting individuals and families affected by ADHD should be explored in the process of career counseling to correctly identify and administer effective intervention. Little research has investigated the effects of ADHD on the entire family unit and how all the members of the system react and adapt, and the implications of that influence on the career decision-making of the players. This article identifies different contextual perspectives of individuals and families affected by ADHD to examine its influence on the career development process.

For many individuals, relationships with family members provide significant and influential experiences impacting various elements of their lives. It is suggested that family dynamic variables are of particular importance in the career development process (Whiston & Keller, 2004). Yet, Hargrove, Creagh, and Burgess (2002) and Whiston and Keller (2004) argue that the extent to which family contextual variables are related to the career development process has yet to be thoroughly analyzed. Their position is shared by a number of vocational researchers who have recently called for further exploration of the interface between work and relationships (e.g., Blustein, 2001; Flum, 2001). As individuals are embedded within their family system (Blustein, 2004), families of origin may serve pivotal roles in support of vocational choice and career development of individuals with ADHD.
Relationships and ADHD Symptomatology
ADHD is a disability hallmarked by a persistent pattern of inattention and/or hyperactivity and/or impulsivity that impacts an individual’s functioning and/or development (American Psychiatric Association, 2013). ADHD affects areas of executive functioning (Barkley, 1998), which are neurologically based cognitive processes that include: working memory, problem-solving, reasoning, cognitive flexibility, planning, and executing actions to achieve a goal. Individuals with ADHD have been found to show deficits in executive functioning, and these deficits affect the ability to sustain attention and focus, self-regulate one’s behaviors, exercise forethought, and implement purposeful action to complete a task (Barkley, 1997). In addition, individuals with ADHD often have interpersonal problems in their home, school, and work environments (DuPaul & Power, 2008; Litner, 2003).

These deficits, often found in individuals with ADHD, are necessary for establishing appropriate and healthy relationships (i.e., sustained focus and attention, emotional regulation, behavioral inhibition and control, and empathy and affect recognition), posing a serious challenge to interpersonal, intra-personal, educational and vocational developmental success. Though extensive empirical attention has been directed toward understanding ADHD, the connection between ADHD symptomology and healthy interpersonal relationships among families has not been fully explored in the career development literature. Existing interpersonal models hold the assumption that relationships are woven throughout one’s life and are fundamental to human functioning, adjustment, and effectiveness (Blustein, 2001). Moreover, career development occurs within and across the contexts of interpersonal relationships, hence may be greatly influenced by one’s family of origin.

Role Expectations Transmitted Through Family of Origin
The family of origin is often the first exposure to the world of work and plays a large part in the transmission of societal and familial role expectations and values (Satir, 1983; Gilbert, 1985). These role expectations are internalized based upon exposure to the roles and tasks associated with particular family members and particular genders (Pleck, 1995; Gottman, 1994). From a family systems perspective, roles, accompanying tasks, and interpersonal dynamics are modeled for and carried down to the next generation (Satir, 1983; Sabatelli & Bartle-Haring, 2003; Bowen, 1978). For example, Sabatelli & Bartle-Haring (2003) found that both husbands’ and wives’ family of origin experiences significantly influence marital adjustment, as defined by the researchers as levels of complaints reported within the marriage and the levels of intimacy experienced between spouses.

Work-Family Strain and ADHD
To function optimally, the family unit needs to be a well-organized system with plans that require contribution, collaboration, role and task delegation, foresight, and time management. These aforementioned roles and tasks require skill sets which may be areas of struggle for individuals with ADHD. This may place an inordinate amount of responsibility on family members, creating resentment, frustration, and feelings of isolation. For the partner with ADHD, this tension may lead to negative self-concept, poor self-esteem, dysfunctional coping strategies, and relationship strain. For example, Kessler and colleagues (2005) found that partnerships where one or more of the individuals have a diagnosis of ADHD possess higher divorce rates than couples where
neither partner has ADHD. Stress and dysfunction at home often carry over into one or both partners’ professional lives, creating work-family conflict (Duxbury & Higgins, 2003). This conflict can take on several forms, including time-based, strain-based, and/or behavior-based conflicts (Carlson, 1999; Korabik, Lero, & Ayman, 2003).

Time-based conflict occurs when an individual’s family role and work role time requirements are in competition. When strain in one role impacts the successful fulfillment of the other role, this is called strain-based conflict, while behavior-based conflict is present when the behavior requirements of one role are not compatible with the behavioral expectations and requirements of the other role (Carlson, 1999; Korabik, et al. 2003). Any or all of these types of work-family conflicts may exist in families where at least one partner has ADHD. For the partner with ADHD, difficulties at home compound workplace challenges that may already exist based upon the skill deficits commonly found in ADHD in a manner that may likely affect workplace functioning. This additional workplace stress has the potential to spill back over into the individual’s home life, creating a cycle of dysfunction, frustration, work-family conflict, and disappointment for both partners, particularly for partners with children, where the need for extensive organization, time management, planning, and collaboration is required for the successful completion of parenting, household duties, and cohesion of the family unit.

There are minimal evidence-based resources available to inform career specialists and career counseling practices in ways that can enhance inclusive and family-based interventions directed toward individuals diagnosed with ADHD. However, examining the influence of an individual with ADHD’s role expectations in and on their own adult life can potentially provide counselors working with clients with the disability a stronger foundational understanding of the personal-professional struggles facing these underserved clients.

**Intervention Considerations for Career Counselors**

**Cultivate Family Contribution to the Counseling Process**

Career interventions that are inclusive and engage all members of the family (Flores & Ali, 2004) may enhance the career development of its individual members. Career specialists should seek out in-depth knowledge of the family unit to support the client’s commitment to recommended interventions (Davis, Claudius, Palinkas, Wong, & Leslie, 2012). In addition, eliciting families’ perspectives and intervention preferences can provide opportunities to educate families about the career counseling process.

**Explore Family Influence**

Career specialists must realize that when it comes to the family, the whole is certainly greater than the sum of its parts. While an individual is a walking representation of the multiple influences to which he/she has been exposed throughout life, the family unit may be most significant. It is therefore imperative that the career counseling process include family factors in the conceptualization and problem-solving processes. An exploration of the influence of family of origin on current family functioning will likely provide the best outcome.
Genogram as a Tool in the Career Counseling Process
The genogram is a graphic model of a family of origin considered to be a convenient method for explaining family influence in an individual’s life (Bowen, 1980; Okiishi, 1987). Its use can help thoroughly explore family of origin issues, providing the counselor with a starting point in exploration. In career counseling, a genogram can help the counselor to better understand the client’s view of both the work and home worlds and pinpoint role stereotypes (Okiishi, 1987). Assisting the client with ADHD and his/her family members’ current role expectations may help to facilitate a renegotiation of roles based upon each member’s strengths.

Renegotiate Non-Functional Role Expectations
For an individual with ADHD, the role expectations learned in his/her family of origin may be incompatible with the individual’s abilities and strengths as a partner and/or parent, as well as a worker. For partnered adults, it is important to explore the role expectations that both partners have for each other and for themselves and how these expectations developed. A counselor, while maintaining structure during sessions (Dipeolu, 2011), must explore with the client and his/her partner the origins of current role expectations and then work to identify areas of strength and weakness for both partners in order to renegotiate each partner’s roles. The roles should be based upon these strengths and weaknesses rather than societal and role expectations which may not have even been consciously recognized or acknowledged.

Exploration of Sources of External Conflict
Individuals with ADHD may be more affected by family factors than their non-ADHD counterparts when it comes to career decision-making and dysfunctional career thoughts. Struggles with interpersonal relationships (Barkley, 2006; Monastra, 2008) as well as deficits in executive functioning (Barkley, 1997) likely compromise the ability to process and contextualize input from significant others related to vocational choices. For individuals with ADHD, the career decision-making process may bring about external conflict (EC). EC occurs when an individual struggles to apply feedback from significant others, and/or when an individual concedes career decision-making to significant others (Peterson, Sampson, & Reardon, 1991). In this case, possible barriers posed by significant others or perceived by the client to be restrictions can be identified by using the EC subscale of the Career Thoughts Inventory (CTI: Sampson, Peterson, Lenz, Reardon, & Saunders, 1996).

Focus on the Whole Continuum of Family Functioning
Career counselors operating from the strength-based preventative perspective can help maximize the strengths and minimize the limitations of each family and its members, thereby placing strengths and weaknesses on the same continuum in order to fully understand the family unit. Corwin, Mulso, and Feng (2012) remind counselors that the families who live with ADHD are somehow drawing on resources and typically succeeding on a daily basis. As a result, they note that counselors have much to learn from these families. To accomplish this, career specialists can help make these family strengths a part of the intervention rather than focusing only on the negative family characteristics.
Conclusion
Individuals with ADHD are actors within a web of family influences and therefore individual career needs must be considered within the context of the family environment to correctly identify and administer effective intervention. While many inroads have been made regarding ADHD, further research into the impact of family of origin factors on the career development process when at least one member has ADHD can educate career specialists on how best to assist individuals with ADHD. It is our contention that family of origin plays an important role in the career development of individuals with ADHD. Providing career counseling that incorporates family of origin factors in the career development process can assist practitioners to develop a sound vocational plan that effectively balances clients’ needs at home and at work.

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IMPROVING WORKING MEMORY for ADULTS WITH ATTENTION DEFICIT HYPERACTIVITY DISORDER to ENHANCE THE CAREER COUNSELING PROCESS
by Charles Shinaver

Abstract
Adults with Attention Deficit Hyperactivity Disorder struggle to acquire and maintain employment. Inattention continues to affect their functioning as adults which can be seen in more ‘mind wandering’ than others. Traditional treatment approaches show little evidence of improving academic or occupational functioning. The article introduces counselors to an innovative working memory intervention with the potential to enhance the career counseling process by increasing the capacity of those with ADHD to attend during counseling and on the job.

The lifelong impact of Attention Deficit Hyperactivity Disorder (ADHD) has become clearer over the last few decades. What was once thought to primarily impair children is now viewed as a disorder that affects the educational, occupational and social prospects of adults with ADHD. Traditional approaches to treatment have brought some respite from the core symptoms of ADHD: hyperactivity/impulsivity and inattention. However, these benefits appear to be a short term gain particularly while actively taking medications. There is little evidence of academic gains or improved occupational functioning resulting from traditional interventions. Furthermore, the core issue of inattention tends to persist into adulthood. Innovations that provide alternatives to traditional approaches are needed to address this problem as is the support provided by career counselors to help adults with ADHD more successfully secure and maintain employment (Dipeolu, 2011). Those with inattention will need improved working memory (WM) to enable them to have the capacity to develop the skills that career counselors recommend and support. This article will review one such approach, a program for training working memory (WM) called Cogmed Working Memory Training (Cogmed) and its salience for career counselors.

ADHD puts occupations and income at risk. Many are unaware of the risks to one’s livelihood that ADHD presents. It is substantial. A longitudinal national sample with sibling pairs found that employment reduction among those with ADHD was “between 10 and 14 percentage points, the earnings reduction is approximately 33% and the increase in social assistance is 15 points” (Fletcher, 2014). ADHD adults are at risk for underemployment and unemployment.

The transition into adulthood is challenging for those with ADHD. Problems like substance abuse, poor management of finances, trouble selecting a major in college, poor job performance
and legal problems are greater hazards for this population than others (Javorsky & Gassin, 1994). Moving into the workforce is particularly difficult. ADHD adults were found to have shorter durations at their full time jobs than a control group of young adults (Barkley, et al., 1996). Research on a clinic referred sample of adults with ADHD found that only 22.2 per cent had work as their source of income as compared to 72 per cent of the general population (Gjervan, et al., 2012). Furthermore, higher inattentive ratings were found to be associated with a lower level of employment (Gjervan, et al., 2012). High levels of comorbidity with depression 37.8%, substance abuse 28.1% and alcohol abuse 23.3% (Gjervan, et al., 2012) also plague this group.

The severity of ADHD and comorbid disorders will play an influential role over the course of development as will the timing and efficacy of interventions. Typical development of ADHD adults is characterized simply: they don’t fulfill their potential. Willcutt, et al., (2012) reviewed 546 studies of ADHD patients and captures the expected adverse trajectory: “significant and persistent impairment in social, academic, occupational and adaptive functioning when intelligence, demographic factors and concurrent psychopathology are controlled.”

Traditional approaches to ADHD have had limited effectiveness. The largest and what some consider the best treatment study of childhood ADHD (the Multi-modal Treatment of ADHD study – the MTA study) showed these limitations. At 6 and 8 year follow up to a 14 month intensive treatment program the ADHD children in 4 distinct treatment groups fared worse than community controls on 91 per cent of the variables considered (Molina, et al., 2009). This included grades, arrests and other clinically relevant outcomes. The original 4 distinct treatment groups were: 1. An excellent medication regimen, 2. extensive behavioral management, 3. a combination of both, 4. typical psychiatric community care. Yet, at 6 and 8 years these 4 groups were indistinguishable in terms of impact upon the patients (Molina, et al., 2009). This group of investigators specifically called for what they characterized as “innovative treatment approaches targeting specific areas of adolescent impairment.” So, while one large scale study found that medication may reduce criminality of adults with ADHD (Lichtenstein, et al., 2012), the results of the MTA study at 6 and 8 years post intervention show that traditional approaches need notable improvement or support from innovations. The MTA subjects still lacked academic achievement and skill development and one might presume that they were inadequately prepared for full time work.

Despite their many challenges adults with ADHD can be helped. Their development can be characterized by a cracked and unstable foundation of learning. The same is true of their skills. As a result they are likely to need support beyond career counseling. Importantly however, ADHD adults are likely to benefit from additional help. Three variables that related to successful competitive employment for adults with ADHD were: “vocational rehabilitation counseling, job search assistance and job placement” (Schaller, et al., 2006). ADHD symptoms have been found to be “predictive of dysfunctional career beliefs” as well as decision-making confusion (Dipeolu, Sniatecki, Storlie & Hargrave, 2013; Painter, et al., 2008) which suggest possible points of intervention. Some professionals describe their work with ADHD adults as ADHD coaching. Smith et al., (2014) reported: “Studies have shown improvements in several areas following ADHD Coaching, including academics, self-esteem and daily life functioning.” Indeed, what is rewarding in working with ADHD adults is helping them to tap their talents more fully as
they have lived a life in which success is often just beyond their grasp while not lacking in ability.

**Intervene to improve Inattention.**

To secure and successfully maintain a job, adults with ADHD need improved attention. One common shift over development for those with ADHD is that hyperactivity/impulsivity may decline while inattention persists and may worsen. The research of Larsson, et al., (2011) supports this conclusion. They studied 1,450 twin pairs in a population-based, longitudinal study. Symptoms of inattention, hyperactivity and impulsivity were defined using parent ratings at ages 8-9, 13-14 and 16-17 (Larsson, et al., 2011). What was intriguing was that two trajectories for each dimension of ADHD were found. One included hyperactivity-impulsivity (HI) that was either low or high and over time decreasing. Whereas inattention also had two trajectories either low inattention or high and increasing (Larsson, et al., 2011). The study found that for those on a high trajectory of hyperactivity that hyperactivity decreased over time whereas inattention increased (Larsson, et al., 2011). So, across development children shift from combined type to inattentive ADHD and possibly from hyperactive-impulsive type to a combined type ADHD. In other words in adulthood ADHD is more likely to include problems with inattention.

Working memory (WM) is highly correlated with attention. WM is usually defined as being able to hold content in mind and manipulate it. So, holding instructions in mind and then using them to operate on content is an example of WM. Another example is recalling a series of numbers in reverse order, or digits backwards. When one is learning a new skill or job related tasks, WM is utilized. WM is salient particularly with academics (Dehn, 2008). WM plays a critical role in initially transferring new content from WM to long term memory. This is called encoding. When one chunks or groups new information into meaningful parts to facilitate moving the information into long term memory WM is utilized (Dehn, 2008). As is apparent WM is engaged whenever a person is learning a new skill or new content. In broad terms WM is highly correlated to inattention, but this conceptualization can be more clearly articulated.

A more insightful conceptualization is that poor WM correlates to an elevation in ‘mind wandering’. In a study by McVay & Kane (2012) of adults it was found that higher WM capacity (WMC) correlated with better reading comprehension, but mind wandering was found to be a mediator. Mind wandering was captured by “measuring lapses of attention to the ongoing task in the form of task-unrelated thought (TUT)” (p. 302, McVay & Kane, 2012). TUT was measured during reading and other attention-demanding tasks. The notion is that off task thoughts will result in making errors in tasks that demand attention (McVay & Kane, 2012). Mind wandering is a lapse of attention control. It is measured using probes while a person is engaged in a task by interrupting and asking him to describe and/or classify their immediately preceding thought (McVay & Kane, 2012). In the vernacular many would characterize this as being unfocused, spacing out, or, taking a mental break. Other research reported by McVay & Kane (2012) has found that those with higher WMC report less mind wandering than those with lower WMC. Mind wandering has been found to relate to both resisting external and internal distractions (Robinson & Unsworth, 2015). Also, mind wandering was found to be adjusted to current task demands and was predicted by WMC (Rummel & Boywitt, 2014). These investigators concluded that those with greater WMC were more “flexible in their coordination of on- and off-task thoughts” (Rummel & Boywitt, 2014). However, factors like topic interest and experience and motivation influence reading comprehension (Unsworth & McMillan (2013).
The conceptualization of mind wandering appears apt when it is applied to a study that found a moderating role of ADHD with work engagement and performance. What Halbesleben, et al., (2013) found was that across 2 groups of working adults (n=257, n=170) and one group of nurses (n=243) that ADHD was associated with lower performance rated by self, co-workers, and supervisors. A captivating notion was proposed which was that the lowest performance ratings were most associated with “in-role performance, suggesting that employees with ADHD may be diverting attention away from task-relevant behaviors” (Halbesleben, et al., 2013). This conceptually appears to be very similar to mind wandering, but applied to the work role instead of reading comprehension. In this example one’s ‘mind would wander’ out of a work role and its associated set of behaviors. Consistent with more frequently shifting “out of the work role” those with ADHD showed a “significantly reduced relationship between work engagement and performance” (Halbesleben, et al., 2013). These investigators cite attention control theory (ACT) to capture the impact of ADHD such that it creates a condition of inattention which reduced both effectiveness and efficiency of performance. The notion of mind wandering or shifting “out of the work role” begins to capture what seems to be happening for those with ADHD at work.

**Working Memory and Work.**

Working Memory is a construct used extensively within neuro-psychology and experimental psychology, but it does not have much history within industrial/organizational psychology, vocational psychology, career development and job performance. Yet in some jobs its role is so crucial and obvious it has been studied. WM has been evaluated and found to be salient in the performance of air traffic controllers (Garland, et al., 1999). Causse, et al., (2011) found that reasoning, updating in WM and flight experience were predictive of flight performance and weather-related decision making. Intriguingly a study investigating the effects of hypoxia among pilots with a hyperbaric chamber found that hypoxia strongly impaired WM (Malle, et al., 2013) and thereby flight performance. Also, WM has been found to be salient for job performance particularly when multi-tasking is required (Colom, et al., 2010). In the Colom, et al (2010) study intelligence played a role, but when both intelligence and WM were considered only WM predicted multitasking. WM was also among a number of cognitive predictors of “vocational functioning for patients with severe mental illness in the context of a controlled clinical trial that compared 2 approaches to vocational rehabilitation” (Gold, et al., 2002). Along with WM, attention, IQ, and problem solving were related to the total number of hours that patients were employed (Gold, et al., 2002).

**What is Cogmed and why is it relevant to career counselors?**

Cogmed targets WM for training. Cogmed working memory training (Cogmed) is a coach-mediated computerized cognitive training program delivered over the internet that clients can complete remotely. However, coaches can also hold initial and wrap up sessions face to face to facilitate rapport at their discretion. Career counselors can provide Cogmed through their practices as Cogmed coaches directly themselves or as a supervisor of Cogmed coaches. Those who hold a masters level degree in psychology, education or a related field can become a provider of the program. Adults with ADHD, traumatic brain injury, stroke, etc. will need the support of a Cogmed coach to finish the program. ADHD adults are a group that tends to not finish what they start. Cogmed adapts live to the individual performance of the user. It gets harder as you do better or easier as you do worse. After a couple weeks of training it is quite challenging. Keeping
the challenge level high is an important factor in facilitating increased WMC. This is similar to resistance training with weights. To get stronger with weight training the load needs to be increased over time. Also, on individual sets of weight training one goes until failure. This failure is a way to know one has lifted as much as he can. Over time lifting until failure will result in gaining strength. The analogy applies to training WM with Cogmed.

An optimal way for career counselors to deliver Cogmed would be before conducting interventions or counseling in which clients are to acquire skills related to securing and maintaining a job. This is because without improved WM and increased sustained attention the skills advocated or even discussed by a career counselor are likely to be inadequately integrated into the behavior of adults with ADHD, inattention or WM deficits. Completing Cogmed essentially “primes the pump” for learning, skill acquisition and increased likelihood that topics of counseling will be integrated into behavior. If issues related to inattention are evident in a client a career counselor can refer for a diagnosis of ADHD or administer appropriate screening tools to assess whether inattention or WM are issues. Thus they can determine whether Cogmed is appropriate.

Research Basis of Cogmed.

