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Introduction to the Issue

This issue of the Vocational Evaluation & Career Assessment Professionals (VECAP) Journal offers a diverse set of projects aimed at advancing knowledge and practices of vocational evaluation and career assessment. Articles in this issue cover ethics, adolescent brain development, online career assessment, and burnout.

First, the VECAP Standards Committee (Chaired by Lynn Dowd) provides an updated code of ethics. The updates provide critical guidance to VECAP members as they engage in service provision, teaching, mentoring, supervising, and research. Second, Dr. Bridget Green, Cliff Oliech, and Dr. Pam Leconte provide a review article covering adolescent brain development. The Green et al., article, covers relevant and functional information for vocational evaluation and career assessment professionals to consider when working with adolescents. Third, Amanda Hughes provides a helpful review of several online career assessment tools. Amanda's concise and practical analysis makes the information useable by many. Finally, Dr. Shakeerrah Lawrence provides a timely review article aimed at assisting readers to understand burnout in relation to their professional role. Given the stressors of COVID-19, recognizing and preventing burnout is critical and Shakeerrah's article provides a useful introduction to this very important topic. Amanda Hughes and Shakeerrah Lawrence were winners of the 2020 VECAP Student Literary Contest and we are proud to feature their work in this issue.

Thank you for your interest in the VECAP Journal. We hope you find these articles to be enlightening and helpful to your professional work. Please do not hesitate to reach out to me, or any of the authors, if you have questions.

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VECAP Code of Professional Ethics, Revised December 2020

VECAP Standards Committee

Introduction

The Vocational Evaluation & Career Assessment Professionals (VECAP) Standards Committee is excited to announce the release of the revised VECAP Code of Ethics. VECAP's revised Code of Ethics offers guidelines for ethical decision making, captures the ethos of the organization, and provides useful guidance for our members.

In the midst of uncertain times, ethical decision making has never been more in the professional forefront. Ethical behavior is vital to practitioners' success, the lives of the clients we serve, and the continued evolution of a responsible organization. This Code of Ethics emphasizes VECAP's mission, values and principles, and is intended to remind professionals of the standard of conduct they must observe. The goal is for professionals to use VECAP's Code of Ethics as a reference tool, when considering an ethical dilemma and navigating recent trends in vocational evaluation and career assessment. VECAP has always committed itself to making ethics a priority, and challenges all professionals to do the same by using this document as a standard for ethical conduct.

This code has been developed by the VECAP Standards Committee, with support, edits and ideas from members of the VECAP Board of Directors. We welcome your thoughts and comments about the current Code.

On behalf of the Standards Committee, Carly Castora

Keywords

ethics, vocational evaluation, career assessment

Preamble

The Vocational Evaluation and Career Assessment Professionals (VECAP) association is committed to providing ethical standards of practice for professionals who provide vocational evaluation and assessment and related career services. We subscribe to the following guiding ethical principle (Kitchener, 1984):

1. **Respect for Dignity, Rights and Autonomy:**Professionals respect the dignity and worth of all people and the rights to privacy, confidentiality and autonomous decision-making.
2. **Beneficence:**Professionals strive to engage in actions that are beneficial and contribute to the welfare of others. They help others, meeting them where they are, to promote career decision-making and realization of personal goals.
3. **Nonmaleficence:**Professionals have an obligation to do no harm, refrain from and protect clients from harm, avoiding and/or removing conditions that could be harmful to a person's liberty, personal and psychological well-being.
4. **Justice:**Professionals promote fairness and justice in the access to and benefit from assessment services. Professionals are committed to the fair and equitable treatment of all clients in the quality, process, procedures and services conducted. Professionals shall exercise reasonable judgment and take precautions to ensure their potential biases, boundaries of professional competence and limitations of their expertise do not lead to or condone unjust practices.
5. **Fidelity and Responsibility:**Professionals strive to be loyal and honor promises or commitments made and expectations that were legitimately engendered. Professionals VECAP Vocational Evaluation and Career Assessment Professionals uphold professional standards of conduct, clarify their professional roles and obligations, accept appropriate responsibility for their behavior and seek to manage conflicts of interest that lead to exploitation or harm.
6. **Veracity:**Professionals have an ethical duty to act honestly without deception and communicate with candor, as a means to establish and maintain trust, strengthen relationships and promote autonomy.

Professional Responsibility

Professionals have a responsibility to follow the Code of Ethics for the profession. They shall practice within the boundaries of their personal and professional competence based on education, training, experience and credentials. Professionals' primary responsibility is to the individual served. In addition, they shall be continuously aware of the dynamic relationship between their responsibilities to the individuals served, to the profession, to the referral source and to their employer. Professionals shall encourage and expect ethical and competent behavior from colleagues and shall attempt to put right behavior which is contradictory. They are obligated to the organization where employed and shall utilize this Code of Ethics to influence their the day to-day activities.

Relationship with the Person Served

Professionals shall uphold proper boundaries and respect the dignity and integrity of the individual served as a unique person, with unique strengths, needs and skills. They shall inform the individual served and the individual's agent, if appropriate, about the purpose of any professional service being contemplated. Information generated during the administration of such services shall only be communicated to those with an essential need to know as part of the evaluation or assessment process. Professionals will avoid developing dual relationships with the individual served, their family members and advocates. They should not condone or participate in any form of harassment with any party, including sexual harassment.

Confidentiality, Communication and Privacy

Professionals shall keep information about the individual being served and their appointments confidential, safeguarding all information and materials obtained during the evaluation or assessment process. In the case of suspected child, elderly or vulnerable adult abuse, professionals must disclose relevant information to the proper authorities. They must also report to authorities the intention or the action of harm to self or others. Professionals are responsible to understand the regulations for timely and accurate reporting held by the state or district in which they practice.

Professionals shall obtain written informed consent from the individual being served both to gather information relevant to the delivery of services or to share privileged information with anyone other than the referral source. The relationship of the professional and the individual being served will remain private except when there is a court order to release confidential or privileged information without the individual's permission.

Relationships with Other Professionals

The association acknowledges that interdisciplinary effort is essential to successful outcomes for clients. Professionals shall be cognizant of relationships with other personnel involved in the evaluation and assessment process and shall be aware that the welfare of individuals receiving services depends on the capacity of all personnel to integrate their expertise and efforts. They shall respect the roles of professionals and staff in other disciplines and act with integrity and collaboration in their relationships with colleagues, organizations, agencies, referral sources, and related disciplines. Professionals shall assist others in understanding their roles and shall avoid practicing in areas that are not within their specialized competencies.

Evaluation, Assessment, Interpretation

When providing services, professionals working in collaboration with a client will create a plan to answer the stated referral questions. The input of the individual served will be used and respected during the planning process and throughout the evaluation or assessment. Professionals shall conduct a thorough interview with the individual being served and consider all relevant background information with regard to education, work history, disability, and relevant social and personal history. They shall include detailed information on the functional aspects of the individual's disability and their impact on employment. Professionals shall choose assessment instruments, techniques and methods based on reliability, validity and evidenced-based practice. Professionals shall note cultural bias in questions and materials and interpret assessment instruments accordingly. When appropriate, they will provide modifications or accommodations, including the use of assistive technology in the assessment process. They shall consistently and accurately report any violation of normative practice and resultant impact on interpretation. Appropriate work-based techniques including work samples, simulated work tasks, and community-based assessment should be integrated in the process. A multidisciplinary perspective from others knowing the person served should be gathered. A clearly written, well organized report shall be prepared for the individual served and shared with the referral source in a timely manner. The client's voice or uniqueness should be evident in the report. The report always synthesizes assessment data, answers referral questions and accurately addresses the individual's functional aspects of their disability when making employment or training and educational recommendations. Recommendations shall be supported by evaluation and assessment findings or rationale. Alternate recommendations, including suggested referrals for other needed evaluations are provided when appropriate.

Advocacy

Professionals shall actively pursue social justice and engage in the removal of institutional and cultural barriers for people with disabilities and/or disadvantages. The association as a whole and its

individual members work to provide social action on a societal level by educating others on legislation or public policy.

Professionals shall advocate for the individual being served, empower and promote a sense of self-efficacy to address their personal concerns at the present time and improve their ability to resolve similar problems in the future, gaining or retaining as much power and control over their own lives as possible.

Accessibility

Professionals facilitate the provision of necessary, appropriate, and reasonable accommodations in accordance with the law, including physically and programmatically accessible facilities, services, and technology to address the barriers encountered by individuals with disabilities. Assistive technology, Universal Design, and Universal Design for Learning are incorporated in the evaluation or assessment process to reduce barriers and optimize outcomes for the individual being served.

Technology and Distance Services

The association supports the provision of virtual services when needed to protect the health and safety of the client; due to distance or travel concerns; when in-person services are not practical; or by agreement with the client and referral source. Delivery of virtual services should be completed only through a means that is HIPAA compliant to protect confidentiality. Professionals should follow the guidelines of their referral source or state, as well as assessment material providers' tele-health guidelines when delivering services virtually.

Business Practices

Professionals aspire to open, honest, and accurate business practices. They uphold professional standards of conduct, demonstrate professional competence and utilize best business practices gained through education and experience. Professionals facilitate access to services in a nondiscriminatory manner, understanding and using culturally sensitive and competent business practices.