While Cogmed research with ADHD adults just began in 2014 the larger body of Cogmed inquiry started in 2002. Now there are over 60 peer-reviewed published studies of this program. In clinical trials results with children and adolescents with ADHD showed that after Cogmed that they improved attention as evident in rating scales (Klingberg, et al., 2005; Beck, et al., 2010; Green, et al., 2012) and objective measures (Green, et al., 2012). Additionally other Cogmed studies have found that students with attention difficulties, ADHD or educational underachievement improved on reading following Cogmed (Dahlin, 2011; Egeland, et al., 2013; Holmes, et al., 2014). Similarly, Cogmed research has found that students with attention difficulties, ADHD or educational underachievement improved on math following Cogmed (Dahlin, 2013; Bergman-Nutley & Klingberg, 2014; Holmes & Gathercole, 2014).

Another relevant group is adults recovering from an acquired brain injury (ABI - stroke and/or traumatic brain injury) who often have poor WM and inattention as a result. Adults with ABI who have completed Cogmed improved upon WM (Westerberg, et al., 2007; Lundqvist, et al., 2010; Hellgren, et al., 2015; Akerlund, et al., 2013; Bjorkdahl, et al., 2013) attention (Westerberg, et al., 2007; Lundqvist, et al., 2010; Hellgren, et al., 2015; Akerlund, et al., 2013) and showed reduced cognitive failures in daily life (Westerberg, et al., 2007; Johansson & Tornmalm, 2011). What may be particularly relevant to adults with ADHD is ABI adults post Cogmed showed improvement on the Canadian Occupational Performance Measure on both performance and satisfaction (Lundqvist, et al., 2010; Hellgren, et al., 2015; Johansson & Tornmalm, 2011). This data provides an empirical rationale for using Cogmed with adults with ADHD, but there are a couple Cogmed investigations specifically with adults with ADHD. Gropper, et al., 2014 found that adults with ADHD and LD improved on attentional problems as seen in rating scales and self report. ADHD adults who completed Cogmed also improved upon WM (Gropper, et al., 2014; Mawjee, et al., 2014). Similar to adults recovering from ABI the adults with ADHD who completed Cogmed showed reduced cognitive failure (Gropper et al., 2014; Mawjee, et al., 2014).
ADHD adults with increased working memory capacity will better incorporate career counseling interventions. ADHD adults who improve their WM are more likely to be attentive in career counseling sessions. Their ability to encode new content into long term memory will be enhanced with greater WMC as will their ability to acquire new skills. The gain in WM will help the clients both in developing their skills for planning, tracking and following through in the job hunting process, but also in keeping a job once one is secured. With this increase in WM capacity the other skills that may be a focus of career counseling are more likely to be acquired.

Conclusion
As is clear by this review that while using Cogmed with adults with ADHD is a new area of research inquiry there is an empirical basis for optimism. The relative success of Cogmed with children with ADHD and with adults with ABI along with the two Cogmed studies of adults with ADHD suggest that this approach is promising. Of particular note are the findings with ABI adults who have completed Cogmed and have reduced cognitive failure and improved in both performance and satisfaction in occupational functioning after Cogmed. The two studies of Cogmed with adults with ADHD found improved WM, attention and reduced Cognitive failure. This data suggests that Cogmed has the potential to enhance career counseling by increasing the likelihood that adults with ADHD will integrate the content and develop the behavior emphasized in the counseling process.

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INTEGRATING FINDINGS of STUDIES of SUCCESSFUL ADULTS with LEARNING DISABILITIES: A New Comprehensive Model for Researchers and Practitioners
by Christine A. Schnieders, Paul J. Gerber, and Roberta J. Goldberg

Abstract
A new conceptual model of success integrates two empirical studies that were conducted exclusive of each other. Both examined the lives of two separate groups of adults with learning disabilities (LD) and found internal, linking, and external factors that impacted the success of the participants. Career development professionals will find the model important as a new perspective for individual client planning as well as program development. Directions for future research and practice are discussed.

As the field of learning disabilities was growing in the 1970’s and 80’s a few groups of researchers focused their inquiry away from examining the struggles of school-age populations to exploring the complexities of adulthood for individuals with learning disabilities (LD). The result was a small body of research that indicated that some individuals who survived school and independent skills development found eventual success. The elements that comprised their success have been the foundation of some of the research on the challenges facing adults with LD. Two of the studies that identified elements of success are the centerpiece of this article that is an introduction to a new conceptual model.

The purpose of this article is to present a conceptual model that links factors that were found to influence the success of adults with LD in two seminal research endeavors conducted separately at the same time. Both analyze the lifespan of individuals growing up with LD and broaden the scope of domains covered while focusing on a context of adult outcomes. The new model is superior to the previous ones and can better assist practitioners and researchers when considering the multitude of tools that an individual with LD needs to succeed into adulthood. The first part of the article will present previous studies of outcomes of students and adults with LD offering a scope of the issues involved. Second, other conceptual models will be reviewed that give a sense of the range of possibilities for framing the current discussion. Third, the new conceptual model will be explained in detail. Finally, implications will be discussed for practitioners and researchers to give directions for future consideration in application and study.
Studies of Outcomes
The majority of the studies used to create the current conceptual model were disseminated in the early 2000’s. The initial work at the Frostig Center in Pasadena, CA explored life success for a group of former students who had enrolled in Frostig from 1968 to 1975 (Spekman, Goldberg, & Herman, 1992; Spekman, Goldberg, & Herman, 1993). The researchers examined “internal factors and external events” (Goldberg, Higgins, Raskind, Herman, 2003, p. 223) that impacted the success of the group of now young adults ages 18 to 22. Ten years after the first study was completed, the same group of former students participated in a similar, follow-up study. The purpose of the second study was to address additional questions related to their disabilities and re-examine their life outcomes as adults (ages 28 to 35). The results of that study are detailed in several publications reporting both qualitative (Goldberg et al., 2003) and quantitative findings (Raskind, Goldberg, Higgins, & Herman, 1999), as well as, examining a singular attribute (Higgins, Raskind, Goldberg, & Herman, 2002) and suggesting possible activities to foster the development of what are known as the success attributes (Raskind, Goldberg, Higgins, & Herman, 2002). The success attributes are self-awareness, goal setting, proactivity, perseverance, use of support systems and emotional coping strategies.

Gerber’s work with other collaborators resulted in a model of alterable patterns in employment success for adults with LD. The publications about the research involved an in-depth analysis of the model from the qualitative study (Gerber, Ginsberg, & Reiff, 1992; Reiff, Gerber, & Ginsberg, 1997) analysis of the quantifiable data (Gerber, Schnieders, Paradise, Reiff, Ginsberg, Popp, 1990), and several other articles exploring reports from individuals with LD (Gerber & Reiff, 1991). With control as the overarching bridge, the alterable patterns were categorized as internal decisions (desire, goal orientation, reframing) and external manifestations (persistence, goodness of fit, learned creativity, social ecologies).

Since the publication of both the Frostig and Gerber studies, few studies published related to the successful outcomes of adults with LD although success continues to be of interest to the field of LD. Some emphasis has focused on increasing the likelihood of success for college age students through specific interventions addressing one or two of the factors of success. Others have explored specific components related to successful young adults (i.e., self-determination, self-efficacy, etc.).

Other studies have focused on outcomes of adults with LD. Greenbaum, Graham, and Scales (1996) studied a group of college graduates to determine the impact of their LD on their lives. In part, this study supported the findings of the Gerber and Frostig studies in that the sample was self-aware and used support systems to accomplish goals. Current studies tend to examine specific variables related to success. Madaus, Zhao, and Ruban’s (2008) study examined employment satisfaction of graduates with LD. Their survey indicated that self-efficacy and self-regulation, related to some factors of success from the Gerber and Frostig studies, were better predictors of job satisfaction than salary and length of employment. Recommendations include further research on the impact of self-efficacy and self-regulation strategies (i.e., goal-setting and reframing) for school-age populations. Others found that individuals with LD had positive educational and vocational outcomes by finding their niche (Horn, O’Donnell, and Vitulano, 2001; McNulty, 2003).
A cluster of studies supports using interventions to teach strategies related to success. Klassen, Tze, and Hannok (2011) conducted a meta-analysis to examine internalizing problems of adults with LD. Their findings point to the need for continued support and instruction in coping strategies for emotional struggles across the life span. Teglasi, Cohn, and Meshbesher (2004) studied temperament and, in part, concluded that goodness of fit and adaptability in children with LD can positively impact others' response to children. Others suggest a variety of instructional activities to teach self-determination and goal-setting (Konrad, Fowler, Walker, Test, & Wood, 2007), self-advocacy (Prater, Redman, Anderson, & Gibb, 2014), and networking to facilitate communication and support among peers on a campus (Agarwal, Calvo, & Kumar, 2014). Studies of coping strategies indicated that adults with LD in and out of school continue to use those strategies as a means to deal with academic and other skills deficits (Cowen, 1988; Young, 2005; Vogel & Adelman, 1992).

Since the initial publication of both studies, no other researchers have conducted comprehensive follow-up or longitudinal examination of successful adults with LD. Although the results of the research from Gerber and Frostig is decades old, both continue to be important in the perception and understanding of LD across the life span. In the past several years, extraordinarily successful people (Gerber & Raskind, 2014), entrepreneurs (Coppola, 2007; Love, 2011) and other celebrities have disclosed their learning struggles which seems to indicate that the search for successful role models is imperative to the field.

In 2012, Gerber published a review of the research involving adults with LD to discover information to assist professionals who serve adults with LD. Gerber (2012) observes, “studies of adults with LD seem to lack a conceptual model regarding how to investigate the adult years. Studies rarely address variables of adulthood (i.e., contexts and developmental phases) and tend to explain findings from a narrow perspective, losing out on the ‘big picture’ as well as the complexities of adult life” (p. 33).

Other Conceptual Models
A review of conceptual models in the literature related to LD is limited. Two models compare and contrast LD with other exceptionalities. Rock, Fessler, and Church (1997) examined overlapping characteristics of LD and emotional/behavioral disorders and formulated a model for serving children with complicated issues. Polloway, Patton, Smith, and Buck (1997) considered the relationship of mental retardation (now termed intellectual disabilities) and LD. Although not specific to adults, both models reveal the complexities of factors related to disabilities. The Pathways Model (Kiernan & Stark, 1986) focuses on developmental disabilities, but it is intended to be used by all individuals. The model considers levels of support and training specific to moving individuals to full employment solely. Murray (2003) presents a framework for transitioning youth with disabilities to adulthood. This model considers risk and protective factors and healthy and poor outcomes of vulnerable students as a guide. While the model takes a holistic view of transitioning to adulthood, many of the factors reflect needs related to school and community rather than focusing on the individual. These models address many of the concerns for improving services for young people with LD; however, the current models lack a focus on how adults with LD can become successful. A model is required that focuses on the thoughts and actions an individual with LD needs to be a success.
New Conceptual Model
The new conceptual model offers a perspective that looks at the lifespan from a global lens and reveals those factors that professionals, families, and individuals with LD must integrate into their thinking and actions in order to reach success. The Gerber study identified the themes of success. Control was the overarching theme of an individual’s success. It was defined as “making conscious decisions to take charges in one’s life (internal decisions), and adapting and shaping oneself in order to move ahead (external manifestations)” (Gerber et al 1992, p. 479). From this key theme, the patterns were broken into internal decisions and external manifestations. Internal decisions were desire, goal orientation, and reframing. External manifestations or adaptability included persistence, goodness of fit, learned creativity and social ecologies.

The Frostig results identified self-awareness, proactivity, perseverance, goal setting, use of support systems, and emotional coping strategies. The attributes differentiate successful from unsuccessful adults with LD. Although “internal factors and external events” (Goldberg et al., 2003, p.223) were considered in the initial study, those internal and external categories were not part of the interpretation of the findings. Additional themes unrelated to the success attributes included LD across the life span, family differences, and social relationships. For both studies, the themes were part of both successful and less successful groups; however, clear differences were delineated between the groups for both studies.

Table 1 [see Appendix] provides definitions of the factors of both studies. The arrangement of the definitions is in the order found in the model. The terms associated with the Frostig study are in italics. Several of the factors have similar terms from both studies. For instance, perseverance in the Frostig study seems to be similar to Gerber’s persistence. In those and other similar cases, definitions are listed below one another in the same column.

The visual representation of the combined factors from the Gerber and Frostig studies is in Figure 1 [see Appendix]. The authors conceptualized the factors as being in one of three areas within the model indicating where each might arise as the individual practices the factors on the way to success. Factors are not mutually exclusive and are dependent upon one another for overall functioning. The importance of each factor changes as the individual matures and experiences challenges and rewards. Some factors are readily implemented by some individuals while others take time to develop fully. Successful individuals with LD utilize the factors throughout their lifespan to first achieve and then maintain their success. Common factors are noted with a slant line as follows: perseverance/persistence, support systems/social ecologies, and goal setting/orientation.

The internal factors are those decisions that an individual realizes, does, and masters consciously, but within their thoughts and processes. They are listed in order of movement toward success. These include two related, but not identical factors, desire and perseverance/persistence, as well as, goal setting/orientation, and self-awareness. Of this group, desire and then perseverance are the starting points. Successful individuals have a “burning feeling” (Gerber, Ginsberg, Reiff, 1992, p. 480) with a determination to move ahead despite adversity. With that desire to keep going, the individual also understands that planning toward an aim is done through careful, incremental steps or goals that change as needed when other factors are addressed. The last element
within the internal factors is self-awareness. This factor requires that the individual understands his or her strengths, weaknesses, and talents. Additionally, as a part of self-awareness, the successful individual will compartmentalize their learning disability to a less overwhelming place and locate a niche that will capitalize on their strengths.

For the internal factors to have usefulness for the individual, linking factors mediate across internal and external factors. The linking factors allow internal factors to engage the external factors. Four factors progress through the linking section. Emotional coping is the first linking factor. It serves as a starting point to all others. These affective strategies, tools, mechanisms must be working to allow individuals to navigate the other factors. The second is reframing that reinterprets the learning disability in positive and productive terms. The next factor is proactivity that represents the control over the environment, the decision making, and the engagement in the world/community. The final linking factor is goodness of fit. The adult is successful because he has tools to regulate stress, can adjust and redefine his learning disability, has a sense of control over the environment. Once those pieces are in place, the individual understands what to do to capitalize on his strengths.

Once the internal and linking factors are in order, two external factors work toward success. Learned creativity represents the strategies, techniques, methods that enhance abilities and takes advantage of strengths. These cognitive tools help the adult with LD shape the environment to her advantage. The other external factor is the use of support systems/social ecologies. This factor acknowledges the need to surround the individual with people who will provide support, guidance, and help. Mentors are especially important when concentrating on this factor. Although the model is presented as sequential, organized, categorized, the authors acknowledge that life for any individual with LD is messy. Utilizing internal, linking, and external factors requires practice and repeated failure. Acknowledging the developmental process of success is important to the overall understanding of the model and its uses.

Implications
The newly presented model that integrates the two studies of successful adults with LD demonstrates a cohesive and sequential flow of a collection of factors that resulted in success for the adults interviewed across both studies. This comprehensive model is leading edge work in this area and is intended to be the foundation for further work in the field. The model provides a framework for researchers to discern LD issues throughout the lifespan and allows practitioners to develop transition and postsecondary activities and programs aimed at the success of youth with LD. By using the framework, the model gives a map of the key struggles and growth points that adults with LD experience as they aspire to success. The fact that the linking factors change as the individual provides a developmental perspective that can be applied throughout an individual’s life.

Vocational Researchers
Future research should explore concerns related to validity of the model. Both experts in the field, as well as successful adults with LD, should critically judge the factors and organization of the model. Additionally, the internal structure of the model should undergo scrutiny to determine the relationships among the factors. The need remains for further study of successful individu-
als with LD to determine if these factors continue to hold their value. The impact of federal regulations, budgetary constraints, attention to and improvement of transition services may have changed outcomes of high school graduates. Additionally, a broader population of students with LD has had to meet more rigorous curricular requirements that may change their life long goals. Certainly, the impact of the economic changes of the past decade will shift success for all young people, and how that affects students with LD both internally and externally has yet to be experienced. The model seems to contain information that would be of value to families and professionals; however, what is immediately apparent is the continued need for attention to adults with LD. As with services for individuals with LD, more funding of longitudinal and follow-up research is necessary for greater insight into the workings of these individuals. As greater numbers of students age into adulthood, their experiences chronicled through words and perceptions are important to document. Populations of students who have participated in programs specific to their needs may result in different findings.

Career Practitioners
The conceptual model has multiple uses for practitioners at the individual client and program levels. Diagnostically, a practitioner can assess how well an individual understands and applies each factor while moving among internal, linking, and external factors. Professionals can integrate the model into their interventions on three basic levels: Instructing during teachable moments, including factors in current activities, and developing new interventions to address specific factors and their relationship to the individual (Frostig Center Educators, 2009). As a group or individual uncover one or more of the factors, the practitioner should highlight the factor and where it rests on the model. For instance, individuals may discover goodness of fit as they begin to refine their career options. Similarly, when an individual or group struggles to complete a challenging task, a discussion of persistence/perseverance may be included in the session. Likewise, reaching a level of self-awareness requires intensive effort and multiple opportunities for refinement. Once the components of the model grow in familiarity, the individual client and professional will be more clearly understanding of the complexities of success.

Conclusions
Very similar findings resulted from two studies interested in what makes an adult with LD successful. The commonalities and difference were gathered across the results of the two sets of findings into a consolidated model of success. The information will prove useful to a variety of professionals who serve students with LD. The model categorizes the success factors as internal, linking, or external. The categories represent a move from the individual’s thoughts to the organization of self through strategies and practice to manipulation of the environment and access to assistance from others. The intent of the model is to present a fresh approach to viewing LD across the life span.

References


APPENDICES: Table 1: Definitions of Factors

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<th>Internal Factors</th>
<th>Linking Factors</th>
<th>External Factors</th>
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<tr>
<td>Desire: desire to excel, to get ahead, move on</td>
<td>Emotional coping strategies: effective means to reduce or cope with stress, frustration, emotional problems</td>
<td>Learned creativity: strategies, techniques to enhance abilities; learn to take advantage of strengths</td>
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<td>Perseverance: keep going despite adversity</td>
<td>Reframing: redefining LD positively/productively</td>
<td>Use of support systems: significant others that provide support, guidance, and encouragement; consider some mentors</td>
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<td>Persistence: resilient, willing to do whatever is necessary to accomplish goal</td>
<td>Proactivity: engaged in the world, participates in community; power to control their outcomes; makes decisions and acts on them, assertive, self-confident</td>
<td>Social ecologies: surround self with supportive and helpful people, created support networks, consciously selected mentors</td>
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<td>Goal setting: set specific, flexible goals throughout life</td>
<td>Goodness of fit: fit themselves into environments where they would succeed</td>
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<td>Goal orientation: consciously sets explicit goals related to desires</td>
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<td>Self-awareness: aware of strengths, weaknesses, &amp; talent, compartmentalized LD and pick niche capitalizing on strengths</td>
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Note. Frostig Study Gerber Study
APPENDICES: Figure 1: Factors Throughout the Lifespan

Figure 1.
*Factors Throughout the Lifespan*

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<td>Goodness of fit</td>
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*Note. Frostig study  Gerber study*
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Chapter 11

THE LEARNING DISABILITIES TOOLKIT
by Lynda Price and Nancie Payne

Abstract
The focus of this article is a set of authentic, practical Tools that address the diverse needs of adults with learning disabilities (LD) in terms of career counseling. Each tool is a specific activity or idea based on current research and our extensive experience with adults with LD. These suggestions are bundled into a Toolkit which are useful for career counselors to assist clients with LD to reach their full potential as adults and employees.

Perhaps there is no area in the American employment picture that is so complicated and confusing as that of people with disabilities, particularly learning disabilities (LD). Statistics continue to show that while individuals with disabilities have been traditionally unemployed, those with LD often have the highest rate of employment of any disability category (Blackorby and Wagner, 1997; Brown & Gerber, 1994; Marder, Cardoso, & Wagner, 2003; National Center for Learning Disabilities, 2015). Kerka (2002) explains: “Adults with LD are often employed at the same rate as those without disabilities, but many are underemployed—in part-time entry level, minimum wage jobs” (p. 1). This finding is under-scored by additional statistics from the National Center for Learning Disabilities (2015) who found that overall: a) 46 per cent of individuals with LD were employed versus 71.3 per cent of people without LD; b) 7.9 per cent of individuals with LD were unemployed versus 6.4 per cent of people without LD; and c) 46 per cent of the interviewees with LD were no longer in the labor force versus 22.3 per cent of those without LD. Clearly, those adolescents and adults with this often-invisible disorder need as much help as they can get to be successfully employed (Marder, Cardoso, & Wagner, 2003; Office of Disability Employment Policy, 2014). One key player on their team can be the Career Counselor. Career counselors are in a critical position to assist with career planning for adults with LD given their unique training in career development, work preparation, and work-based transitions. Since the employment rate for individuals with LD is so complicated, the focus of this article is to give you a set of practical, easy to use, inexpensive tools to address the career needs of adults with learning disabilities.

While the Tools may seem simple, they can be powerful impetus to help people with a wide variety of learning disabilities find the best place to shine as an employee. They can be the road-map to guide adults with LD, especially those with an erratic job history, discover a place to meet their needs and nurture their talents. The Tools in the LD Toolkit can give you the confidence and expertise to ask the hard questions and teach the valuable answers that will shape a person’s adult life in positive ways for years to come. This knowledge will also help you give direction to your clients as they move through multiple transitions that face all American employees and their employers in this constantly evolving economy.
Transitions are a regular part of all adults’ lives (Erikson 1959; Levinson, Darrow, Klein, Levinson, & McKee, 1978; Tennant, 1993). They are the underlying structure that moves our life forward and keeps us vibrant and active. Transitions fall into two categories: natural and situational. For example, natural transitions are growing older physically or having separation anxiety when moving away from home. Situational transitions are usually triggered by events. Examples are: getting married, dropping out of college, receiving a promotion, or returning home after a hurricane. But, no matter what kind of transition it is or when it happens, transitions always involve change. It is also important to note that transitions and change have now become standard parts of the American workplace (Fottrell, 2014; Meister, 2012; U. S. Department of Labor, 2007). For instance, the U.S. Department of Labor (2014) recently stated:

"Demand for higher skilled employees is a 50-year trend that has become increasingly important. Where strength and manual dexterity used to be enough to ensure employment and a comfortable standard of living, more jobs now and in the future will require verbal, mathematical, as well as organizational and interpersonal, skills. Emerging technologies, globalization, and the information revolution are also increasing demand for high-tech skills...In the midst of the creation of these new high-tech jobs, most current jobs will endure, albeit in altered form." (p. 1)

These words build upon O’Toole and Lawler (2006) who stated: “It is now widely recognized that a new global economy is emerging...Surfing the crest of this giant wave is not easy: To maintain its prosperity, the U. S. economy must be in a state of constant change...Inefficient products, companies and entire industries continually need to be replaced by new ones employing ever-more complex processes” (p. 1).

These professionals stress change. Change can be threatening for anyone of any age. But, for people with non-apparent disabilities like LD, it can be devastating (Price, 2000; Price & Gerber, 2010; Brown, 2015). Such transitional changes as being promoted on your job or being relocated to a new city as part of the global economy can present overwhelming hurdles for employees with LD and their employers. So how can we help them cope with this natural--and necessary--part of adult life? One way is to give them the Tools to survive through the use of the LD Toolkit.

The LD Toolkit
The LD Toolkit is a straightforward, innovative way to bundle useful best practices into one simple, practical package. The key is that each tool is a specific action based on current research and our extensive experience with adults with LD. These strategies (or Tools) are then collected into a Toolkit. Such Tools, when used by a professional/educator and someone with LD, are directly related to both the short- and long-term success of that individual.

We believe that most practices and policies currently used with individuals with LD rely primarily on academics and school-based interventions found in elementary, middle, and secondary school (e.g., Individual Educational Plans, transition plans, reading and math grade achievement, behavior plans, etc.). While these may be important building blocks for children with disabilities, you are not working with children in the workplace. You are guiding adults--so each tool in the Toolkit stresses a life-span approach. Each tool helps to build a satisfying quality of life for your adult clients, who want successful employment, personal satisfaction, and commensurate finan-
cial gain. These are adult-oriented goals. Perhaps, of most importance, the Tools directly prepare people with LD for the inevitable changes and challenges inherent in any adult life.

The Toolkit is easy for clients and professionals to use because it is simple and straightforward. It only has two, inter-related parts: What are your Tools? and How do I use them? We will explore the first two Tools (e.g., Tool #1: Using the laws and Tool #2: Using my accommodations) with a related case study in this article. Please note that there are 20 total Tools in the Toolkit.

However, due to space limitations, we will only discuss the first two. Examples of the other Tools are: Understand Your Own Strengths and Weaknesses, Access a Peer Support Network, Find a Mentor, Use Constructive Feedback, Go the Extra Mile, Keep It Simple, Choose Your Battles, and Turn Your Defeats into Life Lessons. As the Toolkit is still in process, this is a preliminary sample of various Tools in the Kit. For more information and a further explanation of each tool, please contact the authors.

All of these Tools have already been discussed and researched in the professional literature on learning disabilities or employment for decades. However, they have not been brought together into a powerful, easily usable model like the Toolkit. There are no bells and whistles here—just strategies, taught singly or in combination—to help adults with LD cope successfully with their everyday lives and their employment. All of the Tools are free. They can be readily adapted to a variety of situations.

We have chosen to illustrate them in work settings, as they frequently have a direct impact on career success or failure. For example, you probably use the computer everyday on the job as a tool to write reports or gather data for your clients. A carpenter may use a nail gun to hammer nails on a construction site. A dog groomer uses a hair dryer to dry a wet dog’s coat before grooming. All of these are critical Tools necessary for everyday job success. But, in our experience, adults with LD need other Tools as well to function successfully as employees. Consequently, the second part of the Toolkit is how each individual can effectively use these Tools. The examples will give you ideas about how each tool can be adapted to meet the diverse needs of your clients.

**Tool #1: Using the Laws**

It is critical for your clients to know about the Americans with Disabilities Act (the ADA) and how it applies specifically to them in the workplace (Brown, 2015; Price, Gerber, & Mulligan, 2007; Job Accommodations Network, 2015). The first place to start is during a job interview by teaching each person with LD exactly what s/he can say in clear, concrete terms. (Note: Under the ADA, employers cannot require the self-disclosure of any disability. The prospective employee must bring it up first—but only if they choose to do so.) Help your client to decide what words to use when describing his/her LD to someone who probably will have little or no knowledge of the term. Role-play this situation numerous times if necessary so s/he feels comfortable when these questions arise. Teach them that what they say is often as critical as what they don’t say.

It is also important for your clients to know that the ADA covers them after they get a job as well. For instance, the ADA also has clear provisions to make sure they receive the appropriate accommodations when performing their everyday work tasks. (For more information, see Tool #2 below.) Suggestions range from help answering phones to providing physical access to offices to receiving medical treatment allowances for back conditions (Price, Gerber, & Mulligan, 2007; Job Accommodations Network, 2015). The ADA moves even further into the workplace
by providing guidance for promotions of people with disabilities and recruitment strategies in federal and private businesses. All of this is linked to one of the most valuable websites you will ever use: the Job Accommodations Network (JAN).

JAN is much more than just an easy-to-use website full of practical suggestions. It contains clear, helpful documents to educate employers about all aspects of work and disabilities. It includes definitions of disabilities and lists of understandable, real-life accommodations for each disorder. It provides recommendations for related professionals (i.e., rehabilitation and medical professionals, union representatives, attorneys and legal representatives, and federal, state, and local contacts). It even has access to talk personally to a JAN counselor by phone or email through “JAN on Demand”. This free, federal resource, in conjunction with your local or state Vocational Rehabilitation agency, puts powerful knowledge in the hands of you and your clients. It is this knowledge that gives the ADA its leverage.

**Tool #2: Using My Accommodations**

In our experience, the vast majority of adults with invisible disabilities like LD have little or no self-knowledge about what accommodations are appropriate for them. We find this surprising and disturbing. Imagine not knowing why you need to wear contact lens or use a hearing aid. In fact, we have discovered no matter how mild or severe the LD, most adults are completely clueless about compensating for their own disorder (Gerber, Price & Mulligan, 2007; Hutchinson, 1995; Price & Gerber, 2010). As a result, you must clearly guide them to discover the personal ramifications of their disability.

For instance, an i-Pad is not just a fun gadget to watch TV shows or play games, but also a powerful tool to compensate for Dysgraphia. Pre-recorded books, equipment manuals, and minutes of an important staff meeting are lifesavers for employees with visual and auditory memory problems. Graphic organizers are critical items to promote time management, facilitate organizational skills, and highlight key work deadlines. All of these accommodations, and many more, should be practiced and used daily if necessary with your supervision. Your client must have this guided practice to independently use his/her accommodations in any setting. Whether using a small notebook to write down important instructions or color-coding steps for directions, all these accommodations should become almost second nature. Remind them that just like you would use your glasses to drive to work, you will also use your accommodations everyday. Let them be the judge how they will interweave their accommodations into everyday life—but make sure that they do it.

*Note: If you don’t know what accommodations to recommend, seek outside help from a workplace specialist knowledgeable about LD. Most clients with LD can tell you where the limitations are when performing their various work tasks. Consequently, they can identify exactly what might work as an accommodation with a little coaching from you. Below is a case study to illustrate this further for you.*

**Case Study**

Lilly has always wanted to be a computer graphics designer. She finally got the job interview of a lifetime at a company where she has hopes to be employed. She is a single mother and under-
stands that this company has excellent benefits, including: a great salary, excellent medical care, an on-site day care center and a flexible work schedule for working moms. Lilly has struggled to get to this point; she just completed her GED a few months ago. She then sought a Career Counselor to help her with the next steps toward her goal.

Even so, Lilly has major concerns about disclosing her learning disability to her prospective employer. She talked with her adult education instructor and a few friends about whether to self-disclose or not and got mixed responses. Some people tell her to disclose her learning disability immediately up-front and some say no way. On top of that, she doesn’t really understand what learning disabilities are anyhow, as she never got any help for it except a little math tutoring in elementary school. Her parents did tell her that her IEP said she had Dyscalculia, poor auditory memory skills, gross motor problems, and trouble staying on task. But, what does that mean? Lilly really, really doesn’t want to bring any of this up again unless she has to. She’s very confused and wonders what she should do. She hopes that any talk about her LD won’t ruin her chances to work with this wonderful company.

Applying Tools #1 and #2 to the Case Study
Lilly is a highly motivated, talented adult who has a clear career vision and her future life with her daughter. However, there may be a hidden barrier to her plans—her learning disability. Using the Tools with Lilly gives her the foundation knowledge that she needs to get the job she desires. For instance, a good starting place with Lilly would be to help her understand what her LD is in the first place. (Note: There are numerous print and on-line materials available that will give you basic information about LD and adults. As a Career Counselor, these materials are the most basic Tools in your own Toolkit—you will use them repeatedly with clients as well as with employers, supervisors, and other professionals. Examples are: defining learning disabilities as they apply to the work setting; observing the everyday manifestations of LD in adult life; and understanding “reasonable accommodations”.) As the earlier material about Tools #1 and #2 stresses, such personal knowledge about LD goes hand-in-hand with the laws applicable to adults. For instance, you can spend a lot of time preparing Lilly for her job interview in traditional ways by talking about resumes, proper dress, interview questions, filling out forms, etc. But she is not fully prepared if she doesn’t understand about how the ADA can significantly shape her ability to do the job. Under the ADA, you and Lilly must be confident that she can perform the “essential functions of the job” with or without accommodations (Brown, 2015; Job Accommodation Network, 2014). It is also Lilly’s responsibility to understand her LD well enough to decide if she wants to seek protections under the law.

This dilemma is really the linchpin in the ADA. Should Lilly risk talking about her LD and potentially sabotaging the interview she’s wanted for so long? Or, should she talk about her LD up-front, so that she can qualify for accommodations during the interview or future employment? In our previous research with adults with LD from all over the United States, we have found that self-disclosure is an intensively personal decision. It varies widely, dependent on many, shifting factors such as: the personalities of the individuals involved; the setting; the corporate culture; hidden or overt workplace expectations; peer support; and specific job expectations (Price & Gerber, 2010; Price, Gerber, & Mulligan, 2007). Adults with LD have told us over and over that there is no clear rule here—each interview is unique and each job/company has its own set of
challenges and rewards.
You can also prepare Lilly in another way to meet such complex challenges. You can use Tool #2 to identify specific accommodations she needs to compensate for her LD. For instance, Lilly is a strong visual learner. This is a major strength as a graphic designer when assembling and showing her portfolio. Since she might not be solving math problems to communicate her ideas to fellow designers, her dyscalculia may not be an issue for this job. Her gross motor problems won’t keep her from effectively using key software on the job (i.e., Illustrator, PhotoShop and InDesign) for visual designs—she probably won’t be the best softball player on the company team. Lilly may need to take short breaks during the day to make sure that she gives her projects her full attention. Using her computer to do her visual planning or getting up and walking around the room periodically can also help her stay on task. In addition, Lilly may need to use a smart pen or have someone record staff meetings or take notes during key conversations with her team to compensate for her auditory memory problems. She may ask her peers or supervisor to give her written as well as oral feedback, so she will remember what she hears.

All of these ideas should be practiced with you as much as possible, so that Lilly is comfortable talking about accommodations and disclosure. She may also decide to ask for accommodations during the actual interview itself (i.e., taking a short break during her interview, asking for written as well as oral feedback if it is given, etc). Disability-related decisions are clearly Lilly’s choices to make. However, you can increase her self-confidence by giving her as much accurate knowledge as you can.

**Concluding Comments**

In summary, we have one more thought to add. While this process seems relatively clear and straightforward on paper, it is, in fact, nothing of the sort. Using these Tools—either singly or together—jumpstarts powerful changes in your client’s life that can reverberate for years. You are asking your clients to take a real leap of faith with you. You are promising them the opportunities for satisfying employment, more financial security for their families, and a better future. However, this may come at great personal cost. You are asking them to drop past defenses and to lose out dated misconceptions of themselves. You want them to open themselves up to new ways and new ideas. You are asking them to change and take intensively personal risks.

This is not an easy process for your clients with LD or their employers—or even for you. Using the Tools takes time, energy, patience, and consistency. This is all new territory for everyone involved. Even so, such big gambles have equally big payoffs and even little changes are seeds for future growth. If a brighter employment future is the goal for your clients with LD, we urge you to try at least one of the Tools for yourself. Moreover, using the Toolkit will be a first step in new research about adults with LD. We strongly advocate for more scholarship about this process to add badly needed information about the connections between American employment and learning disabilities. We look forward to future case studies about how the Tools have made a real difference in the lives of your clients and your challenges with learning disabilities in adults.

*The case represents a close approximation to a real client situation. A pseudo name is used in place of an actual name.*
References


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Chapter 12

METACOGNITIVE STRATEGIES in the CAREER DEVELOPMENT of INDIVIDUALS with LEARNING DISABILITIES
by Natalie Stipanovic

Abstract
Adolescents and young adults with learning disabilities (LD) face significant struggles with career development. Underdeveloped or poorly developed metacognitive skills that impact self-awareness of learning strengths and weaknesses create deficiencies in problem-solving skills and result in a limited understanding of the impact of LD on development are contributing factors. This article serves to examine the role that career-based metacognitive skill development plays in impacting the career planning and exploration of those with LD.

Adolescents and young adults with learning disabilities (LD) face significant challenges as they transition from the secondary school setting to the world of college or work. According to Hitchings, Luzzo, Ristow, and Horvath (2001) these individuals are underprepared, demonstrating a limited awareness of career options, limited experiences and understanding of career decision-making, and poor employment skills. There are several factors that may contribute to the difficulties these individuals face, such as poor transition planning from secondary to postsecondary settings and work, lowered levels of self-awareness, and a lack of understanding of their disability and its impact on college and work (Kerka, 2002). A common theme running through much of the literature is the lack of self-awareness and exploration with regard to career development. This lack of self-awareness is not merely a limited understanding of one’s interests and skills, but is a learning deficiency in the ability of students with LD to engage in reflective learning practices, known as metacognition. The purpose of this article is to examine the role that metacognition plays in increasing self-awareness and aiding in the career planning and development of those with LD. The focus of this article is on adolescents and young adults with LD who are transitioning from the secondary school setting to college or work and aims to provide counselors working with these individuals with ways to improve their metacognitive skills in order to enhance career development and planning.

Metacognition
A self-aware learner is able to understand and assess their own learning characteristics including their strengths, weaknesses, problem-solving skills, and learning strategies. Metacognition, the foundation of self-awareness in learning, is defined as one’s ability to contemplate, understand, and exert control over one’s learning (Schraw & Sperling-Dennison, 1994). The inherent link between self-awareness and metacognition is best demonstrated by Jacobs and Paris (1987), who
identify a defining feature of metacognition as a “reportable, conscious awareness about cognitive aspects of thinking” (p. 258).

Metacognition includes two primary constructs knowledge of cognition and regulation of cognition. Knowledge of cognition consists of what we know about our cognitive thought processes and includes the constructs of declarative, procedural, and conditional knowledge. According to Bruning, Schraw, and Norby (2011), declarative knowledge is the understanding we have of ourselves as learners and what may influence our performance, such as our ability to remember and retain information. Procedural knowledge consists of our understanding and ability to apply strategies to learning tasks, such as note-taking, pacing learning, and summarizing information. Conditional knowledge includes when and why to use certain strategies when engaging problem-solving.

Regulation of cognition consists of how we manage our cognitive processes and includes the components of planning, monitoring, and evaluation. According to Bruning, et al. (2011), planning includes selecting strategies and allocating resources such as goal setting and time management. Monitoring consists of monitoring one’s progress and revising plans in order to control the learning process. Finally, evaluation involves the appraisal of self-regulation and the outcomes of learning. During the evaluation process individuals reevaluate goals, revise predications and consolidate knowledge of learned material. Schraw and Moshman (1995) point out that these regulatory processes are important because they can improve learning performance in several ways, including “better use of cognitive resources such as attention, better use of strategies, and a greater awareness of comprehension breakdowns” (p. 355).

**Metacognitive Skills and the LD Student**

Individuals with LD have average to above average intellectual functioning, but experience a significant delay in academic functioning. Learning disabilities are characterized by delays in one’s ability to use language, spoken or written, which manifests in complications in the ability to listen, think, speak, write, spell, or do mathematical calculations. The causes of LD are not well defined, but are believed to be due to neurological and developmental issues that manifest as underachievement as well as low motivation and delays social skills development (Heward, 2013).

For decades researchers have been studying the metacognitive skills of individuals with LD. Studies have shown that individuals with LD often fail to develop effective learning strategies and/or employ ineffective strategies during learning and skills-based experiences. According to Swanson (1990), students with LD often lack the ability to strategically process information, they employ weak problem-solving strategies, and they are less likely to fine-tune strategies incorporated into their learning repertoire. Further, they have difficulty monitoring executive control processing and coordinating strategies to work for their academic advantage. According to Butler (1998), individuals with LD are less cognitively aware and have a tendency to focus on concrete demands in learning situations instead of the self-evaluative and cognitive skills needed for metacognitive processing. Vaidya (1999) reported that individuals with LD, due to a lack of metacognitive awareness, are limited in their ability to employ learning strategies.

Compounding this issue is that individuals with LD often lack a basic understanding of their
overall learning strengths and weaknesses, leading to deficits in applying effective learning strategies. For example, Buchanan and Wolf (1986) found that adults with LD displayed inaccurate perceptions about their learning strengths demonstrating “little understanding of the nature of their learning disabilities or how these disabilities were affecting their lives” (p. 38). Hall and Webster (2008) found that college students with LD held significantly more doubts about their academic abilities in comparison to their non-LD peers. Understanding one’s strengths and weaknesses is imperative to learning and decision-making and is necessary for the application of metacognitive strategies (Reis, McGuire, and Neu, 2000).

Several studies have demonstrated that the development of metacognitive skills in students with LD leads to positive effects on academic achievement and decision-making. Reis, et al. (2000) found that high-ability college students with LD were more academically successful when they used compensation strategies such as study/performance and cognitive/learning strategies. Similarly, Trainin and Swanson (2005) found that college students with LD who demonstrated high-level metacognitive strategy use had higher grade point averages than their peers (both LD and non-LD). Further, Ruban (2000) reported that high-achieving LD students “actively develop, modify, and transfer strategies to new contexts, and employ more effective and efficient strategies than do low achieving students with learning disabilities” (p. 8). These studies demonstrate that metacognitive skills can be gained and that when individuals with LD employ metacognitive strategies they are more successful in decision-making and reaching goals.

**Metacognition and Career Development**

The relationship between learning-based metacognitive skills and the processes involved in career development are obvious, in that effective career development requires self-awareness, understanding of learning/skills strengths and weaknesses, problem-solving skills, and self-efficacy to name a few (Chen, 2014). Although not highly studied, there is a growing body of evidence linking the development of metacognitive skills and successful career development and decision-making. For example, Symes and Stewart (1999) found that those who had greater levels of career decidedness also engaged in deeper levels metacognition. Batha and Carroll (2007) identified a link between decision-making and metacognition, finding a strong relationship between the regulation of cognition and decision-making ability—indicating the importance of knowing how to use and monitor decision-making strategies. Further, Singh and Greenhaus (2004) found that individuals who engaged in rational decision-making, which they defined as making career choices based on self-awareness and knowledge of the work environment, identified with a higher level of person-job fit in comparison to those who made decisions based on intuition or by depending on the advice or desires of others.

Although literature on the career and metacognitive skills of individuals with LD is limited, a few studies have linked the two. For example, Hitchings, et al. (2001), examined the career development needs of college students with LD and found that the majority of them had limited self-awareness, demonstrating difficulty describing their disability and its impact on their career development. Conversely, Leather, Hogh, Seiss, and Everatt (2011) found that dyslexic adults who possess a strong sense of metacognitive skills, especially in the area of planning, reported a greater sense of self-efficacy and greater levels of job satisfaction. Moreover, a synthesis of the literature conducted by Kerka (2002) identified seven internal and external factors of the success-
ful career development of adults with LD. Internal factors consist of 1) desire to succeed; 2) clear goals; and 3) a reframing of the LD experience which includes accepting one’s disability, understanding one’s strengths and weaknesses, and taking action in achieving goals. External factors include 1) persistence toward achieving goals, 2) a goodness of fit between work and one’s strengths and weaknesses, 3) creativity in accomplishing goals/tasks and compensating for weaknesses, and 4) a supportive social network. Improved metacognitive skills can contribute to the development and application of the internal and external factors described by Kerka, aiding individuals with LD to engage in more reflective career development practices and experiences.

Improving Metacognition and Career Development for those with LD

In general, career development theories focus on the exploration and understanding of self as well as the nature of work and work environments, promoting a person-career fit. Those engaging in career planning of adolescents and young adults, namely in school settings, tend to focus on the content and tasks of careers and college enrollment, and spend little time and effort on self-knowledge and reflection. Further, researchers have found that career planning in schools is inconsistent and unhelpful (Johnson, Rochkind, and Public, 2010) and that students with disabilities receive less career planning than their peers (Adkison-Bradley et al., 2007), with only 15% of students with LD taking an active role in transition planning (National Center for Learning Disabilities, 2014). However, experts agree that career development and planning should begin early and should promote self-awareness as well as knowledge of careers (Kosine & Lewis, 2008). For example, Kosine, Duncan, and Steger (2008) promote a purpose-centered approach to career development that “recognizes the importance of metacognitions and the role they play in regulating students' career decision-making strategies and pursuit of a purposeful career” (para. 10).