Forensic and Indirect Services

When providing forensic services, professionals shall produce objective findings that can be substantiated based on the information obtained, utilizing methods and techniques appropriate to the forensic evaluation. Professionals shall define the scope and limits of their reports, opinions, and testimony, especially when an in-person examination of the individual has not been conducted. Also, professionals shall use and seek guidance from sources, such as applicable laws, rules, regulations, policies, standards of practice, and professional Code of Ethics from this and other credentialing bodies or licensing boards.

Diversity and Inclusion

The Vocational Evaluation and Career Assessment Professionals association is dedicated to fostering diversity and inclusion as fundamental values of the association. The association promotes nondiscrimination based on race, color, class, gender, gender identity or expression, sexual orientation, ethnicity, national origin, immigration status, age, religion, disability, genetics, and veteran status, as well as for groups or individuals disenfranchised by social and economic challenges. The association opposes inequities in all forms and in all systems and support initiatives providing full access to employment, community engagement, and other opportunities. The association respects human dignity; recognizing and valuing the uniqueness of each individual and their contributions to

the community. The association applies these same values beyond our professional practice to our membership and our community at large and expects professionals to conduct themselves ethically in accordance with these values.

Teaching, Mentoring, Supervising and Training

The association encourages experienced professionals to assist and mentor students and vocational evaluators entering the profession by guiding and developing a thorough understanding of the ethics, responsibilities, and needed competencies of their chosen profession and area of practice. Professionals shall clearly define and maintain ethical and professional relationship boundaries with their students, mentees and supervisees. Professionals who supervise individuals will provide appropriate working conditions, fair evaluation of performance, consultation and feedback, and opportunities for in-depth experience and training. Professionals shall assist students, mentees and supervisees in gaining knowledge, personal awareness, sensitivity, and skills necessary for becoming culturally competent professionals.

Professional Learning, Research and Publication

Professionals are committed to strengthening their specialized competencies through continuous learning, skills development and application of new knowledge. Professionals contribute to the body of knowledge, the evolution of the profession and the growth of other professionals through information sharing, teaching, research and dissemination of knowledge. They engage in or support research and publication activities that will benefit service delivery, and promote the quality of life for individuals whom they serve.

Resolving Ethical Concerns

Professionals are to be cognizant of the potential for ethical concerns as they arise in the delivery of services. Knowledge of the guiding ethical principles in the Preamble of this document will help inform decisions. The following steps should be implemented when Professionals suspect an ethical concern.

Steps to Resolving Ethical Concerns (Corey, Corey, Corey, & Callanan, 2019).

- Identify the problem or dilemma
- Identify the potential issues involved
- Review the relevant ethics codes
- Know the applicable laws and regulations
- Obtain consultation
- Consider possible and probable courses of action
- Enumerate the consequences of the action
- Choose what appears to be the best course of action.

References

Corey, G., Corey, M. S., Corey, C., & Callanan, P. (2019). *Issues and ethics in the helping professions* (10th ed.). Belmont, CA: Cengage Learning, Inc.

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The Adolescent Brain: Implications for Vocational Evaluation and Assessment

Bridget Green, Cliff Oliech, and Pamela J. Leconte

Abstract

Adolescence is a pivotal time in life. During this period, individuals' brains are experiencing a second sensitive, highly developmental, period due to intense neurological rewiring. Neuroscience has provided insight about barriers that adolescents may experience during this period relating to emotional control, decision making skills, and behavior regulation. Vocational evaluators will benefit from understanding basic neuroscience to answer the "why" behind certain behaviors observed during the assessment process. The purpose of this article is to outline the implications of adolescent neuroscience for vocational evaluators to inform their practices and assist their promotion of appropriate learning pathways for adolescents, including those with disabilities.

Keywords

adolescent brain, disability, vocational evaluation

Introduction

"The word 'adolescence' originates from the Proto-Indo-European roots 'ad' meaning 'to, toward' and 'al' meaning 'nourish, ripen.' From Latin, *al à alere* (to nourish) à *alescere* (inchoate form indicating 'in the process of becoming'). Therefore, from an etymologic perspective 'adolescence' means 'in the process of becoming ripe.'" (Giedd, 2015a, p. 158).

Adolescence is a pivotal period for individuals to understand who they are and how they can relate to the world. It is a time between childhood and adulthood when individuals learn about themselves, develop skills, and identify as members of the community (Giedd, 2015a; Kanwal et al., 2016). Adolescents experience intense reconstruction within their brains. The brain begins its second sensitive period around puberty, which is referred to in research as the adolescence period (Armstrong, 2016; Giedd, 2004; Giedd, 2015a; Meltzer, 2007; Wiebe & Karbach, 2017), and it does not stop refining connections and developing until approximately the age of 25 (Geidd, 2015a; Jensen & Nutt, 2015; Meltzer, 2007). Throughout this brain development period, teenagers' and young adults' actions and decisions are driven by hormones that release a reward-like feeling after they participate in risks (Banich et al., 2013; Giedd, 2012; Jensen & Nutt, 2015). This is but one example of the changes their brains are making. These changes present challenging times for many teens, their

families, educators, and others, such as vocational evaluators and career assessment and development personnel. The purpose of this article is to review aspects of adolescent brain development as it relates to learning and behaviors in order to enhance vocational evaluator practices. The article begins with basic but essential information about adolescents' developing brains. Following brief information about specific aspects of brain development, implications for vocational evaluation are discussed.

Personnel who work in career and vocational assessment, as part of career development, will benefit from learning foundational knowledge needed to effectively assess adolescents' behaviors. Many career assessment professionals and vocational evaluators have not had education regarding current research about adolescent neuroscience or how to interpret adolescent behaviors in relation to cognitive development. Vocational evaluators work with adolescents in education, rehabilitation, and other settings. Since the passage of the Individuals with Disabilities Education Improvement Act (IDEIA) of 2004 (reauthorization of earlier versions), special educators and transition specialists have tried to provide or have sought assistance from assessment specialists to plan services for students in special education. Due to the requirements under the Workforce Innovation and Opportunities Act (WIOA) of 2014 to provide services to transitioning students and young adults with disabilities, rehabilitation counselors, vocational evaluators, and other providers are serving more teenagers and young adults than in the past (Fabian et al., 2018). To fulfill these adolescent-related mandates, special educators and rehabilitation personnel need foundational knowledge of adolescent brain development. To assist and collaborate with them, vocational evaluators and career assessment specialists also need a basic understanding of working with teens and young adults whose brains are continuously developing. Without this knowledge, practitioners may misread behaviors or may provide inaccurate information to the teens and their referral sources regarding their vocational futures.

An additional layer of complexity must be considered because special educators, rehabilitation personnel, and vocational evaluators work with adolescents who have disabilities, many with multiple disabilities. Teenagers with attention deficit hyperactivity disorder, behavior disorders, brain injuries, autism, chronic illnesses, cognitive disabilities, substance abuse problems, or other disabilities may display behaviors as well as academic or work performances that could be interpreted as manifestations of their disabilities--or of their developing brains (Kubota et al., 2010). It is up to these professionals to determine which they are observing and how one might affect the other.

The Adolescent Brain

Adolescence is a critical period in one's life, allowing an individual to experience a gradual transition from childhood into adulthood (Kanwal et al., 2016). While some neuroscientists vary on the specific range of ages, the overall consensus is that adolescent brain development ranges from ages 13-25 (Giedd, 2015a; Meltzer, 2007). The brain develops from the back to front (Fuster, 2015; Giedd, 2015a; Steinberg, 2008). During this 10-year plus period, the brain is undergoing intense reconstruction and rewiring (Giedd & Denker, 2015). Adolescent development allows individuals to learn about personal identities, interests, needs, and responsibilities with others and the environment, as well as one's place in various settings (Casey et al., 2005; Steinberg & Icenogle, 2020). For example, during this developmental time, teenagers experience the right to drive, the opportunity to choose and vote for a particular candidate, to select high school and postsecondary courses or pathways, and, if appropriate, to consider and choose job opportunities based on offered benefits. Also, during this developmental period, peers and environments may influence teens' goal setting and decision-making. These influences combined with a propensity for risk-taking can lead to both positive and negative outcomes (Banich et al., 2013; Giedd & Denker, 2015; Jensen & Nutt, 2015).

Research has provided scientists, and, thus, vocational evaluators as well as other education and rehabilitation related personnel, with an initial understanding of the intricacies of the teenage mind

(Armstrong, 2016; Chan et al., 2008; Jensen & Nutt, 2015; Steinberg, 2008). Through this research, one can better understand why certain behaviors during adolescent years are exhibited. There are times when teenage brains may resemble motorcycles with bicycle breaks (Jensen & Nutt, 2015). This means that adolescents can be agile in their thinking, excited in new interests, and emotionally engaged in an activity, but they may have difficulty managing time, prioritizing responsibilities, and staying focused on tasks that provide little interest. The brain's reconstruction influences an adolescent's sense of self during this period (Galván, 2017; Jensen & Nutt, 2015; Steinberg, 2008). Because they are constantly exploring their new identities, individuals in their teenage years to their mid-twenties need opportunities to learn how to respond to environmental triggers in an emotionally appropriate manner. Career exploration, as part of or separate from vocational evaluation, provides such opportunities, which eventually, may lead to career maturity. As observers of both performance and behavior, vocational evaluators document their findings to share with adolescents and those trying to facilitate their transitions into adult settings.