Unfortunately, there is little to no research or instruction on how counselors who provide career development and exploration services should go about doing this.

Approaches for improving metacognitive skills for students with LD presented here center on strategies that have been recommended to enhance both academic achievement and self-determination. These strategies focus on the central constructs of metacognition including knowledge of cognition (declarative, procedural, and conditional knowledge) and regulation of cognition (planning, monitoring, and evaluation). Additionally, these strategies have a strong emphasis on exposure to careers and work-based experiences because experiences are important in helping students with LD to make tangible connections between knowledge of self and work tasks and environments. Tables 1 and 2 [see Appendix] provide an overview of each of the metacognitive skill areas as well as career exploration tasks.

Declarative knowledge includes self-awareness of one’s mental states. Harris, Graham, Brindal, and Sandmel (2009) describe declarative knowledge as knowledge of the tasks, skills, and strategies needed to successfully complete tasks. Harris et al. elucidate that declarative knowledge includes one’s understanding of their “affective states, including self-efficacy and motivation, and how these characteristics affect task performance” (p. 133). The application of declarative knowledge to career exploration includes aiding those with LD to better understand their learning strengths and weaknesses and their interests, which can be accomplished through career assessments and interviews. However, counselors need to further hone this knowledge by helping them to connect their interests to their abilities and motivations. This includes exploring their inter-
ests, identifying key strengths that relate to both interests and job skills, and identifying areas that are motivating to them. Therefore, merely administering and reviewing career assessments is not enough for those who have limitations in their understanding of who they are as learners. Counselors must engage them in active reflection on their interests as well as their abilities (e.g., strengths, weaknesses, skills, etc.) and their fit with the nature and environment of the work.

Procedural knowledge is often referred to as the knowing how of metacognition, and is needed in order to apply declarative knowledge (Harris et al., 2009). Procedural knowledge includes skills that are developed through experience and observation. Millward (2005) explains that, “procedural knowledge and skill is attained when knowing what to do is successfully combined with knowing how to do it” (p. 141). Procedural knowledge is the movement from thought to experience. In order to aid in the development of procedural knowledge of individuals with LD, counselors need to engage them in the experiences, tasks, and skills related to their work interests. Further, reflection on work-based tasks and experiences are needed in order to aid them in determining their level of fit with the work environment.

Conditional knowledge is central to the career exploration for students with LD in that it helps students to understand when, where, and why to apply declarative knowledge and procedures or strategies (Harris et al., 2009). In the application of career exploration and development, conditional knowledge can serve individuals with LD in better understanding the application of skills to the work setting, identifying what skills are needed for particular work environments. For example, an individual who is interested in culinary arts needs to be able to apply math skills to certain tasks, such as calculating measurements, determining costs, and managing time. Therefore, the individual must be aware of their math abilities (e.g., do they have the skills needed for culinary work?) and how they apply their skills strategies to solve problems in the work environment.

Planning requires the learner to strategize (Bruning, et al., 2011). In applying metacognitive planning to career exploration and development, the individual needs to identify and set career goals, consider the resources they have to meet their goals, and consider the time it will take to achieve their goals. Again, self-reflection and a genuine awareness of one’s motivation are important here. Meeting goals and allocating time requires dedication and individuals who are not successful due to a lack of commitment or motivation may experience a sense of failure or discouragement.

Monitoring involves the process of engaging in self-testing of skills and strategies (Schraw & Moshman, 1995). In the application of monitoring career development and exploration, the individual assesses how well they are accomplishing their goals. Further, they may need to identify alternative goals and/or review and reconsider their options if they are not meeting their goals or if there is a lack of fit between self and career. Although the monitoring process should occur throughout one’s career development, it may be the most applicable once an individual has made a decision to pursue a certain career. For example, an individual who has decided to pursue a culinary arts degree and a career as a chef, may engage in more monitoring after they’ve begun working towards their goals, such as taking introductory culinary arts courses, working in food preparation, or serving as an apprentice.
Finally, evaluation is a post-hoc appraisal of one’s performance, experience, or accomplishments (Schrwa & Moshman, 1995; Schraw & Sperling-Dennison, 1994). Although evaluation may occur to some extent during all stages of one’s career development, the evaluation process may be more relevant after the individual has engaged in learning, training, and work-based experiences that relate to their career goals. Considering, again, a student pursuing a culinary arts career, they should be encouraged to evaluate what they’ve learned about the career and how well it fits with their interests, strengths, weaknesses, etc. Further, they should engage in analysis about the work-environment fit and how successful they believe they will be in the career in the future.

Conclusion

Our understanding of the role of metacognition in career development and exploration is limited. However, there is evidence to support that individuals with LD have limited self-awareness of their strengths and weaknesses, limited understanding of their disability, and limited career development and exploration experiences (Hitchings et al., 2001; Kerka, 2002). Developing and honing the metacognitive skills of those with LD can aid them in improving both their understanding of themselves and their fit with work tasks and environments. Carr (2010) explains that novice learners attempt to solve problems through trial-and-error, whereas experts analyze problems, plan, and verify their approach to learning. In applying metacognitive approaches in the career development of individuals with LD the goal is to move them from novice mode to expert mode. This is done by helping individuals to gain a greater understanding of their self, including their strengths, weaknesses, and interests. Additionally, counselors working with individuals with LD need to engage them in work-based learning experiences and aid them in linking their experiences to their self-knowledge, identifying what fits and what doesn’t and aid them in problem-solving when discrepancies arise.

Finally, more research is needed to explain the effects of metacognition on the career development for individuals with LD. Efforts should be made to identify the best practices in teaching metacognitive skills as well as the best approaches in helping to connect metacognitive skill areas with career development. Cross-sectional studies are needed increase our understanding of the contextual and developmental effects of metacognition on career development.

References


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<th>Knowledge of Cognition</th>
<th>Cognitive Constructs</th>
<th>Questions to Explore</th>
<th>Exploration Tasks</th>
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</thead>
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<tr>
<td><strong>Declarative Knowledge</strong></td>
<td>Knowledge of skills, interests, and abilities (strengths and weaknesses) Knowledge of problem solving strategies Knowledge of affective states, including self-efficacy and motivation</td>
<td>What are my career interests? What skills do I have that relate to my interest areas? What strengths do I have that will help me to be successful in this area? How motivated am I to engage in learning the skills needed for this career?</td>
<td>Career assessments Learning style assessments Metacognitive assessments Interviews</td>
</tr>
<tr>
<td><strong>Procedural Knowledge</strong></td>
<td>The knowing of how and what to do in learning situations Skills developed through experiences Moving from thought to experience</td>
<td>What experiences do I have that relate to my career interests? How can I go about gaining more skills and experiences? What academic skills do I have that make this a good fit for me? What skill deficits do I have that may create barriers?</td>
<td>Observe work settings Job shadow Work-based learning experiences Reflect on experiences and how they fit with the student’s sense of self and their motivation</td>
</tr>
<tr>
<td><strong>Conditional Knowledge</strong></td>
<td>The when, where, and why to apply knowledge, procedures, and strategies</td>
<td>What academic skills do I have or need to gain that apply to the work environment?</td>
<td>Explore the skills needed for jobs Explore the academic training that relates to job skills (e.g., high school and college courses)</td>
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### Table 2: Regulation of Cognition Exploration Guide

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<th>Regulation of Cognition</th>
<th>Cognitive Constructs</th>
<th>Questions to Explore</th>
<th>Exploration Tasks</th>
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<td>Planning</td>
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<td>Set career goals based on interests and strengths</td>
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<td></td>
<td>Selecting strategies and identifying and allocating resources</td>
<td>What resources (both internal and external) do I have to aid me in achieving my goals?</td>
<td>Identify actions needed to achieve goals</td>
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<td></td>
<td></td>
<td>What actions do I need to take to achieve my goals?</td>
<td>Identify personal resources, such as desire and motivation to complete goals</td>
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<td></td>
<td>When can I accomplish my goals?</td>
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<td>Monitoring</td>
<td>Assessing achievement toward goals</td>
<td>How am I progressing toward completing my goals?</td>
<td>Review progress toward goals</td>
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<td></td>
<td>Reviewing and reconsidering goals and plans</td>
<td>Has my motivation toward my goals sustained momentum?</td>
<td>Process with one’s self and others about the fit between “self” and work tasks and environment</td>
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<td>Identify obstacles that may inhibit goal attainment</td>
<td>Am I making the right decisions that will help me to meet my goals?</td>
<td>Identify internal and external obstacles that may inhibit goal attainment</td>
</tr>
<tr>
<td>Evaluation</td>
<td>Post-hoc appraisal of performance, experiences, and accomplishments</td>
<td>What have I accomplished?</td>
<td>Compare work-based learning experiences with expectations and one’s interests and strengths</td>
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<tr>
<td></td>
<td></td>
<td>How successful was I in my efforts to accomplish my goals?</td>
<td>Conduct an analysis of accomplishments</td>
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<td>Did I make the best decisions toward reaching my goals?</td>
<td>Evaluate the fit between one’s interests and expectations and the work environment and experiences</td>
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<td>What did I learn from my exploration experiences?</td>
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About the Author

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DOING RIGHT BY THOSE WE SERVE: Law, Ethics and Career Services for Individuals with Disabilities
by Edward A. Mainzer and Abiola Dipeolu

Abstract
Legal statues and ethical codes help guide career service providers as they serve and empower clients, especially those with disabilities. Federal mandates including Section 504 of the Vocational Rehabilitation Act, the Individuals with Disabilities Education Act, and the Americans with Disabilities Act, as well as Codes of Ethics, such as that of the National Career Development Association, offer critical assistance to career professionals to challenge and enhance best practices with individuals with disabilities.

Knowledge and action based on law and ethics are fundamental to the mission of professionals who provide career services. In the 21st century, paid employment presents both special challenges and opportunities for people with disabilities (Bluestein, 2006). Paul and Moser’s (2009) meta-analysis concluded that unemployment is a threat to the overall mental health of the unemployed. This threat is greater for individuals with disabilities who have a higher unemployment rate when compared to individuals without disabilities (Dipeolu, 2009; Dipeolu, Storlie & Johnson, 2014). Harley, Beach, Sheppard-Jones, Alston, and Fleming (2014) wrote both that “for people with disabilities, work takes on added meaning and challenges” and that “people with disabilities have long been adversely affected by unemployment, underemployment, discriminatory hiring practices, and negative attitudes and stereotypes” (p. 41). To serve individuals with disabling conditions more effectively, career professionals must expand their expertise to include the awareness of legislative mandates and ethical guidelines that could improve employment prospects for individuals with disabilities.

Familiarity with laws pertinent to the provision of services to people with disabilities is necessary to successfully work with this population (Dipeolu, 2009). Harris and Engles (2012) echoed a similar sentiment, reminding us that “there is a strong need for career professionals to be aware of legal and ethical issues and to be familiar with accompanying laws and personal and organizational ethical standards and guidelines” (p. 142) as the basis for the provision of legally and ethically sound interventions. And in a complimentary manner, Herr (2003) pointed out that “public policy and its corollary, legislation related to career counseling, have frequently defined who does career counseling in particular settings and with what types of interventions, the nature of the training those career practitioners should have, who receives career counseling, and the purposes of these interventions” (p. 8).
In this article we briefly review the legal and ethical implications for career practitioners of major U.S. federal laws affecting individuals with disabilities passed since the 1970s, including Section 504 of the Rehabilitation Act, the Individuals with Disabilities Education Act and the Americans with Disabilities Act. The implications of Ethical Standards, particularly those issued by NCDA, are discussed as well.

Section 504 of the Rehabilitation Act (1973)
Section 504 of the Rehabilitation Act is often discussed in the context of protections for students with disabilities; however, its provisions and the Act as a whole apply to a wide range of settings, particularly employers and organizations who receive federal monies. Beyond providing protections, the Rehabilitation Act also “provides for direct services to people with disabilities which help them become qualified for employment” (Leuchovius, 2003, p. 1). Harley, et al (2014) have written that the Act “is considered to be the foundation of the disability rights movement” in the U.S. (p. 42). It contains critical provisions in Sections 501, 502, 503, and 504 which cover respectively Affirmative Action in Federal Hiring; Physical Accessibility; Affirmative Action by Federal Contract Recipients and subcontractors receiving $10,000 or more in federal funds; and Equal Opportunities in any program or activity that either receives federal financing or is conducted by any executive agency or the U.S.P.S. Section 504 forbids organizations and employers from excluding individuals with disabilities, including in hiring, training, and promotion. Thus in many contexts that career professionals would find themselves, Section 504 may be relevant in empowering clients when providing career services; however, to do so effectively requires an understanding of how individuals with disabilities are defined.

Under this law, individuals with disabilities are defined as persons with a physical or mental impairment which substantially limits one or more major life activities. People who have a history of, or who are regarded as having a physical or mental impairment that substantially limits one or more major life activities, are also covered. Major life activities include caring for one’s self, walking, seeing, hearing, speaking, breathing, working, performing manual tasks, and learning. Some examples of impairments which may substantially limit major life activities, even with the help of medication or aids/devices, are: AIDS, alcoholism, blindness or visual impairment, cancer, deafness or hearing impairment, diabetes, drug addiction, heart disease, and mental illness (U.S. Department of Health and Human Services, 2006, p. 1).

Despite progress in protecting individuals with disabilities, 504 failed to comprehensively end discrimination against people with disabilities, and indeed in the 1980’s gains achieved by Section 504 came under attack in the guise regulatory relief for the business community as well through court decisions limiting 504’s scope. This led a resurgent disability rights movement to press for new legislation which culminated in the passing of the Americans with Disabilities Act.

Americans with Disabilities Act (1990)
The Americans with Disabilities Act (ADA) was intended in part to remedy the failure of Section 504 to end discrimination against people with disabilities. Thus, ADA generally extends Section 504 to protect against discrimination for reasons related to disabilities in employment and education, and to provide program and facility access. ADA was amended in 2008, with changes effective January 1, 2009. This Amendment to ADA (ADAAA), is intended to give
broader protections for workers with disabilities and turn back the clock on court rulings which Congress deemed too restrictive (Chai, Barry, & Benfer, 2009). ADA prohibits discrimination on the basis of disability in employment, government, public accommodations, commercial facilities, transportation and telecommunications. Leuchovius (2003) has written of the ADA “of critical importance is the assumption that people with disabilities—including individuals with severe disabilities—can work. This is important because, prior to the ADA, government agencies providing rehabilitative services assumed that most people with severe disabilities were not employable” (p. 1). According to ADAAA, the determination of whether any particular condition is considered a disability is made on a case by case basis.

Unlike Section 504, which applies only to federally funded programs, ADA applies to programs funded by state and local governments as well, and Title III of the ADA applies civil rights protections to private businesses and nonprofits that employ 15 or more people. Bruyere and Reiter (2011) point out that state-level nondiscrimination legislation may be more expansive than the ADA, and reference laws in New York and California that make similar provisions applicable to firms with fewer than 15 employees. It is the legislative requirements concerning employment of people with disabilities as laid out in the newly amended ADA (2008) that is of particular importance to the delivery of career counseling services to this group.

One area in which career service providers may work with clients is in terms of disclosure questions; Bruyere and Reiter (2011) comment on the dilemma that employees may face over disclosing disabilities to employers, particularly when, as with psychiatric disabilities, the disability may not be visible. Recognizing the legitimacy of concerns over disclosure, they nonetheless point out that failure to disclose “would foreclose an employee from obtaining any ADA accommodation, however, because employers need not provide any accommodation for individuals with disabilities of which the employer is unaware” (p. 68).

And Santuzzi, et al (2014), also writing on “invisible” physical and psychological conditions, point out that “even if an employer suspects that disability might be a factor in an employee’s poor or unexpected performance, without the employee’s formal disclosure, the employer is obligated to interpret the employee’s behavior under the assumption that disability is not a factor” (p. 206; emphasis in the original).

After reviewing current research, and while also calling for further studies, they suggest that “the take-home message from the current invisible identities literature is that disclosure could potentially reduce the stress of trying to hide an identity. Disclosure could reduce feelings of isolation, as being out can facilitate social support networks with others who have the same condition” (p. 207).

Commenting on how students with disabilities gain access to appropriate accommodations, White, Summers, Zhang, and Renault (2014) studied the efficacy of a self-advocacy training program designed for undergraduates with disabilities. They begin by noting that “one barrier to accessing appropriate accommodations may be a difference in how accommodations are provided between secondary education supports and postsecondary education” (p. 230). As White and colleagues (2014) state,
In secondary education settings under IDEA, Section 504 of the Rehabilitation Act, and the ADA, the school is responsible for initiating and providing disability accommodations and services through the individualized education plan (IEP) process; however, postsecondary students must re-establish their eligibility for disability accommodations when they enroll in a postsecondary institution before they can receive supports. (p. 230)

Thus, White et al (2014) explain that once out of high school, “students must take the responsibility for establishing their eligibility for accommodations, and, in most postsecondary institutions, are responsible for obtaining their own disability accommodations” (p. 230). Indeed, this is a challenge, which one co-author of this article who has provided college and career counseling to high school students with disabilities, has frequently found needs elucidation with youth and their advocates. As applicants to post-secondary opportunities, the students’ disability generally goes unremarked; however, once he or she is offered and accepts an opportunity, he or she must resolve whether and how to advocate for accommodations.

**Individuals with Disabilities Education Act of (1975, as amended 2004)**

The Individuals with Disabilities Education Act (IDEA, formerly called P.L. 94-142 or the Education for all Handicapped Children Act of 1975) is a landmark piece of federal legislation aimed at assuring a free and appropriate public education (FAPE) in the least restrictive environment (LRE) for all children and youth with disabilities; additionally, as reauthorized over the years it has had increasing implications for career services. IDEA utilizes 13 categories of disabilities centered on diagnostic labels. IDEA has “led to increased access to general education curriculum for students with disabilities” (Morningstar, et al, 2012, p. 132), and it has also increased mandated and specified transition services for each student with an Individualized Education Program (IEP). Transition services are defined in the IDEA (2004) as:

A coordinated set of activities for a child with a disability that— (A) is designed to be within a results-oriented process, that is focused on improving the academic and functional achievement of the child with a disability to facilitate the child’s movement from school to post-school activities, including post-secondary education, vocational education, integrated employment (including supported employment), continuing and adult education, adult services, independent living, or community participation; (B) is based on the individual child’s needs, taking into account the child’s strengths, preferences, and interests; and (C) includes instruction, related services, community experiences, the development of employment and other post-school adult living objectives, and, when appropriate, acquisition of daily living skills and functional vocational evaluation. (20 U.S.C. §1401 (34))

IDEA reauthorizations have mandated transition services and specified the age by which they were to be included in the IEP, under the 2004 reauthorization no later than age 16 years. McEathron, Beuhring, Maynard, and Mavis (2013) have highlighted a best practice for which funding is authorized under the IDEA: commencing vocational training while young adults are still enrolled in high school so that there is overlap. An analysis by Landmark, Ju and Zhang (2010) also concluded that paid or unpaid work experience was the most empirically substantiated best practice in transition, followed in descending order by employment preparation, family involvement, general education inclusion, social skills training, daily living skills training,
self-determination skills training and community or agency collaboration. Similar findings were reported in reviews by Papay (2011) and Wehman (2013).

Other Related Federal Laws
A variety of other laws, although not primarily directed towards individuals with disabilities, may still come into play when providing career services to individuals with special needs. These include the Family Medical Leave Act (FMLA), which went into effect in 1993 and “seeks to provide reasonable leave opportunities for all eligible employees” (Bruyere and Reiter, 2011, p. 68) and the Uniformed Services Employment and Reemployment Rights Act (USERRA) of 1994. The “USERRA requires that employers must provide employees time off from work for active military duty, prohibits employers from discriminating against employees or applicants based on military service, and provides that employers must reinstate their employees returning from up to 5 years leave for service in the uniformed services—subject to certain limitations” (p. 70).

Additionally, legislation related to records, both educational and medical, may be particularly relevant when serving individuals with disabilities. The Family Educational Rights and Privacy Act of 1974 (FERPA) limits access to most school records, and absent a court order once an individual turns 18 years of age the rights formerly reserved for a parent or guardian transfer to him or her. FERPA and IDEA work together; thus a side-by-side analysis of confidentiality provisions of both laws notes that IDEA relies on the FERPA’s definition of what constitutes an educational record and hearing procedures regarding records. There are also similarities relating to issues such as confidentiality, the definition of consent, right to inspect and review and right to seek amendment to a record (U.S. Department of Education, 2014). The content of K-12 student records was also discussed in a 2006 opinion of the U.S. Department of Education (USDOE) sent to the California Department of Education which stated that documentation of a student’s handicapping condition must generally not be contained on high school transcripts which are sent to postsecondary institutions and perspective employers. The Health Insurance Portability and Accountability Act of 1996 (HIPAA) includes important provisions providing for the confidentiality of health care records, including health plan records, although not of any health care information that may be contained in employment records. Career counselors need to realize that the statutes provide for equal access, and not equal entitlement. Altogether, the statutes translate to a leveling of the playing field, not guaranteeing successful employment outcomes for individuals with disabilities.