Puberty and Hormones

During the adolescent developmental period, various hormones influence adolescents' actions, interests, and sensation-seeking behaviors. In the early period of brain restructuring, adolescents experience a surge of hormones during puberty. Hormones create physical changes through growth of facial hair, lowering of one's voice, and having acne (Fields, 2015; Sisk, 2015). While hormones cause physical changes in teenagers, they also result in others, which adults may struggle to understand due to the differences between visible and invisible transformations of adolescents. Hormones also exist in new forms and at new levels in teenagers' brains by way of altering levels of testosterone, cortisol, estrogen, and progesterone (Galván, 2017; Sisk, 2015; Viner, 2015). For example, it is estimated that a young male teen may experience increases in testosterone levels up to 30 times during puberty than before (Galván, 2017; Jensen & Nutt, 2015). As a result, this has a dramatic effect on their feelings, attitudes, and behaviors, which evaluators and other professionals observe, often while questioning if these new manifestations are permanent or temporary. Therefore, it is critical to provide teenagers with meaningful opportunities to explore interests and develop new behaviors.

The brain is constantly adapting and reforming connections. During puberty, teens are developing abilities to modulate or manage their behaviors (Banich et al., 2013; Galván, 2017; Joseph, 2017; Viner, 2015). For example, both adults and teenagers experience stress, but adults have experience understanding the feeling of stressors, triggers within the environment, and behaviors that help them alleviate and cope with situational pressures (Steinberg, 2007). Teenagers may have little experience navigating stressors (e.g., social hierarchy, schoolwork) and coping with these interactions, which is why they are more likely than adults to experience physical responses (e.g., stomach aches or headaches) as a result of stress (Gardner & Steinberg, 2005; Jensen & Nutt, 2015).

Understanding the impact on development and cognition across different environments for young people going through puberty, is necessary to provide appropriate services. During this stage, their hormones are connecting closely with a structure of the brain called the limbic system (Galván, 2017; Joseph, 2017). The limbic system is known as the emotional home of the brain (Galván, 2017; Jensen & Nutt, 2015). By understanding the development of the limbic system, vocational evaluators, educators, and family members can recognize and appreciate their emotional responses observed in the classroom, home, or community settings, including when using work samples or participating in situational assessments, job try-outs, or internships. While more research is needed to identify the roles of each hormone throughout puberty and on young teenagers' behaviors, adults working with them are challenged to understand the potential impact social inclusion and emotional responses may have on their performances (Gardner & Steinberg, 2005; Sisk, 2015). To identify which behaviors and performances are temporary or permanent, vocational evaluators and others must assess adolescents with disabilities across a variety of environments and during different developmental stages. Based on

the knowledge that teenagers' brains are in such flux, professionals should provide on-going and diverse assessment opportunities trying to isolate the permanency of certain behaviors. What is accurate or clear-cut today, might not be true in another year.

Socioemotional and Cognitive-Control Networks

Adolescent brains have remarkable abilities to respond to triggers or cues within an environment (Fields, 2015; Giedd, 2015a; Giedd & Denker, 2015). These reactions influence neural networks and are continually adapting beyond high school. During the adolescent period, teenagers are increasing social understanding and awareness, but again, peers may influence actions and decisions (Gardner & Steinberg, 2005; Wiebe & Karbach, 2017). This is a reason why many parents or caretakers worry about with whom and where their teens are socializing. The emotional responses being observed are, in part, due to the developing connections between the limbic system and the prefrontal cortex. The prefrontal cortex is located in the front of the brain and is responsible for planning, making decisions, and implementing complex cognition and behaviors (Fields, 2015; Galván, 2017; Giedd & Denker, 2015; Wiebe & Karbach, 2017).

Giedd (2015a) dissected the *why* behind teenagers' likely engagement in sensation-seeking and risk behaviors, which is more prevalent in adolescence than in childhood or adulthood. He reported that the limbic system, in conjunction with hormones and puberty, traditionally begins wiring with the prefrontal cortex around the ages of 10-12. As teenagers age and become young adults, the prefrontal cortex relies on networks created to implement positive decision-making skills and emotional regulation. Giedd (2015a; 2015b) also noted that these two significant regions play a pivotal role in allowing adolescents to learn about who they are and their social paradigms as they move towards more adult roles (e.g., independent living, career decision making and selection, employment).

Steinberg (2007) described the influence of the limbic system and prefrontal cortex at various times by presenting the developmental period in two overarching networks: the socioemotional network and the cognitive-control network. The socioemotional network is primarily located in the limbic system, again, often referred to as the emotional home of the brain. The socioemotional network relies on the structures within the limbic system (e.g., amygdala, basal ganglia, ventral striatum) to communicate with the prefrontal cortex (Steinberg, 2007; 2008). The amygdala takes an essential role during the initial period adolescent brain development. The amygdala, housed within the limbic system, plays a role in emotions, particularly regarding fear, avoidance, and aggression (Galván, 2017; Joseph, 2017). During early adolescent brain development, connections are heightened within the prefrontal cortex and the amygdala, which can influence emotional responses of teenagers (Giedd & Denker, 2015; Viner, 2015).

Nucleus accumbens, located in the limbic system, are critical to reward behaviors and outcomes (Galván, 2017; Joseph, 2017). For instance, nucleus accumbens activate when one seeks rewards from food, certain behaviors, sex, or mind-altering drugs (Joseph, 2017; Viner, 2015). These structures play a fundamental role in responding to emotional stimuli within the environment. Within this network, the social and emotional cues within a setting or experience can impact how the young person responds (Galván, 2017; Kanwal et al., 2016; Kubota et al., 2018; Steinberg, 2007). An example of this follows. A young man in study hall has to complete a late homework assignment. During this free time, he observes a group of peers discussing possible activities after the Friday football game. The interest toward social events and peer inclusion stimulates the socioemotional network causing the student to leave his homework duty and engage with peers. The response to participate with peers provides the reward and reinforcement for the decision (Gardner & Steinberg, 2005; Kubota et al., 2018). Steinberg (2007) asserted that "the presence of peers increases risk-taking substantially among teenagers, moderately among college-aged individuals, and not at all among adults" (p.57). Yet, more data and research on the influence of social support networks, peers, and interests are needed to

understand adolescents' emotional engagement when making choices, performing, or behaving in authentic environments, such as work settings.

The cognitive-control network is based upon connections within the prefrontal cortex and various regions of the brain (e.g., parietal lobes, anterior cingulate). These connections provide the opportunity for an individual to implement executive skills such as self-regulation, decision making, self-awareness, and planning (Steinberg, 2007; Wiebe & Karbach, 2017). As the adolescent brain is continually developing well into a person's mid-twenties, the cognitive-control network follows the same trajectory (Khurana et al., 2018). As the young person matures, so does the development of the network, allowing individuals to implement developing emotional control throughout decision-making processes, such as trying out work and making decisions about future careers they wish to pursue (Steinberg, 2007).

The Prefrontal Cortex

The prefrontal cortex is located behind the forehead in the front of the frontal lobe and plays an essential role in complex functioning, receiving communication from the cerebral cortex (Chan et al., 2008; Fuster, 2015; Poon, 2018). The prefrontal cortex, the last portion of the brain to develop, is the home of the executive functions, or cognitive skills that are involved in goal-oriented behaviors or actions (Fuster, 2015; Meltzer, 2007). Examples of executive functions are goal setting, working memory, attention, initiation of tasks, problem-solving, and time management (Poon, 2018; Meltzer, 2007). As these skills are developing, it is possible that encouraging adolescents to identify one career interest or goal too early may be unfair due to on-going exploration of their new identities. At best, their career or vocational interests may be fluctuating. However, as they gain more exposure to careers and vocational information, and as their prefrontal cortices continue to form, they may be better able to respond more realistically and concretely to making career choices. This underscores the rationale for ongoing career counseling that includes career exploration, assessment opportunities, and work-based learning (Fabian et al, 2018; Oertle & O'Leary, 2017; Test et al. 2009).

Executive functions, housed within the prefrontal cortex, assist individuals with decision-making, regulation, planning, working memory, emotional control, time management, behavior regulation, and attention (Poon, 2018). These goal-oriented behaviors are important for career development. As adolescents age closer to their mid-twenties and have more experiences refining and reinforcing connections within the prefrontal cortex, it becomes easier for them to evaluate risk while being emotionally charged, managing time, and creating or participating in goal-oriented tasks (Fuster, 2015; Gardner & Steinberg, 2005; Giedd, & Denker, 2015). Adolescents' career aspirations change from fluid to more concrete goals as they age, especially if they have had the opportunity to participate in career exploration, work sampling, community-based vocational assessment (i.e., situational assessment, on-the-job evaluations, job try-outs), or other work-based experiences.

Additionally, executive functions are crucial for successful employment. Adolescents' minds are continually being influenced and wired based on experiences within their environments (Fields, 2015; Jensen & Nutt, 2015; Poon, 2018). Therefore, when environments provide access to job shadowing, internships, and work-based learning and work experiences, their skills and executive functioning improve. The more exploratory experiences we provide adolescents, the better prepared we will be to target interventions that support executive functioning needs within actual work environments. The following sections describe decision making, working memory, and self-regulation as three examples of executive functioning relevant to adolescents' evolution in career exploration, choice-making, and engagement in vocational planning.

Decision making. Decision making is integral to adolescent development, and outcomes of teens' choices and decisions drive their judgment. Researchers have identified factors that play a role in

adolescents' decisions, which include avoidance, motivation (e.g., peer influence), and potential achievement of personal goals (Banich et al., 2013; Kanwal et al., 2016). Yet, sensation-seeking behaviors can make it difficult for executive functioning skills, which allow for the coordination of thoughts and actions, to prevail. As vocational evaluators we must recognize that adolescents may have the skills to choose an appropriate behavior but may still be influenced by peers or emotions. Again, using multiple assessment experiences, techniques, and tools over time as adolescents age will help us isolate which decision-making information is most consistent and typical.

While teenagers are known for their high emotional response to external triggers, they are able to make choices or decisions without risk. Research has found that, when calm, teenagers can make choices and evaluate risks parallel to those of adults (Giedd, 2015a; Steinberg & Icenogle, 2020; Zimmerman et al., 2016). It is key to identify the environmental factors (e.g., peer-avoidance, intrinsic motivation) that may trigger an initial emotional response, which, in turn, can influence the positive or negative decisions an adolescent makes (Poon, 2018; Zimmerman et al., 2016). For example, when asked by a parent, "What are the consequences of speeding at night?", an adolescent may respond by stating a person may lose control of the car, or that causing a crash could harm others. However, when given the opportunity, the same teen may not overcome the desire to test the speed capabilities of a sports car while driving with peers. Novelty of the environment combined with sensation-seeking behaviors may override one's interpretation of risk, and may trump one's executive processing (Poon, 2018; Zimmerman et al., 2016). Thus, it is necessary that teenagers' have opportunities to practice and apply decision-making skills across a variety of environments. These decision-making opportunities also can reinforce working memory.

Working memory. Working memory is an executive function that provides a person with the capability to maintain and manipulate information (Steinberg & Icenogle 2020; Zimmerman et al., 2016). Working memory is vital to learning as a whole, and to developing decision-making skills in a variety of environments (Meltzer, 2007). There are two types of working memory, visual and spatial, which influence how an individual temporarily holds information (Wang et al., 2017). Adolescents' working memories provide opportunities to consider outcomes to a situation and determine which decision to execute by taking in information within the environment and executing a goal-oriented behavior (Jensen & Nutt, 2015; Wiebe & Karbach, 2015). Choosing the best result may be impacted by the psychosocial conditions within the person's environment, again causing one to seek a reward associated with peers (Zimmerman et al., 2016). Further, environmental stimuli may distract adolescents and hinder their ability to hold information to complete a required task. It is common that adolescents can behave differently around peers than they do when they are alone (Steinberg & Icenogle, 2020), which reinforces the importance of self-regulation.

Self-Regulation. Self-regulation is an executive function that evaluators and others can easily observe throughout adolescent development (Dučić, et al., 2018). While adolescents' logical reasoning development can peak around the ages of 14-15, their self-regulation continues to grow throughout the second sensitive period (Casey et al., 2005; Poon, 2018). Self-regulation provides them with abilities to implement coping skills that may lessen the influence of external stimuli within the environment. This can be challenging for some when there are constant sensation-seeking cues swaying decisions and desires. Age and the connections being made in different parts of the brain can impact adolescents' ability to implement executive control and emotional and behavioral self-regulation (Jensen & Nutt, 2015; Steinberg 2007; 2008). Adolescents report that they dislike delaying gratification and prefer immediate rewards over those they could receive later, even if the delayed reward was greater than the reward instantly offered (Banich et al, 2013; Steinberg & Icenogle, 2020). Understanding the reasons for and nuances of decision making, working memory, and self-regulation allows vocational evaluators to gauge adolescents' readiness for career planning, formulating paths to achieving career goals, and eventually working in a satisfying career or employment.

Implications for Vocational Evaluation

Vocational evaluators have always collaborated with other professionals to provide optimal services (Dowd & French, 1991; Fourteenth Institute on Rehabilitation Issues, 1987) and used teachings from different disciplines within their practices (Leconte, 1994; Pruitt, 1986). Lessons from neuroscience simply add another type of collaboration which will inform vocational evaluation practices particularly for adolescents.

Understanding career trends helps vocational evaluators educate all clients about emerging careers. Having detailed knowledge of specific types of jobs assists in matching clients' attributes with work requirements, and using neuroscience can assist in explaining why teenagers may be responding emotionally during different assessment experiences and environments. Because vocational evaluators routinely observe adolescents as they perform tasks and respond to a variety of assessment techniques and instruments, they can identify some concrete aspects of their executive functioning. Specifically, they can describe teens' problem solving, decision making, and planning behaviors as they perform work-based tasks. Remaining aware that they are observing executive functions while identifying patterns of behavior allows them to note which executive functions are dominating. Vocational evaluators can use neuroscience to meet adolescents where they are developmentally and to individualize assessment processes. As noted earlier, depending on their findings, it may be necessary to recommend additional assessment later in a teen's development. The following sections address general implications of neuroscience for vocational evaluation including social and emotional needs, executive functions, decision making, working memory, and self-regulation.

Social and Emotional Needs. When vocational evaluators and career assessment professionals observe certain, adolescent social (e.g., when among peers, a teen laughs while receiving directions for completing a task) and emotional (e.g., a teen displays fear about using a welder's torch to run beads) responses, they need to ask teens privately *why* they are behaving so. Throughout assessment processes, professionals can try to figure out where in the evolution of adolescents' socioemotional and cognitive control networks the adolescents are at the time. If teenagers participate in vocational evaluation which includes work, real or simulated, as the focus, (i.e., career-related internships, job try-outs, actual competitive work experience), they may behave differently than they typically do in school or the community. Evaluators often note that when participating in work-based experiences, adolescents become more serious and focused.

The constant communication between both the socioemotional and cognitive-control networks provides opportunities to observe and assess career-related skills, interests, and abilities. By offering multiple career exploration opportunities and on-going assessment activities throughout the adolescent period, vocational evaluators, transition personnel, and others can assess changing interactions between brain networks observed as behaviors. Specifically, they can note communication interaction with the prefrontal cortex and implementation of behaviors to achieve a goal. Using these opportunities, evaluators and other professionals can determine which interests, preferences, and goals may be permanent as opposed to temporary. Again, evaluators frequently observe that when adolescents participate in work sampling or community-based vocational assessment, their attention and behaviors are more focused and they are intent on performing well, regardless of whether peers are around or not. Using career information systems such as the O*Net that can be integrated into adolescents' transition planning efforts may appeal to their intellectual curiosity, but actually "trying out" the tools, materials, equipment, etc. of different types of work may create more meaningful, lasting, and emotionally-engaging learning experiences.

Executive Functions. As stated above, a major purpose of the prefrontal cortex is to represent and execute "new forms of organized, goal-directed action" (Fuster, 2015, p. 1). Executive functions,

housed in the prefrontal cortex, constantly communicate with various brain lobes or cortices to ensure that a behavior or skill is implemented (Jensen & Nutt, 2015). With such communication between different lobes, a feedback loop occurs, which supports the prefrontal cortex and assists in implementing specific goal-oriented behaviors. For instance, Richards et al. (2015) reported that children with dysgraphia and dyslexia have more functional connections throughout the brain than a control group without disabilities. This meant that individuals with dyslexia and dysgraphia had to work through more connections throughout the brain to execute the behavior of writing, while the control group had fewer, more streamlined connections. Simply, it took longer than peers without disabilities to complete the task. Furthermore, researchers have documented executive function needs relating to implantation of goal-oriented behaviors with handwriting with people who have these specific disabilities in dysgraphia and dyslexia (Berninger & Richards, 2010). Evaluators and educators must understand the effectiveness and time associated with executing goal-oriented behaviors by individuals with disabilities to identify and accommodate potential needs that may surface in the workplace.

Some individuals may have a disability that provides a clear rationale for potential executive dysfunction as Richards et al. (2015) reported, while others may have a disability that may only surface under certain environmental stimuli or pressures (Steinberg, 2008). Therefore, it is critical individuals with disabilities have access to practice skills in authentic work environments while they explore careers so vocational evaluators have opportunities to observe potential barriers. For example, if the individual has thirty minutes to create an appetizer, a vocational evaluator will be able to observe executive functions needed to successfully complete the task such as time management, emotional and behavior regulation, task sequencing, problem solving, all while under pressure to create a dish that is edible.

Decision Making. Environment can play an important role in decision-making processes. Vocational evaluators have unique opportunities to provide formal and informal data from assessment experiences, especially those which are work-based, to equip adolescents with information on which they can build skills to make informed choices that will benefit their futures. Also, teenagers must become aware of who in their social support network may encourage risky, sensation-seeking behaviors (Poon, 2018) and how they respond to these influences. By providing on-going assessment processes, adolescents (and observers) can track if or how they are creating pathways that will support critical thinking while being aware of emotional influences. In addition, they also are developing self-awareness across different environments which can provide insight to interests, preferences, and temperaments related to different jobs. While individuals may be aware of making safe decisions when calm (Jensen & Nutt, 2015), they will eventually understand environmental factors that influence sensation-seeking behaviors and on-the-job performances. Vocational evaluators can provide opportunities informed by both informal and formal assessment that support decision-making skills, after which they can craft meaningful and specific recommendations. These will reinforce teens' executive function and decision-making needs, particularly within different learning or work situations.