NCDA Code of Ethics (revised 2015)
Written ethical guidelines for the helping professions date back to the 1950s, and by 1961 the precursor to today’s American Counseling Association (ACA) had issued its own code of ethics, which informs the work of career counselors, together with the separate Code of Ethics of the National Career Development Association (NCDA), a founding division of the ACA. The ACA’s Code of Ethics (American Counseling Association, 2014) specifically addresses disability in several sections, including a nondiscrimination clause that specifies disability (Section C.5), in a mandate for appropriate accommodations for clients with disabilities when administering assessments (E.7.a) and under a counselors’ obligation to recognize the impact of disability under Mul-
ticultural Issues/Diversity in Assessment (E.8). Additionally, the section on Distance Counseling, Technology and Social Media requires counselors with websites to assure access to persons with disabilities (H.5.d).

A code of ethics is a living document reflective of professional issues and dilemmas confronting practitioners and provides guidance for ethical behaviors (Barros-Bailey & Saunders, 2010). An effective code of ethics must be a flexible document reflecting changes in the society it serves (Reille, 2009; Saunders, & Leahy, 2010; Tarvydas, Leahy, & Saunders, 2004). In this vein, while the 2015 revision of the NCDA Code of Ethics was being finalized, Ethics Committee Members Smith-Keller and Makela (2014) echoed similar sentiments stating, “to be relevant and meaningful, codes of ethics must be living documents—evolving over time and adapting to new environments.”

They report that the most significant changes to the Code of Ethics related to the use of technology in career services. The 2015 revision of the NCDA Code of Ethics includes sections on The Professional Relationship; Confidentiality, Privileged Communication, and Privacy; Professional Responsibility; Relationships with Other Professionals; Evaluation, Assessment, and Interpretation; Use of the Internet in Career Services; supervision, Training, and Teaching; Research and Publication; and, Resolving Ethical Issues. Specific mention of disability occurs in several areas of the 2015 NCDA Code of Ethics, including provisions requiring nondiscrimination by career professionals (C.5) and assuring the multicultural appropriateness of assessments, including for clients with disability (E.8). There is also a requirement that career professionals who maintain websites and other technological resources work to make them accessible to persons with disabilities where feasible (F.6.b). Below we identify a few critical areas of consideration when career counselors are implementing the provision of these statutes and the code of ethics to enhance the career counseling practice with individual with disabilities.

**Important Considerations for Career Professionals**

Be Familiar with the statutes and Codes of Ethics. Reviewing the provisions of a broad range of legislations for those with special needs, Bruyere and Reiter (2011) concluded that “counseling professionals providing employment services to people with disabilities should know that these laws exist, be very familiar with the services they make available, and be knowledgeable about the rights and protections that people with disabilities are afforded in the employment process” (p. 77).

Career Professionals must be careful not to compromise a client’s autonomy. An important ethical challenge when serving diverse populations, and specifically those with different abilities, is suggested by Corey, Corey, Corey and Callanan (2015) who remind counselors of the ethical danger of assuming the role of client advocate, and of electing to “work for rather than with our clients” (2014, p. 134; emphasis in the original). These authors caution counselors that “the ethical principles of beneficence and nonmaleficence, if not carefully monitored, can indeed compromise client autonomy” (p. 135). While this can be true for career service providers working with any population, it is a particularly acute concern when working with the differently abled. For example, years ago, when cochlear implants were a new technology, the first author was working with a young man on a supported employment job site; he lived with both intellectual and
hearing challenges within a culturally diverse family which had limited contact with the mainstream society. Initially, he was quite interested in the possibilities the technology offered, so the counselor assisted with a series of appointments at leading institutions. However, as he was taken from specialist to specialist, it became increasingly clear that although the medical professionals saw him as a good candidate for the procedure, their excitement over a medical opportunity was not addressing the client’s needs. Ethically, it was incumbent upon the counselor to recognize the danger that he may have overstepped his role and be sure that he was truly working for this client.

Incorporate Strength-based models Wehmeyer (2015) cautioned professionals that “if we continue to view disability using models that emphasize deficits, I believe that efforts to promote self-determination will remain marginalized” (p. 22). Thus he calls for a “strengths-based models of disability. Increasingly around the world, disability is being framed not as a defect within a person, but as a gap between the person’s strengths and the demands of the environment or context” (p. 22).

Empower Clients
Counselors are encouraged “to empower people with disabilities in areas where they have some control over employment outcomes, such as disability disclosure and their own attitudes, behaviors, and skills in negotiating the hiring process” (Jans, Kaye and Jones, 2012, p. 156); based on their research they encourage an approach which includes emphasizing strengths, gathering details about the workplace, handling inappropriate questions and addressing what maybe unspoken employer concerns.

Individuals with psychiatric disabilities
“Similar to other students, it is necessary for students with psychiatric disabilities to begin the career development process early so they can carefully plan their participation in career development activities.” Helm (2012) writes, suggesting that “career planning with the assistance of a career services representative may enhance engagement in career development activities and help to define career goals post-graduation” (p. 105).

“In short, ethics codes, standards, and laws are necessary, but not sufficient, for exercising ethical responsibility” (Corey, et al, 2015, p. 6).

In closing, individuals with disabilities will be well served if and when career professionals are familiar with associated statutes and codes of ethics. With current economic challenges, the provision of career services is becoming of greater importance to individuals with disabilities. Career professionals can better advocate for individuals with disabilities by having a clear understanding of the relevant laws and applicable codes of ethics. A recent volume on ethics published by the ACA (Wheeler and Bertram, 2015) begins by stating that “for many practicing mental health professionals and most graduate students, the legal system is a foreign and sometimes frightening place” (p. 1). We hope that this article has helped make it just a bit more friendly and accessible.
References


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DYSLEXIA, DYSPRAXIA and ADHD in EMPLOYMENT: A View from the United Kingdom, by Sylvia Moody

Abstract
This article explains how dyslexia, dyspraxia and ADHD are defined in the United Kingdom (UK), where they are collectively known as specific performance difficulties or SPDs; and information is given on the ways such difficulties can be addressed in a workplace context. Recommendations are made as to how career specialists can help clients with SPDs to obtain relevant occupational assistance and accommodations. The article also includes a case study to illustrate the work-related impact of these disabilities.

Dyslexia, Dyspraxia and Attention Deficit Hyperactivity Disorder (ADHD) – collectively known in the United Kingdom (UK) as specific performance difficulties – have been found to present workplace challenges in a number of areas, including task performance, organization, and interpersonal relationships. It is important for employees with specific performance difficulties to be aware of these workplace barriers and to learn how to navigate the process of obtaining adequate accommodations. Employers and career counsellors can help their employees or clients to achieve occupational success through the provision of appropriate accommodations and interventions. This article describes the common workplace challenges faced by employees with dyslexia, dyspraxia and/or ADHD and gives specific examples of work-related accommodations and interventions.

Dyslexia
Dyslexia in childhood is generally regarded as a difficulty with phonology and with reading (Dipeolu, Storlie, Hargrave, & Cook, 2015; McLoughlin & Leather, 2013). In adulthood, however, it has gradually acquired a much broader definition; it is no longer defined as being principally a reading difficulty, though reading may be slow and relatively inefficient, but rather it is seen as essentially a difficulty with information processing and, in particular, working memory. Working memory is the part of the auditory short-term memory system that not only has to remember information but also to work on it – for example, working memory is used to perform mental arithmetic. The main memory-related difficulties which an adult with dyslexia would report are in note-taking, listening skills, speaking and writing succinctly, time management, and organisational skills (Grant, 2010). To help individuals with dyslexia to function effectively at work, career specialists should focus their intervention strategies on the above areas.
Dyspraxia
Dyspraxia has traditionally been a term used to denote difficulties with physical co-ordination and spatial awareness. As with dyslexia, these symptoms are most evident during childhood (Grant, 2013; Moody, 2011). Dyspraxia may, for example, manifest itself in a difficulty with tying shoelaces or catching balls. More recently in the UK, however, after a number of consensus meetings between physicians, occupational therapists and educational psychologists, there has been a recognition and agreement that the above spatio-motor difficulties experienced by people with dyspraxia are commonly associated with cognitive difficulties that can perhaps be broadly described as difficulties with organization. For example, difficulty in organizing thoughts, speech, time and tasks may be challenges that individuals with dyspraxia experience (Kirby, 2014; Moody, 2009). Also commonly found is a difficulty with social skills – perhaps not surprising given that, in a social situation, one must organize oneself in a social space and demonstrate appropriate interpersonal skills. Also very common – though it is not clear how this relates to the cognitive difficulties – is a lack of a sense of humor and an inability to understand jokes, irony, sarcasm and playful teasing (Moody & Bartlett, 2010).

Many adults who have dyspraxia report that they have their poor physical co-ordination reasonably under control and that, in the workplace, it is the cognitive problems, along with poor social skills, that cause the most difficulty – and this difficulty is felt particularly acutely if they have to work in groups or teams (Grant, 2010). Thus, difficulties associated with poor organisation of speech, thoughts, time, tasks and social communication will undoubtedly limit effective functioning in the workplace. Therefore, the impact of these difficulties on workplace performance should be noted and addressed in the context of career counselling.

Attention Deficit Hyperactivity Disorder (ADHD)
Attention Deficit Hyperactivity Disorder (ADHD) is defined in more or less the same way in both the UK and the US – that is, a difficulty with executive function, characterised by poor concentration, distractibility, procrastination, restlessness, impulsiveness, and difficulties with sleep (Grant, 2010). These difficulties should be acknowledged if individuals with ADHD are to be helped to function effectively at work.

Dyscalculia
Dyscalculia, which literally means difficulty with numbers, denotes a general difficulty with understanding the relationship between numbers, in particular the concepts of ‘greater’ and ‘less’ (Kirby, 2014). It is, however, often mistakenly used to describe everyday difficulty with numbers (e.g., doing mental arithmetic, correctly copying or reading numbers, remembering calculation procedures, etc.) when in fact it is more useful to see these latter types of difficulties as being due to dyslexia and/or dyspraxia, i.e., to weaknesses in short-term memory and visual tracking (Moody, 2014).

Career-Impacting Symptoms Associated with Specific Performance Difficulties
The recognition that adults have the wide range of SPDs described above is a relatively recent phenomenon in the UK, and so there are large numbers of adults who have been struggling with these difficulties for years but have never been assessed and have little to no understanding of the nature of their problems.
Visual Stress/Binocular problems
Professionals in the UK who assess for SPDs would usually also screen for visual stress and binocular problems (Moody, 2009). Symptoms of these conditions include difficulty in focusing on print – especially black print on white paper – seeing numbers moving about or blurring, and finding it hard to keep one’s place on the page. Sufferers may develop headaches or sore eyes when reading for lengthy periods, even though they may have been prescribed glasses. They find bright lights, particularly fluorescent lighting, stressful (Moody, 2009). People with the above difficulties need to be referred to a specialist optometrist, who will be able to recommend eye exercises and also prescribe a coloured overlay with the tint that is most useful to the client (Moody, 2012).

Emotions
Typically, individuals with specific performance difficulties report emotions such as frustration, bewilderment, anger, anxiety, and depression; and their confidence and self-esteem have also usually been affected (Moody, 2012). In some cases, the level of anxiety caused by these feelings is so great that sufferers are unable to face going to the office at all; they develop sickness or other minor complaints on workday mornings. At work they may be viewed by their colleagues as unco-operative and disagreeable; they may be morose and withdrawn or touchy and aggressive (Moody, 2009). Employers may also become frustrated by the chronic inefficiency of such employees and by their seeming inability or unwillingness to improve their work performance (Malpas, 2012). The general chaos of the life of an adult with unrecognised specific performance difficulties, and the confusion of emotions that accompany these, not only present a problem in themselves, but also compound any feelings of dejection, worthlessness, bewilderment or despair that may have their origins in childhood or in current real life experiences – emotions that will need to be addressed in the process of career counselling.

Difficulty with Workplace Disclosure: *The Case of Muriel
The case of Muriel described below illustrates the difficulties which arise when an employee is unaware of the nature of their difficulties and therefore fails to disclose them. Muriel was a forty-year-old woman who worked as a care assistant. She had good relationships with her clients and felt confident that she could make sensible judgements about their needs. However, she had inefficient reading and writing skills and she found some difficulty with the paperwork attached to the job. Fortunately this was quite a small element in her work, and she had help with it from both a sympathetic colleague and from her son who was now in his final year at school. In general Muriel was regarded as a hard-working and valuable employee, and she enjoyed her work. Then in the space of a single year everything changed. The agency that Muriel worked for introduced a more efficient management style and changes were made to Muriel’s job specifications. She was now required to keep careful written records of her meetings with clients, to take a more prominent role in meetings, and to do some informal supervision of a trainee. At the same time the sympathetic colleague who had always helped her moved on to another job, and her son entered a university in another town and so was rarely at home to give her any assistance. Muriel suddenly found herself, to use her own expression, *discombobulated*. She tried to cope with the situation by working longer hours, but this caused her to feel tired and stressed, and led to her being even more inefficient at work. She felt frightened to speak about her difficulties to her colleagues or to her line manager, because she feared she would be seen as a failure.
It was not long before Muriel began to dread going into the office at all. She felt that the people around her were starting to become impatient with her and, whereas before she had been regarded as an asset, she was now being seen as something of a liability. As it was that Muriel, who had previously enjoyed her job and the companionship of her colleagues, now began to take days off from work because of stress. Eventually the situation became so bad that she had to take an extended period of sick leave because of anxiety and depression. All her attempts to return to work failed, and in the end it was more with relief than sorrow that Muriel heard she had been dismissed from her post.

Even worse for Muriel than losing her job was the way that she had now come to feel about herself: useless, despairing, and bewildered. She described herself as a waste of space and felt that she could not succeed in anything. It got to the stage where even simple household tasks seemed overwhelming for her.

But then, suddenly, life took an unexpected turn. Muriel happened to hear a radio program on the subject of dyslexia. In the program a woman who described herself as dyslexic explained to the listeners about all of the problems she had, and the way they had affected her performance at work. As the woman talked on, she mentioned problems not just with literacy but also with memory and general organisation, and Muriel had the odd experience of hearing herself described: the same problems, the same workplace difficulties, and most of all the same distressing emotions.

At the end of the program a helpline was given and, after a few days of hesitation, Muriel telephoned the helpline number. That was the moment when her life turned around – "the moment of revelation," as Muriel herself always called it. As a result of her talk with the helpline adviser, she found a local adult dyslexia group and also started to do some classes in literacy, communication skills and work organisation.

There was no instant transformation in Muriel, but she had suddenly found an explanation for her difficulties; she had found a way forward, a focus and a purpose. The negative emotions she had been experiencing gradually faded away; she became calmer, more confident, and more appreciative of her good qualities. She was able to get her difficulties into perspective, realising that they were not something to be ashamed of or embarrassed about. Within a year she became confident enough to think about looking for a new job, and, with the advice of a career adviser who was familiar with dyslexia, she found a niche that suited her: she became a counsellor in a school for children with learning difficulties.

Other Possible Scenarios
Other possible scenarios include specific performance difficulties that are recognised but not disclosed, or difficulties which are disclosed but with unfortunate results.

A common question that people with dyslexia ask is: “When I apply for a job, should I tell my potential employer that I have dyslexia?” There is no simple yes or no answer to this question, as various factors need to be taken into account. In the UK, disclosure affords employees legal protection, as an employee who has disclosed his dyslexia cannot be dismissed until reasonable adjustments have been properly trialled. It also has the advantage that the employee with dyslexia will not have the stress of having to conceal his difficulties and perhaps having them misin-
terpreted as being the result of laziness or incompetence. Sometimes, however, when reasonable adjustments are put in place to support an employee, these are seen by others in a negative light. There can be a perception that the employee is *skiving*, or covering up fundamental inefficiencies, or getting some kind of unfair advantage. In a situation such as this, a career counsellor can help the client to identify ways that will help him cope with the difficulties following his disclosure of them, and also work with the client to evaluate whether or not he is able to continue in his current job or is ready to seek employment elsewhere.

**Addressing Specific Performance Difficulties: What Career Specialists Need to Know**

Career counsellors need to be knowledgeable about SPDs and their impact on workplace performance. Specifically, counsellors need to know that it is incumbent upon employers (managers) to be aware of the way specific performance difficulties manifest themselves in the workplace and to be able to spot that an employee has such difficulties, even if the employee in question has either not been aware of them or not wanted to reveal them. Once it has been recognised that an employee may have such difficulties, the following action needs to be taken, often in collaboration with other professionals (eg, vocational psychologist).

**Refer for Diagnostic Assessment**

This will reveal both the strengths and difficulties of the client and also take account of his emotional state.

**Follow up with Workplace Needs Assessment**

The needs assessor will take account of the diagnostic assessment report and discuss in detail with the client and with his employer what steps can be taken to enable this employee to operate more efficiently in the workplace. In general the adjustments would include skills training, IT support, and reasonable adjustments.

**Skills training.** Individuals with specific performance difficulties may have deficits in work-related skills that can be addressed and strengthened through specific skills training.

**General writing skills.** Training on general writing skills can help the employee to improve his ability to write clearly, correctly, and coherently. Problems with grammar, punctuation, spelling, sentence structure and writing flow should also be addressed. Additionally, techniques can be taught for visual and aural letter discrimination and proof reading.

**Writing reports, letters and memos.** Training may include specific instruction and practice in all stages of planning and writing reports, organisation and planning of contents, researching and collecting information, instruction in basic report formats; and also training and practice in planning and writing effective business letters and memos.

**Work organization and efficiency.** Skill-building in this area may include the following: work schedules and timetables, forward planning, setting and achieving goals and sub goals, action lists and checkpoints, meeting deadlines, efficient work methods, planning and or ganising tasks and projects, and keeping in control of workload.

**Reading comprehension, speed, and memory.** Training in this area may include techniques for understanding and remembering written material, summarising, highlighting, multi sensory memory strategies and learning techniques, techniques to improve reading speed and fluency, and exercises in visual and aural word and letter perception and tracking.

**Minute taking, meeting skills and oral skills.** Skills training on these topics include: following and taking part in discussions, discerning key points in discussion, note taking, minute and agenda formats and writing, oral presentation skills, and organising and controlling meetings.
Work attitudes and interactions. This may include teaching techniques to build up confidence and increase assertiveness, to deal with stress, anxiety and frustration, to interact profitably with colleagues, and to develop effective oral communication.

Numeric skills. Skills training will focus on accuracy and efficiency in basic figure work, data entry, and copying and presentation.

Attention and concentration. Training on this topic would involve exercises to focus and sustain attention and maintain concentration.

Information Technology (IT) support. People with specific performance difficulties can benefit greatly from using IT programs such as text-reading and dictation programs, hand-held spellchecker, programs to help with organisation and time management. It is vitally important that the IT training should be carried out by a trainer who is familiar with specific performance difficulties, and that the training should be delivered at a pace and in a manner that will enable the trainees to absorb the information they are being given. In general training sessions should be short, at the most three-quarters of an hour, and the trainer should speak slowly, check back that the client has understood what has been said, and ask the client to demonstrate his/her use of the programs. It is also important that the trainer identify which particular elements in an IT program would be relevant to a particular employee’s job and difficulties.

Reasonable adjustments. An employee will benefit from being given practical information about adjustments in the workplace that could improve his efficiency. These adjustments may be in the areas of job applications, assessment tests, disability awareness, verbal and written communication, work organisation, reducing stress and anxiety, and training courses.

Job applications. The following are suggestions for ways in which employers can facilitate the job application process:

Application forms. Send by e-mail or CD if possible, so that the applicant can use a spellchecker and easily revise what he/she has written. If sending the form as hard copy, use a pastel-coloured paper to reduce visual stress.

Interviews. Provide a copy of questions either during or before the interview; otherwise bear in mind that the applicant may need to have some questions repeated. Be aware that the applicant may be slow in formulating answers to questions. Be aware that his/her usual coping strategies may break down under the stress of an interview situation. If the applicant becomes flustered or distressed, allow him/her a few minutes’ break.

Assessment tests. Read the test instructions out loud to the applicant, or present them on tape/CD. Allow the applicant to give his/her answers orally. Allow more time than usual for the tests to be completed. If the requirements of the test do not reflect the requirements of the job, consider waiving the test.

Disability awareness. Become aware of the nature of a (prospective) employee’s difficulties and the challenges they will pose in the workplace. In particular become informed about dyslexia, dyspraxia and ADHD, and the effects of these – both practical and emotional. Remember that employees with dyslexia will find written work and aspects of organisation much harder than most people, and will need to apply extra effort in many areas. This may make them prone to fatigue. Encourage employees to talk to you and others about workplace difficulties rather than conceal them. Allow absence from work for relevant training.

Verbal communication. Give full, clear instructions, and take time to explain things properly. Repeat things, if necessary. Check back understanding. Give written instructions as well as oral ones.
**Reading.** Present written instructions in a clear format, e.g., in a flow chart. Present information on audio or videotape as well as in writing. Use voicemail rather than written memos. Provide text-to-speech software. Allow extra time for reading tasks.

**Writing.** Provide speech-to-text software. Allow extra time for writing tasks. Do not expect the employee to take notes or dictation at speed.

**Work organization.** Give advance notice of tasks whenever possible rather than setting sudden deadlines. Offer help on planning and prioritising the workload and scheduling daily work tasks. Encourage the employee to break down large tasks or projects into subsections and stages. Provide a wall planner that visually highlights appointments and deadlines.

**Reducing stress and anxiety.** Try not to put pressure on the employee by showing impatience or irritation. Try not to interrupt the employee in mid-task. Arrange particular times when the employee can work free from interruptions. Provide non-stressful lighting (fluorescent lighting in particular can be troublesome for people who suffer from visual stress). If possible, provide a quiet workplace; alternatively, provide the employee with ear defenders. Encourage the employee to take brief breaks, as this will increase overall output for the day.