Working Memory. Working memory, the ability to hold pieces of information for a short period of time, is required for learning, reasoning, and decision-making skills (Galván, 2017; Jensen & Nutt, 2015; Wang et al., 2017). Working memory is an executive function that is necessary for daily functioning, collaborative communication, and critical and abstract thinking (Wang et al., 2017). For example, in one study, individuals with autism spectrum disorder (ASD) were found to have superior visuo-spatial working memory that may act as a form of compensation for their difficulties with language (Wang et al., 2017). Evaluators and others can look for the presence of executive functions, such as working memory, which may exist as a skill or as a need, for some adolescents with disabilities. By specifying as much information as possible about working memory and other executive functions, vocational evaluators and those who use their reports can support adolescents

and educate them about how some of their needs may also be strengths. Also, observation of work performances and behaviors can be tracked to identify patterns regarding working memory and other executive functions to share with teachers, job trainers, or employers. If needs exist, environmental cues or visual accommodations can be recommended to support the individual.

Understanding teenagers' abilities to take in and absorb career and job-related data to execute skills and facilitate choices will give evaluators insight about their visual and spatial working memory, especially as these relate to transferrable skills and inform potential environmental accommodations and supports. Relating observations and subsequent recommendations about how adolescents learn to navigate stimuli within environments as they perform tasks, can provide insight about their preferred way to learn and practice skills. Supporting potential working memory needs can encourage success on the job (e.g., doing a task analysis so that distinct steps are apparent and understood by the individual). Accommodating adolescents' working memory needs, or any executive function, allows more energy for them to execute job-related behaviors. Thus, vocational evaluators' recommended task-related supports can help to ensure that adolescents have the cognitive bandwidth to implement behavior regulation for job success.

Self-Regulation. Self-regulation and working memory are necessary executive skills for coping with external stimuli pertaining to safety and success. Both of these executive functions are required for discourse and foundational social skills. For example, Dučić et al. (2018) reported that when focus was given to individuals with intellectual disabilities' working memories, their self-regulation and social skills improved. By observing and describing the external cues and accommodations that support working memory, vocational evaluators are highlighting teens' self-regulation skills to promote appropriate social skills for employment success.

Vocational evaluators often report observations of self-regulation in action while adolescents are participating in hands-on or authentic assessment. In fact, some evaluators have used video evidence to convince disbelieving referral sources, educators, and parents that teens can exercise self-regulation deemed appropriate for work requirements. This is useful if these behaviors differ from frequent lack of self-regulation behavior in school or at home. Watching a young person, who may have a history of "inappropriate behavior" or lack of self-regulation in classrooms, effectively operate a computer-assisted drafting activity or accurately demonstrate health care tasks, such as applying a splint or taking and recording blood pressure, provides evidence that the adolescent is capable of self-regulation. As vocational evaluators describe these positive behaviors to adolescents and include these findings in their reports, adolescents may realize they have the skills to implement self-regulation beyond tasks they find emotionally engaging. As with many teens, they may depend on the level of interest or the desire to do well in a simulated or authentic environment versus in a typical classroom.

Conclusion

The adolescent period provides distinct opportunities for learning and development. As their brains are undergoing intense reconstruction (Giedd, 2012), adolescents are discovering new interests, trying to understand peer-influences, and are increasingly involved in potentially risky behaviors. Also, they are learning how to engage in and implement executive functions appropriate for situations in various, and often, new environments. Vocational evaluators are in unique positions to observe and try to understand adolescents in both calm (e.g., one-on-one interviewing, locating specific information on O*Net) and emotionally engaging environments (e.g., performing a graphic arts battery of work samples or a situational assessment using a metal lathe in a Career Technical Education program's machine shop). As a first step, evaluators can revise task and general observation forms to include executive functioning elements. By including these on all forms, they can track patterns of decision making, sequencing, problem solving, working memory, self-regulation, self-awareness, planning, time management, attention, etc.

To provide equitable and optimal services, evaluators should try to access and acquire continuing education in adolescent development with an emphasis on the brain. Without such shared knowledge across disciplines, some personnel may mistakenly interpret adolescent behaviors as disinterest or disengagement (Jensen & Nutt, 2015) or inability, while actually they are witnessing the changing anatomy of teens' brains (Kanwal et al., 2016). With continual education about how teen brains develop, in conjunction with providing multiple opportunities for assessment across different environments, vocational evaluators can continue to demonstrate the relevance of their services to adolescents with and without disabilities as they plan their futures and recognize the need to develop career, college, and employment readiness skills. At this point, professional associations, such as the Vocational Evaluation and Career Assessment Professionals (VECAP) association, hopefully will advocate for graduate programs to integrate information about adolescent brain development in their curricula and should provide a series of short-term training or webinars about the subject. To do less could shortchange adolescent participants in career assessment and vocational evaluation services.

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An Overview of Three Online Career Assessment Tools

Amanda Hughes

Abstract

Exploring careers and deciding on a career path can be an intimidating activity. With over 12,000 careers available to choose from, information can become overwhelming (Robinson, n.d.). Career assessment and counseling services can assist with accurately evaluating an individual's interests, skills, work values, and temperaments in order to appropriately plan a long-term career pathway. There are many online tools available to the general public to help with this process of information gathering, personal career exploration, and self-discovery. The Career Index Plus, O*NET Online, and EducationPlanner are three specific online resources that can be beneficial to use when delivering career assessment and counseling services. In reviewing these resources, conclusions can be drawn about the strengths and weaknesses of these tools, as well as accessibility considerations and their application to career counseling.

Keywords:

career assessment, online assessment, assessment tools, vocational evaluation

Comparison of Three Online Career Assessment Tools

Career assessment specialists, vocational evaluators, and career counselors are all responsible for providing varying degrees of career information and counseling to their clients. The following comparison of three online career assessment tools is provided to help these professionals make decisions about which tools will be useful for specific clients. The online career assessment resource sites focused on include The Career Index Plus, O*NET Online, and EducationPlanner. Each of these resources has different kinds of tools available to assist with career and education planning.

The Career Index Plus

Created in collaboration with the Workforce Innovation Technical Assistance Center (WINTAC) under a grant from the Rehabilitation Services Administration, The Career Index Plus has the overall goal of providing an easy-to-use technological tool to assist professionals and clients alike in formulating appropriate vocational goals. After creating a free account and logging into the Career Index Plus at https://www.thecareerindex.com/dsp_intro.cfm, users will be brought to the following page:

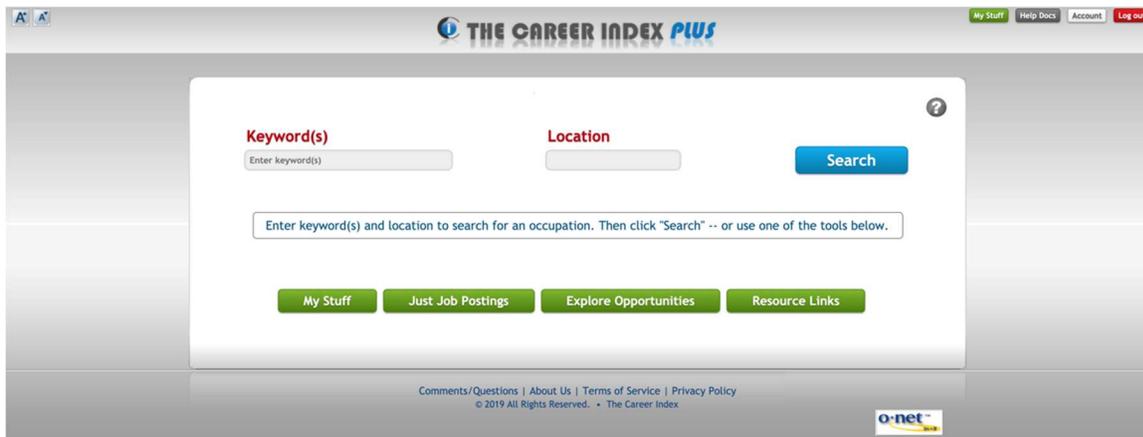


Figure 1: The Career Index Plus. Display of the homepage of The Career Index Plus after logging into an existing account.

This homepage provides options to the user of what to do next with this tool. For example, users can enter keywords and a location to search for information or job openings on specific occupations, or they can navigate other tools, which include My Stuff, Just Job Postings, Explore Opportunities, and Resource Links. Each tool within The Career Index Plus has the goal of providing tailored information for the user's benefit.

The Career Index Plus is a unique tool in that it requests the user to build a personal profile so that recommendations for appropriate career matches can be suggested. After clicking on the My Stuff tab, users will locate their unique profile, recommendations, and occupations saved by the user. This experience of building a personal profile can be considered non-threatening in comparison to interacting with other resources due to a reduced risk of assessment anxiety and the option of including as much or as little information about oneself as one chooses. Although it is a time-consuming activity, the user is in full control and the effort put into building a profile can be considered empowering in receiving tailored results and suggestions. The information requested in order to build a full profile on The Career Index Plus includes the user's basic information, such as their desired type of employment, salary, current level of education, an interest profile using the Holland Codes, work history, and the user's preferred career cluster and work context. Recommendations will automatically become available to the user with any amount of information put into building a personal profile.

The Just Job Postings tab allows the user to access a job search tool within The Career Index Plus utilizing the National Labor Exchange or Indeed Jobs. With each of these options, the job title, location, company, and posted date are generated in the results. The Explore Opportunities tab allows users to view job opportunities within a specific zip code and also offers the ability to look for jobs that meet specific criteria. Using this tool, individuals can search for careers based on the demand, wage, skills, available openings, ability to work from home, and other factors.

An additional unique feature of The Career Index Plus is the Resource Links tab in which Disability Resources and Ex-offender Resources are listed. The Career Index Plus was created with vocational rehabilitation in mind; therefore, clients are more likely to fall into one or both of these categories, which strengthens the overall benefit and applicability of this specific online tool. A disclaimer is displayed on this Resource Links page, however, to alert the user that the links will take the user to another web page that utilizes a specialized Google Map query to generate the most appropriate resources within the user's geographic location.

The biggest advantage in using The Career Index Plus in career assessment and counseling services is the tailored recommendations that assist with choosing an appropriate vocational goal with a client. These recommendations can be generated at any point throughout the process of creating the profile, though the most appropriate recommendations will only be made after completing the entire personal profile. Therefore, some disadvantages could include potential fatigue from the amount of information requested to put into the personal profile or the generation of unrelated recommendations due to a lack of information in the personal profile. Vocational evaluators in particular could utilize The Career Index Plus when reviewing and synthesizing all information gathered during assessments with clients in order to provide a strong report with supported recommendations.

O*NET Online

O*NET Online, the replacement for the Dictionary of Occupational Titles (DOT), is the nation's primary database and resource for occupational information and career exploration (What is O*NET?). In regard to career assessment, the O*NET Online Interest Profiler is available through My Next Move, which is sponsored by the U.S. Department of Labor, Employment and Training Administration, and developed by the National Center for O*NET Development. My Next Move, which can be accessed through the following web link: <https://www.mynextmove.org/>, gives the user three different options for exploring careers as shown in Figure 2: A search box, browsing careers by industry clusters, or taking the O*NET Interest Profiler that utilizes the Holland Codes to recommend potential career matches.

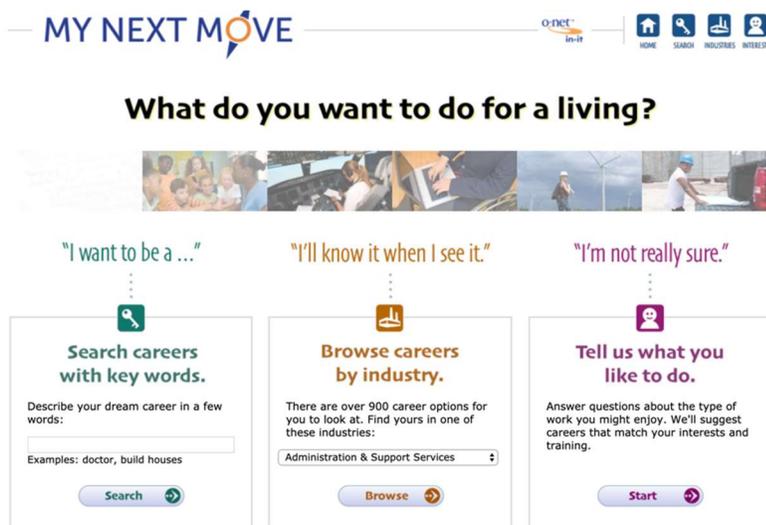


Figure 2: My Next Move. Display of the homepage of O*NET Online's My Next Move.

In addition to these job exploration tools, My Next Move also offers exploring careers in other cluster categories such as careers that are growing rapidly or careers requiring certain levels of job preparation. A version of all the tools My Next Move offers is also available in a specialized way for veterans in efforts to assist this population in obtaining appropriate civilian jobs. This variation in ways to view and explore careers is a strength that O*NET Online offers its users.

According to a review conducted by Chauhan (2019), O*NET Online has a few weaknesses though as well. For example, the O*NET Online may be vague or redundant in its presentation of some occupations, creating difficulty for the user to truly capture the essence of certain careers. Additionally, the language used in the content of descriptions of occupations can seem overly industry-specific, which may confuse users who are inexperienced with those occupations (Handel, 2016). The limitation of being strictly an internet resource should also be considered when weighing advantages and disadvantages of using My Next Move.

EducationPlanner

According to the About Us page on EducationPlanner, EducationPlanner is a public service of the Pennsylvania Higher Education Assistance Agency (PHEAA) and its student loan servicing operations, FedLoan Servicing and American Education Services (AES). Its purpose is to aid students in middle or high school, parents, and counselors in planning for successful career pathways. This online tool can be accessed at: <http://www.educationplanner.org/> and the homepage is displayed in Figure 3.

The screenshot shows the EducationPlanner homepage. At the top right, there are links for Home, Contact Us, About Us, and Site Map. Below this is a navigation bar with three tabs: STUDENTS, PARENTS, and COUNSELORS. The main content area is divided into three sections. On the left, a sidebar titled 'Start Thinking About Life After High School' lists several options: Explore careers that interest you., Search for your perfect school., Learn about student aid., Find grants or scholarships., Plan a campus visit., and Forms. The central banner features a green background with a pencil holder and an apple, and the text 'What is Your Learning Style? You're just a few questions away from finding out.' with a yellow 'TAKE THE QUIZ' button. Below the banner are three columns: 'for Students' with a photo of four students and text about making decisions; 'for Parents' with a photo of a family and text about understanding college costs; and 'for Counselors' with a photo of a counselor and students and text about the tool's purpose. Each column has a 'LEARN MORE' button.

Figure 3: EducationPlanner. Display of the homepage for EducationPlanner.

This resource site offers substantial information in regard to career planning, with its biggest strength being information catered towards students, parents, and counselors regarding financial aid options and planning for post-secondary education. For vocational evaluators and counselors in particular, the Counselors tab is a valuable resource that provides information about several topic areas, including the American School Counselor Association National Standards for Students, using EducationPlanner as an activity with students, how to best set up a job shadowing program, how to host a student aid event, as well as additional links to get in contact with other counselors in the field. Although these specific resources would be most appropriate for school counselor professionals, vocational evaluators could use these resources when providing recommendations for clients with post-secondary education goals.

The self-assessments offered for students on EducationPlanner include the following: What Kind of Student Are You?, What's Your Learning Style?, Which Study Habits Can You Improve?, and How Strong is Your Character?. These self-report questionnaires are short and are introspective by nature. In regard to career assessments and exploration, EducationPlanner directs the user to other websites

such as O*NET Online's Interest Profiler or The College Board in order to gather appropriate information. Therefore, EducationPlanner is valuable for its information and guidance in regard to exploring post-secondary education goals but can be viewed as problematic in its core information with career exploration due to its redirection of the user to other websites. Using EducationPlanner to its full capability would depend on the motivation of the user.

Accessibility

An examination of these three online career assessment resource sites determine that they are accessible to most users and the navigation between pages is organized well; however, certain accommodations may be necessary for individuals with disabilities. For example, as with accessing any Internet resource, the website should follow specific guidelines in order to achieve accessibility by all users (ADA Best Practices Tool Kit for State and Local Governments, 2007). Some individuals with specific disabilities, such as low vision, may need to use assistive technology devices in order to use a computer. These devices could include a screen reader, text enlargement software, or other devices and programs that allow the user to access information from Internet websites. In order for these devices to work properly, websites need to be designed in such a way to function with these devices and allow all users to access the information. Individuals with cognitive, learning, or neurological disabilities can also face accessibility issues when utilizing websites. According to Zahra (2017) of the World Wide Web Consortium (W3C) Web Accessibility Initiative (WAI), complex navigation mechanisms and page layouts, long passages of text without any illustrations, as well as moving, blinking, or flickering content are several examples of website barriers individuals with diagnoses such as Attention Deficit Hyperactivity Disorder (ADHD) or Autism Spectrum Disorder (ASD) could face when using Internet resources. Accommodations such as customizing the font size or color or highlighting the text as it is being read out loud can assist individuals with cognitive, learning, or neurological disabilities access web content fully. One positive aspect of accessibility with each of these specific assessment tools is the absence of a time limit on any of the assessments, which allows the users to pace themselves to take the amount of time they need to complete the assessments. This is an important aspect of accessibility because a time restriction could skew the results in a way that is not appropriate for identifying the individual's interests, skills, work values, or temperament factors.

Although accessibility at a basic level can be awarded to these sites, improvements can always be considered in order to most effectively allow users to interact with content material. For instance, according to the National Research Council (2010), the O*NET Online does not conform to the three key principles of effective web design, which include navigation across websites, user-centered design, and interactivity. Whether or not these principles are met certainly impacts the user's experience in accessing and utilizing all the material offered on these online career assessment resource sites.

Application to Career Counseling

Career counseling is a part of the vocational evaluator's job as was demonstrated by the results of the field's last role and function study (Hamilton & Shumate, 2004) and numerous previous studies. However, career counselors in particular deliver the bulk of career counseling and guidance services. Regardless, vocational evaluators hold an important responsibility for assessing and recommending realistic and appropriate vocational options for individuals. Therefore, online career assessment resource sites such as the ones described in this article can be useful tools to utilize in both career assessment and counseling settings.

The assessments found on these three websites are easy to self-administer; however, interpreting the results and applying the results to a career pathway can be more difficult. For example, when a user completes the Career Clusters Activity on the EducationPlanner website, the results provide the top

five career clusters that fit the user's interests, but it is then the user's responsibility at that point to look further into those careers through career exploration research and determine whether or not one of those careers would be one which the user would like to pursue. Although this basic assessment provides the user with matching career clusters, it does not provide the user any other important information such as whether or not jobs are available in that kind of career, whether or not the user has the training already required to acquire a job in that career, and other labor market information typically found through the Bureau of Labor Statistics (<https://www.bls.gov/>). Integrating these assessments with career counseling would better assist users with interpreting their results. In fact, the counselor and user could search for this information together initially. Later, the users could search on their own—or even share results with the counselor as a kind of homework. In summary, career counselors can assist individuals in implementing assessments and integrating the results or findings into a vocational plan to help determine what action steps need to be taken next in order to make progress towards vocational goals.