**Training courses.** Be aware that reluctance to apply for promotion or training courses may be linked to fears of excessive paperwork and the possible exposure of weaknesses during training. Ensure that in-house training courses have a Good Practice policy in relation to trainees with specific performance difficulties. For example, trainers should provide a clear outline of their talks and make relevant course material available in advance; they should repeat things as necessary, be aware that whiteboard can cause visual stress and leave a few minutes at the end of a session to check that trainees with SPDs have understood the main points made in the session.

**Conclusion**

This article describes the common workplace challenges faced by employees with dyslexia, dyspraxia and ADHD – collectively termed specific performance difficulties. Detailed recommendations are made to assist career counsellors and employers in addressing an employee’s specific performance difficulties and providing practical, useful tools that can help an employee succeed in obtaining and successfully remaining in employment. It is important for employees with specific performance difficulties to be aware of the challenges posed by these difficulties and to know how to successfully navigate the process of gaining appropriate workplace accommodations. Likewise, it is vital that career specialists understand the challenges faced by employees with specific performance difficulties; and that they are knowledgeable about the ways in which they can best assist such employees in successfully attaining the benchmarks associated with their job/careers. Employers, too, may find the information provided in this article useful in helping them to put in place effective workplace accommodations.

*The case represents a close approximation to a real client scenario. A pseudo name is used in place to actual name.

**References**


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Chapter 15

CAREER DEVELOPMENT and INDIVIDUALS with DYSLEXIA
by David McLoughlin

Abstract
Suitable career counseling for people who have dyslexia, especially at times of transition, can assist a person to find their niche in life. The purpose of this paper is to provide a review of the current literature relating to the occupational success of individuals who have learning disabilities, potential barriers and how these can be overcome through the development of self-understanding and effective disclosure, as well as inform models of career counseling. In the United Kingdom dyslexia is understood to be much more than a reading disability. It is more akin to what would be referred to elsewhere as a learning disability or specific learning difficulty. Throughout this article these terms will be used interchangeably, but essentially dyslexia here refers to a syndrome that has “an impact on verbal, as well as written communication, organization, time management, planning and adaptation to change” (Mcloughlin & Leather, 2013, p. 28). These are all domains that need to be addressed if individuals are to be successful in life and employment.

Transitions
Everyone faces a series of transitions; that is, life changes to which we have to adjust. A transition is a process of change over time (Colley, 2007, p. 428). The transition individuals face when moving from school to work is one that educationalists recognize, but there is not enough acknowledgment of how demanding this can be for individuals who have specific learning disabilities such as dyslexia. It has been suggested that we need to understand transitions within the context of life course rather than life cycle. The former acknowledging that life and career trajectories have become less linear and more fragmented, and avoiding the perception of those who do not fit into staged models as being deficient (Colley, 2007). This would certainly seem relevant to people who have dyslexia, as some do not follow typical educational and career paths, their development being less linear than it is for others.

In the workplace the demand on independent learning skills, self-confidence and the ability to absorb new information, understand job tasks, work culture and procedures is considerable. In the twenty first century dealing with constant change is a key aspect of any occupation; in-service training, job redefinition, promotion to higher levels of a job, moving from one department to another, from job to job, from employment back to unemployment. Developments in computing have provided individuals who have literacy difficulties with solutions. At the same time they have presented problems, the rate of change being overwhelming. They have also placed greater demands on literacy, any computing task requiring some reading skills, and possibly ones that are
different from those needed when reading from the printed page. Change can be challenging, and demands psychological energy that enables coping and adaptation. It can also prove to be stressful, magnifying the difficulties associated with dyslexia.

Assisting individuals to cope with present demands at any one stage is not enough. It is as important to prepare them for what is ahead of them (Garnett, 1985) as they may not have developed the skills they need to effect a positive adaptation, and often these do not develop automatically. Working memory deficits, for example, characterize learning disabilities, including dyslexia. These can have “a significant impact on planning, problem solving, acting under novel situations, and learning. Appropriate support must, therefore, be provided across a range of modalities for adults with dyslexia to achieve their full potential in both educational and employment settings” (Smith-Spark & Fisk, 2007, p. 51). There is a strong case to be made for the preparation of informal or formal transition plans that predict and address needs throughout the life course, even for those whose difficulties might only appear mild. These would enable educators, trainers and human resource personnel to recognize the challenges that people may face and predict what might be difficult and provide solutions.

Ironically it is often at times of transition, as a result of having been successful, that many individuals with dyslexia seek an explanation for the problems they unexpectedly face and present for an initial diagnostic assessment, as well as seek help with their skills. They have not suddenly developed dyslexia. Promotion, for example, can place increased demands on organizational skills, as well as written language tasks such as report writing. Adults face increasingly complex tasks, especially at work and in their social lives. It is perhaps unsurprising, therefore, that to some their difficulties seem to get worse (Gerber et al., 1990; White, 1992; Price & Patton, 2002).

**Successful Adjustment**

Although most research has adopted a deficit model devoted to identifying the factors that make life difficult for people who have learning disabilities, in order to understand their successful adjustment researchers have adopted a ‘risk and resilience’ framework. Having a learning difficulty such as dyslexia is regarded as a risk factor; that is something that might impact negatively on their life. People who have dyslexia can be at risk of failure in academic and employment settings, as well as experiencing social and emotional problems. Resilience refers to “a class of phenomena characterized by good outcomes in spite of serious threats to adaptation or development. Research on resilience aims to understand the processes that account for these good outcomes” (Masten, 2001, p. 228). Failure does not always have negative consequences as sometimes it can have an impact on one’s resilience and motivation and provide a positive challenge. (Tanner, 2009, p. 796). People with learning difficulties such as dyslexia have been found to be resilient. They have needed to be, to become successful. Researchers investigating resilience have adopted an asset driven model and have identified variables that contribute to resilience and success. Goldberg et al. (2003), for example, identified six attributes common to adults with specific learning difficulties who experience a successful adult life. These include:

- self-awareness and an ability to define oneself as more than one’s disability;
- social, economic, and political engagement in the world;
- perseverance and flexibility to pursue alternate courses of action;
• concrete, realistic, attainable goals with strategies to reach them;
• a support system of relationships;
• emotional stability and coping strategies.

Their findings are consistent with those of studies reported a decade earlier, particularly the importance of self-awareness, perseverance, goal setting, strategy development and supportive relationships (Gerber, Ginsberg, & Reiff, 1992; Spekman, Goldberg, & Herman, 1992). In an empirical study of successful adults Gerber and his colleagues found the over-riding factor to be the element to which they had been able to take control of their lives or felt in charge. Control was seen to involve two sets of distinct but interrelated and interacting factors: Internal decisions; that is, conscious decisions about taking control of one's life; External manifestations; that is, being able to adapt and shape oneself in order to be able to move ahead.

The internal decisions identified through the research were first of all a desire to succeed. This is often the reason why people approach professionals for advice and guidance. Many people who have dyslexia present as being highly motivated, and this is often intrinsic rather than extrinsic. The second internal factor was goal orientation. A major theme of life span developmental psychology is the existence of the dream or vision of life’s goals (Upton, 2011). We all need long term and short term goals. One of the roles of the professional is to assist in helping people establish clear and achievable goals. A long term goal could be to enter a particular occupation, a short term goal to gain the necessary qualifications. When working with people who have a learning difficulty it is important, however, to set even shorter term goals, such as developing the literacy, learning and technological skills appropriate to a course of training. One of the main disadvantages of not being diagnosed and not understanding ones’ difficulties is that it is impossible to set the correct goals. The third factor was re-framing, which is the process of self-understanding, but is more than this. It involves recognizing that there are difficulties, accepting that these exist and developing an understanding of their nature. It also refers to the process of re-interpreting dyslexia in more productive and positive ways.

The external manifestations were identified as being first of all persistence which refers to a quality of determination. This can be very impressive, there being people who have experienced setbacks but have seen these as an opportunity for learning and got on with life. The second factor is learned creativity which refers to strategy development. In particular, it is important that dyslexic people become better at information processing, developing appropriate learning, memory and metacognitive skills. They also need to find alternative ways of dealing with tasks, and the use of technology can be a significant factor. Goodness of fit refers to the notion of being in an environment where one is comfortable with the demands. It is being on the right course, at the right college or in the right job. Finally, social ecologies were found to be important. This refers to the support systems people are able to take advantage of, including parents, partners, supervisors and colleagues.

Gregg (2013) summarized the findings of research into resilience by writing that successful adults who have learning difficulties “adapt to life events through self-awareness and acceptance of their disability, are proactive and persevere, and are emotionally stable and able to tolerate stress. They are goal directed, and are able to establish and use effective support systems” (p.
She identified the last of these as being fundamental to maintain motivation and perseverance.

**Myths and Misguidance**

An important issue in goal setting is ensuring that people who have dyslexia do not fall for stereo-types such as assuming that they will have strong visual abilities and should therefore enter into artistic endeavors or work with computers. In a study of high school students, Hearne et al. (1988) found that learning disabled students were no worse or better than their non-disabled peers in terms of an aptitude for working with computers. Although it has been suggested that the neurological organization of their brain leads to people who have dyslexia having stronger functioning in some areas, much of the evidence for this is based on anecdotes, as well as speculation about creative and gifted people, many living and some deceased. The latter include Einstein, Leonardo da Vinci and Antonio Gaudi (Wolf, M., 2008). This practice, because it can raise false expectations, is considered by some to be undesirable, as there is little evidence for such claims (Adelman & Adelman, 1987; Thomas, 2000; Kihl et. al., 2000). There are many living actors, writers and artists who have been identified as dyslexic, and there are disproportionate numbers of dyslexic students attending art colleges (Wolff & Lundberg, 2002). There are also a disproportionate number of entrepreneurs who have dyslexia (Logan, 2009). Whether this reflects innate abilities or a reaction to experience is open to question, and there is a false logic in assuming that the success of scientists, artists, architects and entrepreneurs is attributable to them being dyslexic. Studies of successful entrepreneurs, for example, have identified factors such as a high need for achievement, a strong inner locus of control, and an ability to delegate (Rauch & Frese, 2000; Logan, 2009). There are some systematic studies that have explored the notion that dyslexic people have visual strengths but these have “met with limited success” (Alexander-Passe, 2010, p. 3) and the results have often been contradictory.

Von Karolyi et al. (2003) noted increased right hemisphere functioning associated with rapid holistic inspection amongst dyslexics, concluding that they have superior global visual spatial processing ability, concluding that there is, therefore, some evidence for the holistic thinking, strengths in visualization and creative thinking observed amongst and reported by people who have dyslexia. In contrast, Everatt et al. (1999) established evidence of stronger creative abilities consistent with anecdotal reports, but were not able to attribute this to enhanced right hemisphere functioning. Winner et al. (2000) found little support for the view of dyslexia as a deficit associated with “compensatory visual-spatial talents” (p. 29), and suggested that the disproportionate number of dyslexic people in jobs requiring good spatial skills might be the result of them having chosen an occupation by default. That is, they have been channeled in to it because of their difficulties with written language. It is perhaps inevitable that they thrive on courses and in jobs where there are fewer demands on language based activities. It has also been suggested that people who have dyslexia might deliberately chose creative courses and occupations as a way of avoiding reading and writing (Alexander-Passe, 2006; Wolf & Lundberg, 2002). Alternatively, the difference might be the way in which people deploy the abilities they have. Those who gravitate towards careers in art and design, even if it is because they find others too difficult, will be less disadvantaged as training courses will include portfolio work rather than written examinations (Bacon & Handley, 2010). Other studies have found people who have dyslexia predisposed towards people orientated professions such as sales and nursing (Taylor & Walter, 2003).
In practice one meets large numbers of people with dyslexia working successfully in different jobs, across the occupational spectrum. Dyslexia is not an insurmountable barrier to success in any field, provided individuals have a good understanding of themselves, their skills and how to match these to job demands. It is a mistake to guide individuals into careers and job roles based on assumption, anecdotes and pop psychology.

**Disclosure**

One of the risks facing individuals who have dyslexia is being misunderstood. This raises the issue of disclosure; that is, telling employers, managers and colleagues that they have a learning difficulty. If they are to access resources and accommodations an individual must disclose that they are dyslexic. It is when dyslexic people start applying for jobs that they need to consider the question of disclosure very carefully. One of the ways in which the success of disability legislation and the understanding of specific learning difficulties is reflected in society is the disclosure rate; that is, the extent to which individuals inform employers and colleagues that they have a learning difficulty. Research has suggested that individuals with learning difficulties are reluctant to disclose, despite the existence of legislation that is supposed to prevent discrimination. In fact, many seem to fear discrimination. The majority of adults in samples of individuals interviewed did not ask for accommodations (adjustments) in the selection process, did not tell their employers during an interview and did not ask for adjustments in the job (Gerber & Price, 2003; Gerber et. al., 2004; Gerber et. al., 2008; Madaus et. al., 2002; Martin & McLoughlin, 2012).

Some of the reasons given reflect much misunderstanding surrounding dyslexia, both in terms of the stereotypes held by non-dyslexic people as well as the lack of understanding dyslexic people have of themselves. These included:

- I never thought it would apply to work
- I was afraid to be found out - they might have taken the job away
- They would think I couldn't do the job
- People would look down on you
- I was embarrassed
- I didn't think it was my place to ask for those things
- I would feel like a burden if they gave me anything extra

Gerber and Price (2008) point out that the hidden nature of dyslexia means that people with dyslexia have greater choice over whether or not to disclose. They are often selective, choosing those to whom they disclose carefully, and weighing up the benefits (Morris & Turnbull, 2006). Part of the process of disclosure involves educating others. Dyslexia is a hidden disability and this means that people often have to advocate for themselves, their difficulties being less obvious and less well understood. Many struggle with the issue, but unfortunately, research has revealed that many are reluctant to do so, fearing discrimination but if they wish to access resources and be protected under the terms of legislation they must.

Often the greatest expert on the impact of dyslexia can be the individual themselves. They know how it affects them on a day-to-day basis and usually have a good idea of how they work best. It is unreasonable to expect businesses to be experts in dyslexia. Disclosure is an exercise in self-advocacy so people need to develop their understanding of themselves and how dyslexia affects them in the workplace. *I have dyslexia* is not enough; it leaves others to define it. Individuals
need to explain what it means to them and offer solutions.
- **I read thoroughly so need more time** is better than **I read slowly.**
- **I prefer dictating so use voice recognition software** is better than **I am poor at typing.**
- **I am a bit of a perfectionist so like to have others check over my work** is better than **I am not good at proofreading**
- **I like instructions in writing** is better than **I can't remember instructions**
- **I never forget a face** is better than **I can't remember names.**

In other words, people need to be positive and be able to explain how they work best, as well as suggest accommodations that will facilitate this. Some of the quotes above suggest that people who have learning disabilities do not seek to advantage themselves by requesting accommodations. All they are asking for is to be valued for their abilities, persistence, determination, and to be treated equally. Accommodations do not give extra knowledge, talent or abilities. They just allow people to show that they can do the job. Having said that it is essential that they are realistic about what they can achieve. They do need to have most of the competencies required; otherwise no amount of accommodation can make up the difference. The underlying philosophy of disability legislation is integration. Too many accommodations can lead to isolation as well as a great deal of frustration and stress. *Goodness of fit* is essential to success (Gerber et. al.1992). Disclosure, although a complex issue and process, is fundamental to achieving this. When it is undertaken positively it should ensure that employers are able to meet a person's needs. Being able to disclose in a constructive manner, providing solutions not problems and promoting their skills, reflecting self-awareness and the ability to define oneself as more than one’s disability is one of the keys to success (Goldberg et. al., 2003).

**Approaches to Career Counseling and Development**

There are contradictions amongst different approaches to career counseling but there are central themes. These include acknowledging that, although the process is similar for all, many issues are unique to the individual, especially those with disabilities (Wehman, 1996). Career development and counseling should be individualized to meet the unique needs of people who have dyslexia. Further themes are the assumption that people make career decisions out of the context of a life-time of experiences; that people have strong expectations of work and, therefore, the exploration of intra-personal satisfaction they expect or derive from work is important; there is a need for skills specific to job selection, acquisition and retention which need to be assessed or taught; there are personal, social and environmental factors which need to be explored as these can be a barrier to deciding on or pursuing a particular career. On this basis, Yost and Corbishley (1987) argued for a decision-making model which has the advantages of focusing on the established core of career choice - that is, the centrality of decision making. They also suggested it has considerable face validity for clients and allows a good deal of flexibility. Their model consists of the eight steps outlined below, but some are expanded to address the particular needs of individuals who have dyslexia, and are based on research into resilience.

Initial assessment, the aim of which is to gather personal and employment information about the client and to arrive at a feasible career counseling goal the client is motivated to pursue. It is here that the diagnostic assessment is of value, as it should highlight strengths that might be relevant to a particular goal and ensure the latter is realistic.
**Self-understanding.** The client explores his or her values, interests, experience and abilities that relate to the goal. In addition, assessment is made of psychological issues that may affect career counseling. This is when the process of re-framing is important, as self-understanding is fundamental to effective goal setting.

**Making sense of self-understanding data.** The information gathered in the previous stage is synthesized into a coherent set of statements which indicate the client's desired outcomes for a career choice. Personal barriers to success in pursuing the desired career presented by dyslexia are summarized.

**Generating alternatives.** Using the information acquired thus far, counselor and client develop a list of possible career alternatives without making any judgment about the value of the options.

**Obtaining occupational information.** Learning as much about each option as is necessary to make an informed choice. The list of options in narrowed.

**Making the choice.** The client makes a choice among options, the focus being on goodness of fit.

**Making plans to reach the career choice goal.** Contingency plans are worked out to handle any setbacks which might arise.

**Implementing plans.** The client takes whatever action is necessary to achieve the selected career goal. For people with dyslexia this involves addressing very short term goals such as ensuring they have the literacy and technological strategies they require; that is, the learned creativities. They also need to learn how to present themselves in person to prospective employers. This includes how to disclose their disability in a constructive fashion. It also involves social ecologies in ensuring that they seek out those who can help them prepare for the workplace, as well as those who can support them at work.

**Conclusion**
Dyslexia is not an insurmountable barrier to success in any occupation. People who have specific learning difficulties have much in common. Nevertheless, they will not benefit from a ‘one size fits all’ approach to career counseling and development, particularly if this is based on myths about their talents and abilities. An idiographic approach based on knowledge of abilities and potential barriers, but one which develops an understanding of these and how they might be overcome, thereby enabling individuals to make informed choices is required. There is a dearth of outcome research for interventions with adults who have dyslexia generally, but particularly that which addresses appropriate models for career counseling. Future research in the field should be directed to considering how the evidence from studies of success and its implications for practice might be incorporated into guidance counseling at all educational levels, as well as in work based career development.
References


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He has a strong commitment to evidence based practice and takes a lifespan perspective, focusing on an individual’s current and future needs. He has acted as an advisor to the British Dyslexia Association on matters relating to dyslexia in childhood, adolescence and the adult years, as well as to schools, government agencies and private companies on appropriate provision for dyslexic students and employees. His applied work includes acting as an expert witness in special educational needs and employment tribunals. He is a regular contributor to dyslexia conferences and publications, as well the principal author of three books on dyslexia in the adult years, the most recent being The Dyslexic Adult: Interventions and Outcomes – Evidence Based Practice (2013).

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A LEARNING SKILLS APPROACH to the CAREER ASSESSMENT of INDIVIDUALS with DYSLEXIA
by Sajma Aravind, Sonali Nag, and Gideon Arulmani

Abstract
Standardised paper-pencil tests used in most forms of career counselling demand fluency in the very skills that are areas of difficulty for children with dyslexia. We explore the use of World Health Organization’s International Classification of Functioning, Disability, and Health (ICF) to first develop a Learning Skills Profile of the individual. This profile can inform the manner in which career assessment tools might be used and interpreted effectively. We present case studies as illustrations.

The objectives of career counseling range from guiding individuals to choose careers, to helping them adjust to changing work requirements (Kidd, 2006; Nathan & Hill, 2006). A further aim of most career counseling programs is to help individuals identify their potentials and make suitable career choices. Assessment thus assumes a significant role in career counseling. Identifying an individual’s interests, talents, and personality features requires the career counselor to use different methods of assessment.

Two Approaches to Assessment
The quantitative approach measures an individual’s attributes usually by drawing upon psychometric methods. The results of psychometric tests are captured as numerical values that are then compared with norms to understand the level to which the test taker possesses the attribute in comparison to a larger representative group. The quantitative approach has been criticised for its reductionist and mechanistic approach to understanding human capacity. It has also been criticised for limiting itself to a cross sectional understanding of individuals’ attributes. Tests can lead to accurate and useful results only when they have been administered, scored, and interpreted in a standardised manner. However, more often than not, it is difficult to meet these conditions of standardisation. In such situations, reliance on quantitative assessments becomes questionable and, on occasion, can be harmful for the test taker.

The other approach to assessment, called the qualitative approach, does not seek to understand an attribute by measuring it. This approach employs methods such as interviews and in vivo observations that yield descriptive data about the individual. Being subjective by nature, data collected using qualitative methods are criticised as being less close to the standards of reliability and validity when compared to quantitative methods. It has also been pointed out that qualitative methods draw the assessee into the assessment process as an active participant. Members of cultures where directedness is expected in the career counselling process may, however, not respond
well to such methods of assessment (Arulmani, 2014). Moreover, qualitative methods of assessment are generally more time-consuming and hence difficult for use with large groups.