Completing just one of these online assessments may not provide enough information to make an informed choice in planning a career pathway. Continuing with the example of the Career Clusters Activity available through EducationPlanner, the results provide the user with a starting point in discovering careers that match his or her personality and interests, but the user still needs to look deeper into whether or not these career clusters also fit his or her work values and current skill sets. From a career counseling perspective, it would be recommended that users next look at the job zones of those career clusters on O*NET Online in order to understand the level of job preparation required for careers within that cluster. Utilizing both EducationPlanner and O*NET Online in this scenario provides the individual with a more well-rounded perspective of different careers that may be appropriate vocational pathways to choose from.

The Workforce Innovation Technical Assistance Center (WINTAC) is another resource that can assist career counselors, vocational evaluators, and clients in fully understanding certain online career assessment resource sites. WINTAC (<https://www.wintac.org>) provides descriptions of some online tools, such as the Career Index Plus, as well as training modules, videos, and webinars (TCI+ - LMI). This information can further conversations between career counselors and clients, as well as provide simple teaching opportunities that can greatly empower clients in independent learning and research.

Further Questions

In reviewing just these three online career assessment resource sites, it is evident that user preference plays a key role in whether or not users engage with the resources. For instance, The Career Index Plus is a very individualized and personalized resource to navigate, while other sites such as O*NET Online and EducationPlanner are more information-heavy upfront. These differences of styles and organization among the resource sites is valuable so that various individuals have options to choose which kind of website resource is most helpful to their individual preferences or needs. On the contrary, the vast amount of resource sites available begs the question of whether there are too many and why there are so many, especially if some simply link to other resource sites such as how EducationPlanner links much of the career information to O*NET Online. When career information is already a somewhat overwhelming subject, the question arises of whether or not this magnitude of resources offering similar information is really necessary in order to assist individuals with appropriate career planning. One intent of this article is to help vocational evaluators and career counselors understand at least three of the many options available.

Conclusion

The Career Index Plus, O*NET Online, and EducationPlanner are only three of many online career assessment resource sites available to the general public. Each have various ways of providing and

organizing career materials and assessments to better assist individuals in career planning. Integrated with face-to-face career counseling or vocational evaluation, online career assessment resource sites can be valuable in gathering accurate career information, assessing an individual's interests, skills, work values, and temperament factors, as well as contributing to the decision and planning process for an appropriate, and eventually satisfying, career pathway.

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Burnout, Areas of Worklife, and Vocational Evaluators: A New Perspective

Shakeerrah D. Lawrence

Abstract

Burnout negatively impacts people from different occupations and socioeconomic groups. Burnout manifests through three distinct characteristics: emotional exhaustion, depersonalization, and reduced personal accomplishment. Understanding the causes of burnout is critical for preventing burnout in the helping professions; however, research about burnout in vocational evaluation is rare. Given the risk factors of burnout faced by many vocational evaluators and career assessment professionals (e.g., production requirements, competitive work environment, isolation, secondary trauma, limited resources) it is important for vocational evaluators and career assessment professionals to better understand burnout as they build towards wellness. This paper will review literature that explores the origin, description, and symptoms of burnout. Support for future research, along with implications for vocational evaluators, administrators, and the profession is also included.

Keywords

burnout, areas of worklife, vocational evaluators

Burnout, Areas of Worklife, and Vocational Evaluators: A New Perspective

Burnout has a significant effect on personal wellbeing, economic climate, and organizational culture. While research implies that burnout occurs within various occupational groups, studies about the effect on helping professionals remain substantial in literature. Rehabilitation professionals, such as vocational rehabilitation counselors and vocational evaluators, assist persons with disabilities as they strive to reach their highest employment potential. One of the biggest service providers to persons with disabilities is the vocational rehabilitation (VR) program, which employs vocational evaluators as they help determine suitable employment opportunities for persons with disabilities. Despite the positive impact on persons with disabilities, vocational evaluators may experience job stress due to negative work experiences. Prolonged stress on the job can result in burnout, described as emotional exhaustion, depersonalization, and reduced personal accomplishment. Leiter and Maslach (1999) explored six areas of worklife believed to influence whether an employee is burned out or engaged at work. While studies on burnout in other professionals have been prevalent in the literature for decades, research about these concepts and vocational evaluators remains scarce. This paper will

review literature that explores the origin, description, and symptoms of burnout. The foundations of vocational evaluation, growth of the profession, and the roles and functions of vocational evaluators are also discussed. Areas of worklife, relationship to burnout, and the vocational evaluation perspective are also examined. Support for future research, along with implications for vocational evaluators, administrators, and the profession, is also mentioned.

Occupational Burnout

Dr. Herbert Freudenberger, a psychologist from Germany, was one of the first researchers to identify characteristics associated with occupational burnout. Freudenberger (1975) initially focused on risk factors for staff at free clinics and substance abuse facilities, such as long work hours, job demands, and lack of financial compensation. Research by Cherniss (1980) helped solidify a proper description of burnout symptoms through a three-stage process: disparity of demands and resources; an increase in negative symptoms, and significant changes in behavior. This process further aided Dr. Christina Maslach, a social psychologist, with a formal description of burnout, identified as a process of emotional exhaustion, depersonalization, and reduced personal accomplishment after a prolonged period.

Burnout Characteristics. As the basic individual stress dimension of burnout, emotional exhaustion occurs due to the depletion of emotional resources after prolonged periods of work-related stress (Heinemann & Heinemann, 2017). As a central component of burnout, physical impacts of emotional exhaustion reflect feelings of excessive tiredness, low energy, and chronic fatigue (Maslach & Leiter, 2008). While physical effects are common, exhaustion also occurs physically and emotionally as employees begin to lack concern for others. Depersonalization refers to a display of negative attitudes towards clients or colleagues (Genly, 2016). Described as the interpersonal dimension of burnout, employees display depersonalization through insensitivity, detachment, and lack of concern for others in the workplace (Bridgeman et al., 2018). Time was also mentioned as a factor for depersonalization, as a gradual shift in behavior occurs as burnout increases (Maslach & Leiter, 2008). Along with physical and emotional effects, burnout also impacts how employees view themselves and their work. Reduced personal accomplishment occurs due to negative thoughts employees have about a lack of satisfaction or competency in their work (Bridgeman et al., 2018). Acknowledged as the self-evaluation dimension of burnout, employees experience decreased confidence and enjoyment in their work abilities. For example, employees who have trouble meeting objectives or deadlines promptly may feel insufficient in their job, resulting in lower self-esteem levels (Bakker et al., 2014). Factors associated with burnout characteristics can exacerbate symptoms, contributing to negative effects on a holistic level.

Symptoms and Consequences. Numerous symptoms and consequences are associated with burnout. Symptoms are likely to occur in physical, cognitive, and behavioral ways. Physical symptoms associated with burnout include headaches, loss of appetite, sleep disturbances, high blood pressure, and gastrointestinal issues (Bakker & Costa, 2014; Schaufeli & Enzmann, 1988). Emotional symptoms, also common in burnout, can affect an employee's mood, leading to a higher risk of mental health diagnoses. Cognitive effects of burnout resemble low frustration tolerance, lack of empathy, helplessness, hostility, and negative interactions with others. Employees who experience burnout may also feel discouragement or boredom in once enjoyable activities (Young, 2015). Behavioral symptoms may occur individually or interpersonally. For example, an individual may engage in risk-taking behaviors (e.g., substance use) or express aggression towards others. Maslach & Leiter (2017) expressed additional negative interpersonal outcomes due to burnout, including dysfunctional relationships, cynical attitudes towards others, and chronic health issues.

Organizations are also affected by the consequences of burnout. Maslach & Leiter (2017) suggested that burnout is more than an employee having a "bad day" (p. 161), as symptoms can arise due to internal issues. The authors also believed burnout occurs due to social or organizational

circumstances that should be addressed in mainstream literature. Despite reasons for the occurrence, ramifications from burnout can be costly for organizations. For example, financial issues may occur due to low productivity, company instability due to high turnover, and risk to employee safety. Bruschini et al., (2018) reported higher instances of burnout in professionals who interact with clients who discuss constant physical or psychological issues. Professionals in this category include vocational evaluators, who are also prone to experience burnout in the workplace.

Vocational Evaluation

Vocational evaluation is defined as a comprehensive process that applies real or simulated work opportunities to determine appropriate vocational goals. Vocational evaluators integrate pertinent data (e.g., medical history, psychological background) from interviews and behavioral observations to formulate suitable job recommendations (Dowd, 1993). The following sections discuss relevant legislation and the growth of the profession.

Key Legislation and Professional Growth. Vocational evaluation began to establish itself in the early 20th century using assessments with injured World War I veterans. Between the 1940s and 1960s, the Barden-LaFollette Act and Vocational Rehabilitation Act Amendments broadened the scope of evaluation services with increased funding and training opportunities. Over the next few decades, additional legislation sought to improve the quality of services vocational evaluators provided to persons with disabilities. One of the most prominent acts during the 1970s was the Rehabilitation Act Amendments of 1973. This act proposed more services for persons with severe disabilities. Subsequent sections added to these amendments over time expanded services to include affirmative action (e.g., Section 501) and equal opportunity employment (e.g., Section 504; Chan et al., 2017).

Between the 1980s and 1990s, vocational evaluation experienced tremendous growth as it sought to establish an accreditation, certification, and professional identity. The Commission on the Certification of Work Adjustment and Vocational Evaluation Specialists (CCWAVES), which originated in 1981, was responsible for credentialing. Professional organizations also grew during this time, including the Vocational Evaluation and Work Adjustment Association (VEWAA) and the Vocational Evaluation and Career Assessment Professionals Association (VECAP). Frequent changes have challenged the profession, from the dissolution of CCWAVES in 2008 to the development of a new credential through the Registry of Professional Vocational Evaluators (RPVE). After the dissolution of RPVE in 2017, continuing education opportunities for evaluators are maintained through several organizations, including VECAP, VEWAA, and the Commission on Rehabilitation Counselor Certification (CRCC). Despite numerous changes, the role of evaluators remains vital to the VR program and persons with disabilities who desire greater involvement in their employment goals (30th IRI, 2003).

Role and Function of Vocational Evaluators. Depending on the job setting, vocational evaluators may be also referred to as "assessment and career specialists" or "rehabilitation specialists" (Sligar & Betters, 2012, p. 25). Despite the title used, an evaluator's role remains essential in rehabilitation settings. Vocational evaluators are responsible for assisting persons with disabilities in successful employment, education, and training outcomes. Three levels of assessments are identified in vocational evaluation services. Screening involves vocational planning and analyzing brief assessments used in the process. Clinical or exploratory evaluation involves more details, including transferable skills analysis and job matching. A comprehensive evaluation encompasses numerous tasks, including in-depth interviews and the use of work samples. Initial interviews incorporate psychological and medical data into previous employment history to understand functional limitations. Behavioral observations, psychometric testing (e.g., interests, aptitudes), and the evaluation report are necessary for the vocational evaluator to suggest feasible vocational goals

(Ahlers, 2010). Along with vocational goals, other recommendations may be mentioned, including mental health counseling, medical care, and housing needs (Flansburg, 2011).

Conducting behavioral observations, synthesizing data from assessments, and analyzing occupational areas are critical knowledge domains for vocational evaluators (Hamilton & Shumate, 2005). Results from Sligar and Betters (2012) reported similar areas and functions of evaluators, including career guidance, knowledge of assistive technology, and labor market analysis. Evaluators in VR programs usually need to meet monthly quotas, which can range from approximately 10 to 15 evaluation reports a month. Some studies also reported that approximately 97% of VR programs receive evaluation services from other sources, such as community rehabilitation programs (Hamilton & Shumate, 2005; Sligar and Betters, 2012). Some job tasks, such as monthly production rates and competitive work environments, can lead to an increase in burnout. Risk factors in the workplace reflect six specific areas that increase the likelihood of burnout in employees.

Areas of Worklife

Areas of worklife are six specific areas within the work setting believed to determine whether an employee experiences burnout on the job. Researchers reported extensively on the significance of burnout in the workplace and descriptions of what these specific worklife areas entail (Leiter, 2015; Maslach & Leiter, 2017). Workload is consistently associated with burnout, identified by "tasks, intensity, and complexity" an employee experiences in the workplace (Leiter, 2015, p. 224). Additional factors associated with workload include job demands and work pressures (Maslach, 2015). Control considers the level of participation an employee has in their role or decisions within the work setting (Leiter, 2015). Lack of control also contributes to burnout and occurs from numerous circumstances, such as rigid policies and supervisory micromanagement. Internal and external factors also reflect an employee's control, such as role conflict (e.g., clash in values) and role ambiguity (e.g., lack of direction). A lack of control negatively also affects how an employee feels they are rewarded on the job (Maslach, 2015). Reward considers how extrinsic (e.g., pay, recognition, appreciation) and intrinsic factors (e.g., sense of self-worth) affects an employee's motivation (Young, 2015). Intrinsic factors also include feeling a sense of pride at work, understanding the importance of job tasks, and ensuring those tasks are performed well (Leiter & Maslach, 2003). Leiter (2015) also described rewards through recognition from supervisors and feeling a sense of community at work.

Community considers the importance of relationships within the work setting. Community is essential in the workplace, as it adds quality to social interactions, improves mutual support, and helps people work better as a team (Jimenez & Dunkl, 2017; Leiter & Maslach, 2003). Employees typically lose a sense of community in the workplace due to unresolved conflicts, isolated job roles, and toxic work environments. Community also decreases in the workplace due to resource scarcity, limited support, and favoritism shown to certain employees. Fairness focuses on the ability to make equitable and impartial decisions in the workplace. Fairness considers mutual respect between employees and management; self-worth at work, and decision making with equal consideration (Lee & Cummings, 2008; Leiter & Maslach, 1999). Equally important to fairness are values in the workplace, which considers if there is a match between an employee's beliefs and the organization's goals (Leiter, 2015). When an employee's values begin to conflict with the organization's values, work can become less meaningful and enjoyable. Conflict can also occur between personal career aspirations and the values of the organization, which can lead to a reconsideration of career choice (Gregory & Menser, 2015; Leiter & Maslach, 2003). Research on the relationship between burnout and areas of worklife is limited in the rehabilitation literature. Further awareness of the roles and functions of evaluators provide a glimpse into how and why burnout occurs in the workplace.

Implications for Vocational Evaluation and Career Assessment

Despite several studies on burnout in rehabilitation counselors, research on the relationship to areas of worklife remains scarce. Studies about these concepts in vocational evaluators have yet to be explored. Vocational evaluation has encountered numerous changes during the past few decades. The dissolution of CCWAVES in 2008 and RPVE in 2017 prompted a level of ambiguity about the future of the profession. Likewise, Sligar & Betters (2012) reported additional areas of concern for longevity in the profession, such as the retirement of current evaluators and lack of adequate training programs. The need for more empirical data on burnout in evaluators was also suggested for those employed in VR programs, administration, and the education system (O'Sullivan & Bates, 2014; Zanskas & Strohmer, 2011). A greater understanding of the stress evaluators encounter in the workplace could help improve preventive measures. Knowledge of positive (e.g., job security) and negative (e.g., low compensation) aspects of VR agencies help identify aspects of the work environment that may contribute to higher levels of burnout (Zanskas & Strohmer, 2011).

The use of organizational assessments can also encourage administrators to implement effective interventions into policies. Bakker & Costa (2014) suggested that management should develop policies to optimize job demands and resources, particularly for employees who are at the highest risk for burnout. Knowledge of burnout risk factors can also help improve self-care, whether through professional (e.g., continuing education, networking events) or personal (e.g., mindfulness exercises, wellness retreats) practices (Maslach, 2011; Maslach & Leiter, 2017). Implications are also relevant for seasoned evaluators and administrators, who will continue to guide current and future professionals as they seek employment opportunities in the field. A decrease in graduate training programs across the country hinders effective recruitment methods for evaluator positions. Effective hiring practices (e.g., minimum education requirements) may also be impacted due to recent changes in certification and credentialing. For success to reverberate across the profession, collaboration is necessary. The combination of support at the organizational and administrative level allows for a higher level of connection, as collaborative efforts can help promote sustainability and longevity in the profession.

Conclusion

Burnout influences relationship dynamics, health outcomes, and how organizations function. Three characteristics are associated with burnout: emotional exhaustion, depersonalization, and reduced personal accomplishment. Burnout also manifests through specific symptoms, including mental health issues (e.g., anxiety, depression); self-doubt (e.g., cynicism about work contributions), and occupational hazards (e.g., medical errors). Helping professionals dominate burnout research, including different rehabilitation professionals. Vocational evaluators perform a variety of tasks in VR settings; however, their primary role is performing vocational assessments to determine suitable employment options. Certain aspects of the job may lead to an increase in burnout, such as monthly quotas or role ambiguity. Growth in studies specifically about workplace burnout led to research about areas of worklife. These areas reflect a variety of circumstances believed to increase burnout in the workplace, such as constant time pressures, limited social support, and values conflict. Conceptual and empirical studies have been conducted on burnout and its relationship to areas of worklife in rehabilitation professionals; however, studies about evaluators remain scarce. Absence in this area would greatly benefit evaluators to determine best practices to use in the field, ways to implement wellness practices in the workplace and improve longevity in the profession.

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About the Author

Shakeerrah D. Lawrence, PhD, LCMHC, PVE, earned a Bachelor of Arts degree in Psychology in 2008 from North Carolina A&T State University, she continued her education at East Carolina University, which led to a dual master's degree in Rehabilitation Counseling and Vocational Evaluation in 2010. She has worked for over five years as a vocational assessment specialist for a community rehabilitation program, vocational evaluator for state government, and vocational expert with the Social Security Administration. During her doctoral studies, she also worked as a licensed clinical mental health counselor and graduate research assistant. She has been a member of VECAP since 2017 and began volunteering as a member of the Communications Committee since June 2020.

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Research articles provide new research results related to vocational evaluation, career assessment, or work adjustment. Research articles generally consist of an abstract, introduction, methods, results, discussion, and references. Quantitative (e.g. statistical analysis of original or secondary data), qualitative (focus groups, interviews, or similar), and mix methods projects are welcome.

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The VECAP organization is committed to advance and improve the fields of vocational evaluation and career assessment and represent the needs of the professionals who provide those services. Its scope of services encompasses individuals who need assistance with vocational development and/or career decision-making.

VECAP's membership comprises professionals who provide vocational evaluation, assessment, and career services and others interested in these services.

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