While both quantitative and qualitative methods are used in career counselling, our interest is with standardised psychometric tests. Such tests are usually developed for the majority population and this can render them unsuitable for use with special populations. This writing focuses on the modification of the use of psychometric tests for individuals with dyslexia. More generally, the issues we discuss have implications for the use of tests in career counselling for individuals with special needs.

Dyslexia
Dyslexia, also known as reading disorder or reading difficulty, is characterized by difficulties with skills related to reading such as accuracy, speed, and comprehension (APA, 2013; WHO, 1992). Other areas of difficulties may include difficulties with spelling, an inability to recall facts, draw inferences from the material read, poor vocabulary or grammar, and slow speed of processing (Nag & Snowling, 2012; WHO, 1992). Dyslexia often features co-morbid difficulties in the areas of attention, numeracy, motor coordination, and emotional development. Conduct disorder and hyperactivity syndromes may also co-occur. The prevalence of dyslexia has typically been estimated at falling between five and 17 per cent (India: John, George, & Mampilli, 2004; Rehabilitation Council of India, n.d.; USA: Shaywitz & Shaywitz, 2003; UK: British Dyslexia Association, n.d.). The career assessment of individuals with dyslexia may be influenced in many ways by the nature of difficulties that characterize the syndrome. The next section summarizes these influences.

Career Assessment and Dyslexia
As discussed above, psychometric tests are commonly used in career counseling to assess the individual on different attributes including their personality, interests and abilities. Tests, however, yield reliable results only if they are administered, scored, and interpreted according to certain criteria. Many tests are verbal in nature, that is, they rely on the test taker’s ability to read, understand and/or respond to written material. These linguistically demanding tests assume that the test taker possesses a certain level of ease with language. Given that children with dyslexia experience difficulties with language, literacy and other cognitive functions makes test-taking a more difficult task compared to their typically-developing peers. It has been found that modifying test items to improve their readability, improved the chances of children with learning disabilities giving correct answers from 46% to 72% (Johnstone, Liu, Altman, & Thurlow, 2007).

Clearly, when individuals with disability are unable to engage with a particular type or format of assessment, alternate formats of assessment are required. These special adjustments made to a test are termed as modifications or accommodations. Examples of such accommodations include the form in which a test is presented (e.g., an oral presentation for a person with visual impairment), the method of eliciting responses (e.g., a person with speech impairment indicating correct answer by pointing), the physical environment (e.g., providing special furniture for a person with orthopaedic impairments), and the interpersonal environment (e.g., a helper for a person with severe difficulties in movement) (Cohen & Swerdlik, 2005).
At one level, when modifications are made, it is important to oversee how the disability of the test taker impacts the test results. For example, Nag (2014) points out that having difficulty with reading speed can affect the child’s performance on a timed test and a modification here would be to remove the speed component in the test. At another level, such modifications also have important ethical implications not only for ensuring that test-taking is not an uncomfortable experience for the individual with special needs, but also to ensure that no individual has an unfair advantage through unwarranted modifications.

**Career Assessment of Individuals with Dyslexia**

In writing about career assessment for children with learning disabilities, Aravind and Nag (2013) presented two complementary frameworks for assessment: the Potential Profile and the Learning Skills Profile. According to this approach, besides knowing what to assess (e.g., interests, aptitudes), the career counsellor should also know how to assess the child with dyslexia. The next sections introduce these two frameworks for assessment and the information that each can provide for the career assessment of individuals with dyslexia.

**The Potential Profile**

Career counselling aims to give individuals insights into their interests, aptitudes, beliefs and thoughts about career in order to identify careers that are most closely suited. Two constructs that have been extensively researched for their influence in career choice making are interests and aptitudes. However, the approach to understanding of interests and aptitudes is often driven by different theoretical frameworks (Ackerman & Beier, 2003; Arulmani, 2014). In such situations, data generated about an individual’s interests and aptitudes are not easily comparable, thus limiting the individual from utilising the information to inform the career choice process. Addressing this gap in the theoretical literature, Arulmani (2014) proposed the construct of potential to describe the overlap between a person’s interests and aptitudes. One implication of this conceptualization is the Potential Profile which captures a combination of an individual’s interests and aptitudes. The identification of Potentials ideally should be through a blended approach wherein data is collated both from quantitative and qualitative sources. This is all the more pertinent for children with dyslexia since, as described in the section above, psychometric tests may not yield an accurate representation of potentials given the difficulties they face when taking standardized, language-intensive tests. This brings us to the importance of the Learning Skills Profile.

**The Learning Skills Profile**

A Learning Skills Profile refers to a report on the level and type of difficulty experienced by the child in learning areas that affect performance on a test. Two important functions required of a Learning Skills Profile in career assessment of children with dyslexia. First, the profile should give information about the suitability of the child to different methods of testing. Or, put differently, the profile should identify a method of assessment that is most suitable for the child. Second, the profile should help in evaluating the child’s suitability for certain courses and careers. Aravind and Nag (2013) recommended the International Classification of Functioning, Disability and Health for Children and Adolescents (ICF-CY) to systematically address these two functions of a Learning Skills Profile. The ICF-CY is a framework developed by the World Health Organization (WHO, 2002) to understand health and disability. The ICF-CY adopts a bio-psycho-social
approach to understand health and, thus, looks at disability as a function of problems with (a) the body, (b) the individual, or (c) the society (or some combination of these). The ICF thus gives an exhaustive list of body structures and functions, activities and major life areas, and contextual factors where individuals can experience difficulties. At the level of the social environment, contextual factors are evaluated for the extent to which they help (facilitators) or hinder (barriers) the person (e.g., a very critical parent, an exam system that is unmindful of accommodations).

Using the ICF-CY as a Framework to Develop a Learning Skills Profile

In this section we assess the proposition that the ICF-CY is a useful framework within which to develop the Learning Skills Profile for children with dyslexia. We do this by using contrasting case studies of three 15-year-old students in the final year of high school (Grade 10). All three students had approached a career counselling centre at Bangalore (India) for help with career decision making. Two students (Case studies 1 and 2) had a known diagnosis of dyslexia. The other student (Case study 3) did not have a history of developmental or emotional-behavioural difficulties. The scores mentioned within each case study may be interpreted in the context of a usually required eligibility percentage (for example by most entrance examinations) of 50%.

Introduction to Each Student

*Case study 1. S. J., at the time of the counseling, was pursuing Grade 10 in a regular school. S. J.’s most recent assessment for learning disabilities was done when he was in Grade 8. His assessment was conducted by a clinical psychologist. He was diagnosed with Specific Learning Disability of Reading and Written Expression. At school, his subjects were Physics, Chemistry, Mathematics, Food and Nutrition, and Accounts. S. J. expressed high interest in Mathematics and Science, however, he was performing poorly on these tests and his scores in Grade 9 ranged between 40% and 63% on various class tests. His parents informed us that he was “more visually oriented than text oriented” suggesting that S. J. understood information better when presented in a visual format as opposed to when presented in a text format. On a standardized aptitude test, S. J. scored between 46% and 63%. Observations during testing suggested that S. J. was more engaged when tests had several visual items and less engaged on tests that were more text-heavy and had no illustrations or other visuals.

*Case study 2. G. K. was pursuing Grade 10 through the National Institute of Open Schooling (NIOS) at the time of the counseling. His subjects at school were English, Data Entry Operations, Economics, Home Science, and Business Studies. He had failed in Grade 8 and was retained for a year in the same grade. Academic marks in Grade 9 varied from 40 to 63 per cent. G.K.’s most recent assessment for learning difficulties was done a few months before we met him. His assessment was conducted by a clinical psychologist and his diagnosis reads “average intelligence – learning disability (dyslexia)”. The report states his eligibility for accommodations such as exemption from additional languages, extra time in exams, provision of scribe during exams, and assessment through objective (multiple choice) rather than essay-type questions during exams. The previous assessment that was done when he was in Grade 8 also point to difficulties with reading, writing, spelling, and math as well as other areas of difficulties. In a standardized aptitude test, G. K.’s performance was at the 16 to 33 per cent level and observations during writing activities in the counseling session confirmed significant spelling difficulty.
Case study 3. T. B. is a 15-year-old studying in Grade 10 with no reported history of learning difficulties. His subjects at school are English, Mathematics, Science, and Social Studies. His performance in these subjects in Grade 9 ranged from 50 to 70 per cent and in Grade 10, his performance is in the 60 to 80 per cent level. His performance in the standardized aptitude test ranged between 40 and 70 per cent. T. B.’s school environment was similar to S. J. His family’s socio-economic profile was similar to both S. J. and G. K.

How the ICF-CY was used
Six areas from the ICF-CY were selected because of their potential to provide insights as to how test-taking could become challenging for an individual. The areas of assessment were attention, psychomotor functions, perceptual functions, reading, writing, and calculations. The following rating scale from the ICF was used to assess the extent of the difficulty in these areas: 0: No difficulty; 1: Mild difficulty; 2: Moderate difficulty; 3: Severe difficulty; 4: Complete difficulty.

We focused our evaluation on the individual’s capacity to perform without any assistance. The sources used to elicit information included interviews with parents and the student, aptitude tests, school records, previous assessment reports, and observation during the session. Table 1 [see APPENDIX] presents information on the relative extent of difficulty experienced by the three students, as per the ICF-CY parameters. The data collected through the ICF-CY parameters makes it clear that students with dyslexia experience a wider extent of difficulties in the foundation skills for test-taking than those without dyslexia. The derived Learning Skills Profile thus helps us pinpoint the areas of difficulty that may affect test-taking in a typical career assessment session. The following section provides verbatim reports and quotations elicited during the interviews. A description of the implications for career assessment based on the learning skills profiles obtained through the ICF-CY is also given.

Case Study 1
Description of the Learning Skills Profile. The information elicited indicates that S. J. has difficulties in all the ICF-CY parameters except the parameter of “calculations”. An earlier assessment report by a psychologist (when S. J. was in Grade 6) indicated that “there were definite difficulties in attention, indicating the possibility of ADHD as a co-morbid feature.” Recent assessment reports point to “significant visual motor difficulties which severely affect the quality of his handwriting,” which indicate difficulties with psychomotor skills. Difficulties with perceptual skills, especially visual perception, are also pointed out in the assessment report (“a significantly below average score and possibly explains difficulties in fluency of writing and reading”). Calculations do not seem to be an area of difficulty for S. J. (“His performance is average in math calculation.”). However, both assessment reports and school records consistently point to significant difficulties with reading (“significantly below average scores on tests of broad reading”) and writing (“On all written tasks however the discomfort he was experiencing was very evident in the form of restlessness and an expressed concern about the length of the activity”; “persisted with difficult tasks only if they were not written activities”; “The quality of his handwriting was very poor and barely legible”).

Implications for career assessment.
Going by this profile, it is likely that the career assessment of this student using standardized career assessment devices would be affected by his ability to attend to a task only for brief dura-
tions of time (attention score = 4). Activities requiring manipulation, dexterity, speed of performance could hinder the student’s performance (psychomotor score = 4). The student’s difficulties with visual perception, especially with the speed of processing visual information also means that any performance on timed tests is highly likely to yield an underestimation of the attribute being measured by the test (perceptual score = 3). Further tests that require S. J. to read and comprehend may be challenging (reading score = 3), while questions that require written responses may also be difficult (writing score = 4). Moving to modifications in career assessment, this information tells us that this student could be presented with an assessment battery that is not timed, has items that are pictorial, along with the provision of having items read aloud. It would also be useful to explore if making changes in the appearance of the test (e.g., increasing font size) would support performance more strongly.

Case Study 2
Description of the Learning Skills Profile. G. K. presents a different Learning Skills Profile when compared with S. J. Examination of data sources for G. K. revealed that attention and psychomotor functions were not areas of difficulty for him (“writes in legible cursive writing. His copying skills are age appropriate.”). Perceptual difficulties, especially with auditory perception, seemed to be an area of difficulty with an impact on other areas such as spelling (“auditory discrimination deficits result in spelling errors.”). While difficulties with reading were not too significant (“made few errors in reading. . .able to self correct the same and made meaning out of what he read. . .obtained an age equivalent score), both writing (“his writing reveals immature for age writing style. Lack of ideation, spelling, punctuation and grammar deficits were observed.”) and calculations (“unable to do addition and subtraction of fractions”; “difficulty in arriving at required operations reflecting poor logical reasoning skills.”) seemed to be areas of significant difficulty.

Implications for career assessment. In contrast to S. J.’s profile, G. K.’s profile indicates no difficulties with attention. It is likely that his performance on standardized tests will not be affected by the timed nature of the task. Based on the absence of difficulty in psychomotor area, performance based activities or tests are also suitable. Auditory perception emerges as an area of significant difficulty for G. K. Hence, orally read out tests may not be suitable for him. While reading does not seem to be an area of major challenge, the writing score of 4 indicates that tests that require him to given written responses may be unsuitable for him. In summary, G. K. is likely to perform better on tests that are pictorial or performance based as compared to tests that depend entirely on listening comprehension or written responses.

Case Study 3
Description of the Learning Skills Profile. T. B.’s Learning Skills Profile does not show significant difficulties in any of the six areas. While the interview with parents pointed out minor difficulties with attention (“can’t concentrate on anything for a long time”) and writing (“makes mistakes with spelling...silly mistakes”), further probing revealed that these difficulties were not cause for concern.

Implications for career assessment. T. B.’s Learning Skills Profile does not show significant difficulties in any of the six areas and hence standard administration procedures of career tests can be used with him.
Assumptions and Constraints
The method described above rests on the argument that a substrate of data pertaining to the individual’s learning skills needs to be first generated in order to construct an approach to career assessment that is relevant to the individual with dyslexia. Critical to the success of this approach is the reliability and validity of the Learning Skills Profile. Some of the points that a career counselor can keep in mind when building a Learning Skills Profile are:

- **Reliability of the sources of information**: The counselor must be aware of how reliable the sources of information are. For example, if misdiagnosis of dyslexia is a concern, then ascertain the credentials of the institute/expert that issued the report.

- **Using multiple sources**: Obtaining data from multiple sources helps to cross check facts and get a more holistic perspective of the child’s strengths and limitations.

- **Conducting follow-ups**: A child’s Learning Skills Profile may undergo changes with discuss implications of these changes on career planning is important.

Conclusion
A watchword that guides psychometric assessment is the standardized administration of tests and interpretation of results. However, in the case of individuals with dyslexia or those with similar difficulties, the career counsellor must be aware that this client group is not served well through normative testing. Indeed, the entire purpose of career counselling would be defeated if the assessment procedure does not identify and accommodate the individual’s difficulties. This paper makes the following two recommendations. Firstly, assessment of individuals with dyslexia could take a non-normative approach interpreting findings based on the individual’s intrapersonal features, rather than on a comparison with a normative sample. Secondly, provision is made for the administration of a pre-assessment device that would inform the assessor of assessment methods that would tap the assets rather than the weaknesses of the assessee.

*The case studies represent close approximation to real client scenarios. Pseudo names are used in place to actual names.

References


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**APPENDIX:** Table 1--Extent of difficulty experienced by the three Grade 10 students in areas of ICF-CY of interest to developing a Learning Skills Profile

<table>
<thead>
<tr>
<th>ICF-CY Area of Potential Impairment</th>
<th>Students with diagnosis of dyslexia</th>
<th>Students with no history of a learning difficulty</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Case Study 1 (S. J.)</td>
<td>Case Study 2 (G. K.)</td>
</tr>
<tr>
<td>Attention</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Psychomotor</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Perceptual</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Calculations</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Reading</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Writing</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

**Note.** A higher score means greater difficulty.

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Gideon Arulmani, PhD, is the Founder and Managing Trustee of The Promise Foundation. He earned the M.Phil in Medical and Social Psychology at the National Institute for Mental Health and Neuro Sciences (India) and the PhD in Career Psychology at the University of Portsmouth (UK). He is well known for his book: Career Counselling - A Handbook, McGraw Hill (2004). He is the lead editor of the Handbook of Career Development: International Perspectives (2015). He is a consultant to the World Bank, UNICEF, the International Labor Organization the Asian Development Bank, for whom he has executed assignments on guidance and counselling in Sub Saharan Africa and South Asia. He the Vice President of International Association for Educational and Vocational Guidance, and an Honorary Research Fellow, University of Portsmouth, UK. He is an International Fellow of the National Institute for Careers Education and Counselling, UK and Visiting Senior Lecturer at the University of Canterbury Christ Church, UK. He is the president of the Indian Association for Career and Livelihood Planning.
Chapter 17

ADDRESSING NEURODIVERSE EMPLOYMENT NEEDS: Working with Autism Spectrum Disorder I, NVLD, ADHD, Learning and Mood Disordered Clients, by Jan Johnston-Tyler and Yvette Analla

Abstract
Clients with challenges such as autism, NVLD, ADHD, learning and mood disorders often require skills remediation to enter the workplace, yet few specialized programs exist to help these individuals, and little professional training is available to career professionals to work with these clients; thus, up to 80 per cent of clients cannot maintain employment (BLS, 2015). This article describes a program specifically developed to prepare these neurodiverse clients with the skills they need to acquire and retain employment.

The term neurodiverse was coined in the late 1990s (Silberman, 2013), and while not a clinically-accepted definition, the term has come to generally mean those individuals with mild autism (ASD I), non-verbal learning disability (NVLD), attention deficit and hyperactivity disorders (ADHD), learning differences, mood disorders, and other non-cognitively impairing challenges. These different challenges overlap in the barriers they create to employment, and are also alike in that they appear to be based on demonstrable, neurological differences in the individuals’ brains, compared to typical, or neurotypical, individuals. In the common parlance, neurodiverse people are ‘wired’ differently.

Throughout secondary and post-secondary school, neurodiverse students and their families are often singularly focused on managing the academic rigors of formal education, leaving soft skills, such as communication, self-advocacy and executive functioning, inadequately remediated (Dipeolu, Storlie, & Johnson, 2014). Thus, while these students may be very well-educated academically, they are often wholly unprepared for competitive work by the time they finish their education.

The lack of these soft skills can also impact the educational experience. For example, ASD high school and college students frequently report having difficulty working as part of group, as they have been given inadequate tools to navigate this social environment (Adreon, 2007). Without the ability to understand boundaries, to self-regulate, or recognize social cues, these students are often ignored, excluded and bullied in both secondary and post-secondary settings (AERA, 2013). These same areas of concern may continue to hinder the individual in the workplace, as barriers to success for these clients can be nuanced and are often not clearly distinguishable as legitimate disabilities. Instead, teachers, managers, peers, and the general public may errone-
ously believe that the impacted individual is rude, lazy, or inept, when instead challenges are due to absent or underdeveloped soft skills.

While there are clearly many differences between a client who has mild autism and one who has a mood disorder, there are also a great number of similarities and overlap in need, especially when comparing their barriers to employment. These may include deficits in social communication (inability to read non-verbal language, inability to understand non-literal language, and inability to understand typical social boundaries); executive functioning (difficulty organizing thoughts and tasks in sequence, difficulty in managing physical space, or poor time management); emotional regulation (difficulty with disruption or change, difficulty with changing priorities, or difficulty in handling criticism); impulsivity (poor filters and tendency to blurt out whatever is on one’s mind and tendency to ‘overrun’ others in meetings); attention (difficulty with maintaining focus, easily distracted by environment, or difficulty shifting focus from one task to another); and sensory regulation (over-reactive to bright lights, loud or pervasive sounds, strong odors, or heat or cold).

Additionally, neurodiverse clients may also have diagnosed comorbid anxiety and depression above and beyond their primary diagnoses by the time they reach majority (Nadeau, Sulkowski, Ung, et al. 2011; Turgay, Ansari, Schwartz, et al. 2005). Indeed, these secondary diagnoses may become the primary barrier to their vocational success as these individuals are keenly of their challenges and the impact their disability has on them in the neurotypical world (Vickerstaff, Heriot, Wong Lopes, & Dossetor, 2007).

**The Workplace Adaptability Program**

In April 2013, EvoLibri launched its Workplace Adaptability Program, comprising a series of instructional modules to develop these soft skills known to be challenging for neurodiverse workers in competitive employment. EvoLibri is a fee-for-service agency in the San Francisco Bay Area, providing transition, therapeutic, and social services to neurodiverse clients and their families.

The curriculum was developed in response to the observed and articulated needs of neurodiverse clients seen at EvoLibri over a period of eight years, and gleaned from feedback from their employers. The material is delivered in a group, leader-led format, and contains paper and pencil, group, and interactive and individual activities. Tone of the content is respectful, accessible, and contains appropriate humor to engage the clients. The content of the curriculum is based on best practices for remediating impacted soft skill sets in neurodiverse clients, which is the primary population EvoLibri serves.

The program, which has run continuously for over two and a half years, contains thirteen modules plus an interviewing clinic, and teaches such skills as personal boundaries, self-advocacy, oversharing, focus and attention, and handling sensory issues. By teaching clients these skills as part of their career development process, they attain a higher chance of success in both attaining, and maintaining, employment over time.
Group Composition
This program is available to both California Department of Rehabilitation clients and private pay clients ages 18 and up, who have one or more challenges that fall in the category of neurodiversity. Participants are screened for goodness of fit, based on whether there is enough need to warrant attendance in the class, and whether the client will be able to fully participate in all aspects of the program.

For this paper, we tracked data on 17 participants who successfully completed the program by completing at least 9 of the 13 modules, and 10 who were participating at the data collection. It should be mentioned that while 15 of the participants have ASD I as their primary diagnosis, one had a diagnosis of NVLD, and one with a previous diagnosis of PDD-NOS (which would now be considered ASD 1). Of the participants with ASD I, one had an additional diagnosis of Major Depressive Disorder, and another had Tourette’s Syndrome. Fourteen participants additionally endorsed clinically-significant levels of anxiety, depression, or both.

Pre and Post Assessment
As part of the intake, clients are asked to take an online assessment to help identify areas of concern. The questions correspond to the same skill groupings or domains as the curriculum, and the assessment is weighted for severity of impact based on the number of questions the participant answers in a non-neurotypical way. The assessment helps to determine whether the program is a good fit: if the client has only a few mild challenges, these might be more effectively handled with 1:1 coaching, in terms of cost and time. If the client has significant challenges across all domains, it might be determined that they are not a good fit as their behaviors may be disruptive to the rest of the class. Clients who are not a good fit may be referred back to the Department of Rehabilitation, or may be offered 1:1 behavioral work before entry into the program, which EvoLibri also provides.

The pre-assessment also indicates if there are specific areas that might need additional remediation. For example, a client may score well in most domains, but might indicate particular difficulty with anxiety and emotional regulation. This indicates that additional 1:1 coaching in these areas to the client’s pre-employment development plan should be added. After the client has completed the program, the client is asked to retake the assessment to both assess for progress, and to gather data on areas for future improvement of the curriculum.

Group Logistics
The Workplace Adaptability Program is run four days a month, with one day dedicated to interviewing skills to give this difficult skill more coverage. The program is an open group, in that clients can start any time, and can miss and make up sessions as needed. The program is run in leader-led format, typically with two leaders each session. Attendance has been as few as three at the beginning of the program, and up to 13 in its second year, with an average attendance of eight clients. Program participants are given handouts each session, which they are to store in a folder we have supplied for future reference and 1:1 coaching.
How the Program Fits Into Career & Job Development

Typically, career or job specialists continue to work with participants on their career plans and job development while they are attending the Workplace Adaptability Program. This allows the job developer to discuss how the participant is doing in the program, and to continue the work of job development. Additionally, several Department of Rehabilitation Counselors have had the foresight to authorize their clients’ participation in the Workplace Adaptability Program while the client is attending a post-secondary program, believing that it will increase their chances of being successful in school as well as giving them a better chance at acquiring and retaining employment upon graduation.

Program Efficacy

As this is a new program, there is little data on program efficacy. What has been collected falls into these categories of employment statistics (how many graduates have attained and retained employment); self-reported improvement (how the graduates themselves felt about their skills post-graduation); and, anecdotal reports (unsolicited information we have received from clients, parents, employers, and other career specialists).

Employment Statistics

At the time of data collection, 13 of the 17 participants who completed the workshop were employed, and for seven of those employees, it was their first competitive job. Of these clients, 13 were still employed (three for 3+ months, seven for 12+ months, three for 18+ months). Of the four remaining, two were still in school, and two were actively seeking employment. None of the participants had been terminated. Six participants were placed in high-tech, salaried jobs (data analysis, QA, and technical writing); one was placed as a pharmacy technician at a large chain pharmacy; one was placed as a medical assistant; and one was placed as a teaching aide in an adult day program. The remaining six participants were placed in retail customer service positions.

Self-Reported Improvement

Graduates of the program were encouraged to retake the assessment after completing the course, so that we could gather data on how effective they felt the program was, and the results are mixed: of the eight participants who took the post-assessment, four reported improvement (0.88 per cent, 6.14 per cent, 13.6 per cent, and 43.89 per cent, for a mean of 16.12 per cent improvement), and four felt that they were worse off (-9.16 per cent, -9.25 per cent, -14.29 per cent, -31.89 per cent, for a mean of 16.14 per cent).

The two clients with the highest improvement (13.6 per cent and 43.89 per cent) were both employed for approximately three months before they took the post-assessment, and all of the four clients who reported that they were worse off were unemployed at the time of taking the post-assessment, two of whom were struggling with severe depression. Therefore, it appears that at this time the data gathered is somewhat inconclusive. The first challenge is insufficient data, as only a third of the participants completed the post-assessment, and the cohort overall was quite small. Secondly, it is unclear whether post-assessment results were tainted by the pre-assessment protocol. There is also concern that participants may be comparing their skills and improvement relative to the others in the group. Given that these individuals often have difficulty reading oth-
ers’ behaviors, it is possible that they believe that their performance is inferior compared to their peers in the group, and rate it thusly. Finally, this population is particularly vulnerable to bias based in part due to long-standing challenges with the skills being remediated, and their own bias that these deficits are so ingrained as to be permanent, even if their behaviors demonstrate otherwise. In short, it is unclear if self-reporting via the post-assessment will ever result in wholly accurate data regarding improvement, but we will continue efforts to gather data in this fashion.

Anecdotal Data

Besides the scant quantitative data collected, there is anecdotal information and reports on the program from parents, Department of Rehabilitation counselors, and the participants themselves that we can use to demonstrate some level of efficacy. First and foremost is attendance. Once starting the program, at least 80 per cent of the participants show up every week and actively participate in the class. Note that they are not compelled to attend, the majority of the participants do not pay for this class, and the only benefit to them is self-improvement. This is a strong indicator that the participants find it beneficial.

Career professionals also believe it is of value for their clients, as demonstrated by the growth of the program over time with new referrals from several Department of Rehabilitation offices throughout the San Francisco Bay Area. Perhaps the most accurate picture of whether the program is effective is from unsolicited feedback from clients and their parents over time, indicating not only that the clients have learned the skills but they have retained them over time. As one parent shared with us: “With new social skills, less anxiety and much greater confidence and understanding, [our son] had a very successful interview and is now excited to finally have a real paying JOB” (Anonymous, personal communication, August 29, 2014).

Our agency has also witnessed generalized improvement in these clients over time. One of our job coaches reported how a client used her new emotional regulation skills to keep herself calm on her new job. Another client was able to appropriately use humor to disclose his disability to his manager, as reported to his job developer. Another client, whose barrier was poor personal hygiene, made an about-face after coaching and vigorously showers (with soap) every day before work, and no longer wears dirty clothes to work.

Future Work

Because the Workplace Adaptability Program is new, the data collected from the initial cohort is limited. Our goal is to continue to collect both data from the collection tool as well as anecdotal data and reported needs as communicated by clients, employers, peer career development professionals and rehabilitation counselors, and to use this data to continually refine the curriculum for best outcomes. We are currently at work to develop the course materials for other professionals to use, and to begin offering ‘train-the-trainer’ classes. We also believe that offering a corollary management training material to help employers and managers understand the specific challenges these workers face, and how best to accommodate them in the workplace is appropriate and much needed. As the program evolves, EvoLibri’s goal is foster true independence for this population, whose members are eager and willing to work in competitive employment.
Conclusions
With a current unemployment rate of 80 per cent of those with a documented disability, it is clear that additional work-readiness programs are needed to help these individuals find financial and personal independence as contributors to our society. Rather than focus on a specific disability such as autism, we have found that focusing on remediating the composite soft skills many neurodiverse clients struggle with has proven effective in programmatically helping many clients meet their career goals. We hope to continue this work in collaboration with the California Department of Rehabilitation, and with joint employment efforts with local, national, and multinational companies and organizations.

References


Acknowledgement
The primary author wishes to thank Yvette Analla for her help in data collection, and to thank the editors of this special edition for their help in manuscript preparation. The authors also wish to call attention to the use of the phrasing *autistic clients* rather than the accepted APA, client-first standard of *clients with autism*. This is done purposefully, as it is the attribution which advocates in the autistic community wish to be used.

About the Authors

Jan Johnston-Tyler, MA, is Founder and Principal at EvoLibri Consulting; Santa Clara, California. She founded EvoLibri Consulting in 2007 to provide customized transition services for neurodiverse teens and adults – those with high-functioning autism, learning differences, AD/HD, mood and thought disorders, and other pervasive challenges. Since its inception, EvoLibri has grown to provide therapy, career counseling and job development, social services, behavior intervention, occupational therapy, independent living skills training, and social events. She authored two books: *The Mom's Guide to Asperger’s Syndrome* (2007) and *The CEO of Self: An Executive Functioning Workbook* (2014).

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APPENDIX

TRANSITIONAL OCCUPATIONAL THERAPY SERVICES for YOUTH with NEUROLOGIC and DEVELOPMENTAL DISABILITIES by Windy Chou and Minerva Duong

Occupational therapists aim to improve client factors and skills that will enable re-engagement or new engagement in valued activities. Valued activities can include work, and community integration, which is one of the instrumental activities of daily living. Typically developing youth and young adults have many life skills to learn to prepare them for post-secondary schooling or independent living, such as money and health management, that are addressed by their families, within the school system, or through career development professionals. However, youth with disabilities such as Autism Spectrum Disorder (ASD) or Down Syndrome (DS) require additional help from therapists to learn such skills due to 1) altered abilities to learn and 2) uncertainty of their caregivers on the available options for their loved ones. Most often, parents of youth with disabilities are living day to day or have been accustomed to a level of functioning for the school environment that they might not have a clear picture of what independent living or independent work is like for their children once they are of age. This article seeks to clarify this picture for both families and career specialists that are helping such youth and young adults transition into more independent roles within the context of work and community integration. It will seek to introduce occupational therapy, common diagnoses, legislation and the relation of all to work and independent living for this population. Our perspectives on learning this information through our coursework as graduate students in the San Jose State University Occupational Therapy program will also be provided.

Occupational Therapy Student Coursework Experience
As students of San Jose State University’s Department of Occupational Therapy Master’s program, we were taught over several classes different topics and common diagnoses affecting transitioning youth with neurologic and developmental disabilities. Our Occupational Therapy with Youth coursework covered topics involving populations from adolescence to age 25. Before taking this course, we were not very familiar with transition services, and the options and resources affecting those services. Neither of us had any personal experiences working with such a population. In this program we learned about school-based occupational therapy as well as how to work with youth with neurologic and developmental disabilities. The curriculum included topics such as the legislation, diagnoses, occupational therapy interventions, transitional services, and other aspects of this particular population. This information is necessary in order to become a well-rounded occupational therapist. For example, we did not understand that there was legislation in place mandating school involvement in the transition planning for youth in high school. We were
also unaware of the various levels of independent living options available to young adults with disabilities. There is also a stereotype and unfortunate trend that pediatric occupational therapy is intended to primarily service early intervention or school-aged children, even though we are equipped with skills that can aid youth and adolescents as well. Understandably so, there is a need for more occupational therapists to be involved in such a critical period of development. Therapists most often look to provide resources or work for youth that is located within the community including career professionals that can continue to work with clients or reinforce gains they may have made in therapy. Presented below is information that will help career development professionals when working with clients who have access to occupational therapy services through the schools.

**Common Diagnoses and Occupational Therapy Involvement During Transition**

Occupational therapists encounter a variety of diagnoses when working with clients who are in transition. Some of the more common neurologic or developmental diagnoses leading to developmental delays requiring occupational therapy intervention include: autism spectrum disorder (ASD), spina bifida, intellectual disability disorder (ID), attention deficit and attention deficit hyperactivity disorder (ADD and ADHD), Down syndrome (DS), other developmental or learning disabilities and disorders (i.e. dyslexia), and traumatic brain injuries. Typically, persons with such diagnoses experience difficulties before they reach high school due to a variety of problems such as poor executive functioning, inability to read social cues, difficulties in accessibility; all of these can impact their ability to interact with others in an appropriate manner, master basic school subjects, and learn life skills needed to live independently (e.g. self-care, transportation, bill management). However, during youth and young adulthood, cultural values, social expectations, and public policy create demands to seek further education or training in order to contribute to society and decrease burden of care; the end goal is for these individuals to be as independent and self-sufficient as possible. Some strategies and roles of occupational therapists in transition services are outlined in the American Occupational Therapy Association (AOTA, 2013) fact sheet Students With Disabilities in Postsecondary Education Settings: How Occupational Therapy Can Help. These include aiding in exploring postsecondary programs and accommodations, coaching students and families in roles, habits and routines leading to successful education and work experiences, and providing adaptive equipment or assistive technology. Other life areas serviced, including the evaluation and intervention process, are delineated in the practice framework created by the American Occupational Therapy Association, the Occupational Therapy Practice Framework: Domain & Process (AOTA, 2014), commonly referred to as the OTPF-3.

**Legislation Affecting Transition Services**

A brief introduction to relevant legislation affecting youth and young adults in transition is listed below. It is important for career professionals, individuals, and families to understand the rights available to persons with disabilities as they impact resources and supports available to clients and employers. Although legislations are set in place to assist youth and young adults with disabilities, it is necessary to be aware of these laws and regulations in order to advocate for clients when they are not receiving their full rights.
Comprehensive Employment and Training Act
The Comprehensive Employment and Training Act, enacted in 1973, is a federal law that assures employment and training opportunities for people who are unemployed and/or underemployed. This Act compiled a few federal job training programs to train these individuals and provide jobs in the public service industry. More detailed information about the Comprehensive Employment and Training Act, and specifically about youth programs, can be accessed at http://www.gpo.gov/fdsys/pkg/STATUTE-87/pdf/STATUTE-87-Pg839.pdf

Lanterman Act
The Lanterman Act is a California law that gives the right to provide services and support to individuals with developmental disabilities to help them develop the skills they need for a more independent and normal life. The Consumer’s Guide to The Lanterman Act can be accessed at www.dds.ca.gov/ConsumerCorner/docs/LA_Guide.pdf.

IDEA: IEP, ITP
The Individuals with Disabilities Education Act (IDEA) is a federal law that ensures all children with disabilities have access to a free appropriate public education, including special education and other similar services, to meet their needs to prepare them for further education, employment, and independent living. These services can include instruction, related services, community experiences, the development of employment and other post-school adult living objectives, and, when appropriate, acquisition of daily living skills and functional vocational evaluation. Specifically, Part B of IDEA stipulates educational services for children ages 3 to 21. This part focuses on the Individualized Transition Plan (ITP), which is also a part of the Individualized Education Plan (IEP). The IEP outlines the transitional goals and services for each student, while the ITP maps out long-term adult outcomes from the annual goals and objectives. The ITP has three mandatory components: plans for employment, plans for education after high school, and plans for independent living. All those areas must be addressed by school staff.

Rehabilitation Act and Americans with Disabilities Act
Section 504 is a part of the Rehabilitation Act that protects the civil rights of persons with disabilities. This section states that modifications and accommodations need to be provided for these students to be able to perform and participate at the same level as their peers and is not related to how educational content is delivered. This Act also allows direct services to clients to help them become qualified for employment.

The Americans with Disabilities Act (ADA) contains three titles stating that no person with a disability can be prevented from participating in federally funded programs or activities, including elementary, secondary or postsecondary schooling. Also, it states that private employers with 15 or more employees need to provide reasonable accommodations for employees with disabilities. More information can be found on www.ada.gov/.

Many of the required services listed above are conducted in an interdisciplinary or multidisciplinary manner. Required services of the IDEA act require special education services along with “related services.” These related services typically call for the involvement of special educators, physical therapists, school psychologists, speech language pathologists, social workers along
with occupational therapy services with an emphasis on family-centered service. Occupational therapists who have experience working with youth and younger adults are a resource for career development practitioners who plan on working with persons with disabilities.

**Work and Community Integration During Transition**

Work and instrumental activities of daily living (IADLs), as listed in the Occupational Therapy Practice Framework (OTPF-3), are two encompassing occupations that are commonly addressed in occupational therapy evaluation and treatment when working with individuals in transition that have developmental or neurological disabilities. Occupations are defined in the document as meaningful life activities in which individuals, groups or populations engage (AOTA, 2014). Work involves employment interests and pursuits, employment seeking and acquisition, job performance, as well as volunteer exploration and participation. Instrumental activities of daily living are activities (e.g. budgeting) that support life in the home or community which require more complexity than typical activities of daily living (e.g. feeding). These instrumental activities may involve activities in communication management, driving and community mobility, financial management, home establishment and management, and safety and emergency maintenance. Occupational therapists affect occupational performance by treating specific client factors or performance skills and patterns, that will enable re-engagement or new engagement in the aforementioned valued activities (OTPF-3), at times through vocational training and functional life skills training. For therapists working in vocational training, the foundations for this training can begin as early as fourteen years old. Occupational therapists can help clients plan and prepare for post-secondary education, vocational training or community living, depending on client and family goals, as well as results of evaluations through an ITP.

An occupational therapist may be involved as a team member after the student with special needs has undergone a vocational evaluation during high school so that the school can develop a vocational program for the student. Schools can work with local businesses for job shadowing or training during the school day, and occupational therapists can be involved in analyzing tasks and the environment to ensure learning and future success for the student in transition. Therapists evaluate client skills, analyze work tasks, and recommend environmental accommodations or modifications to help the student be successful. For example, if a student has difficulties remembering steps to a certain job task, they may require a visual reminder with pictures to help ensure accuracy of job performance. Occupational therapists also advocate for the client to ensure that there are supports and resources in the workplace. Types of work available to youth with special needs are explained below.

**Future Career Prospects**

Occupational therapists help individuals with disabilities become employed in one of four different kinds of employment: supportive, sheltered, at-will, and competitive. Supportive employment is competitive work in integrated work settings for individuals to work towards competitive work. The individual is supported in mastering job essentials and provided additional structure and supervision to meet the job demands. Sheltered employment provides a sheltered environment for individuals with disabilities by providing consistent support and supervision, such as at sheltered workshops, adult activity centers, work activity centers, and day treatment centers. This is for individuals who, for whatever reason, are not viewed as capable of working in a competi-
tive employment setting. At-will employment allows employees to quit their jobs at any time and employers to fire or lay off employees at any time, for any reason, as long as it does not constitute discrimination. Competitive employment requires the individual to be able to perform the job essentials in a competitive labor market in a full-time or part-time basis, compensated at or above minimum wage. After being hired, reasonable accommodations can be requested. Individuals with disabilities can be hired in any of these forms of employment to support themselves in a more independent and normal lifestyle.

Post-secondary Education and Community Living
A therapist may also be involved through an ITP to help a student plan for post-secondary education, for accommodations and functional living skills required depending on their living situation. Therapists can help with clients to work on anticipating social situations and how to respond and engage in those situations appropriately. Therapists can also evaluate the school or living environment to make sure a student can continue to engage in student life successfully and develop functional living skills (IADLs), such as managing their own health or learning how to cook and clean their living space. Functional living skills are necessary not only for school but also for vocational training when managing money and moving about in the community. More details on AOTA’s Fact Sheet Supporting Community Integration and Participation for Intellectual Disabilities (AOTA, 2013b) can be found specific to individuals with intellectual disability. Living situations are outlined below.

Continuum of Living Situations
In order to address career services, career development practitioners need to be informed on the residential needs of persons with disabilities as this may impact work preparedness, support, and attendance. There are four main living situations for individuals in this population: independent living, supported living services, residential care facilities, and residing with family/relatives. Independent living programs/communities are a great living situation for someone who is more independent and can live in the community safely with minimal help. The individual is responsible for all management of the living space in an independent living situation, so an individual will need to be able to take care of himself as well as the home. Supported living services allow individuals to live in the community, but will still be providing assistance and support in any way he/she needs to be able to live as independently as possible. Residential care facilities are programs that offer housing and support in a home like setting that allows individuals to have access to help at any time. Another option is to live with relatives. Living with relatives gives individual the opportunity to be semi-independent in the community, but still have access to supports if and when necessary.

Referral Process to Occupational Therapy
Since occupational therapy is a healthcare profession, client privacy in regard to the occupational therapy services they receive is protected by the Health Information Portability and Accountability Act (HIPPA) (U.S. Department of Health and Human Services, 2010) or if in the school setting, educational records are protected under the Family Educational Rights and Privacy Act (FERPA). Therefore, career development practitioners cannot obtain information from their client’s occupational therapist directly, but can do so if a client explicitly consents for the practitioner to divulge personally identifiable information to a third party, such as a career professional.
Clients themselves may disclose the goals and home programs that they have been assigned by occupational therapists, which can be incorporated into the goals and consultation services of career professionals. Another way in which a career professional can assist a client with a developmental disability is to recommend or advocate for occupational therapy services if they are not already receiving them. An occupational therapist would best understand the prognoses for each client and be able to obtain necessary equipment and adaptations by obtaining physician prescriptions for such equipment, and speaking with a client’s case manager/special education teachers. If a client requires accommodations or modifications at work, an occupational therapist or a physician will be able to confirm the needs of the clients in compliance with ADA.

A career professional can find occupational therapists to provide services in the following manner and settings: (AOTA, 2014) direct or consultative services for students directly or through consultations, who are enrolled or plan to attend postsecondary education programs part of the transition team for students with IEPs under IDEA part of the hospital or community based team to provide medical rehabilitation services collaborate with community or government agencies (i.e. offices of Vocational Rehabilitation, state and county offices that provide developmental disabilities services). If a client has been discharged from occupational therapy via their IEP or has reached their occupational therapy cap according to their medical insurance, access to community services such as career development professionals will help clients continue improving their work and life skills.

**OT and Career Development Practitioners**

Occupational therapists and career development/job search practitioners can have a great working relationship and partnership. They can work together to help each individual directly and/or work on creating programs to help more individuals of this population at the same time. When working on an individual basis, occupational therapists can provide important information to career development/job search practitioners on individual diagnoses, create goals together, and work towards those goals. Career development/job search practitioners can help find the most suitable jobs for each individual, which is facilitated by more communication between occupational therapists and career development/job search practitioners. Programs can also be created to help many individuals. Career development/job search practitioners can create programs teaching resume writing, coaching/practicing interviews, addressing professional behavior and dress, educating individuals as to how to find a job on their own, in addition to other specific needs. All of this can be done on an individual basis as well. There are many potential ways occupational therapists and career development/job search practitioners can work together to help youth with disabilities as they transition to find jobs/careers for independent living. Preparation for community participation, independent living skills, and potential employment should begin in elementary school.

**References**


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