

# **VOCATIONAL EVALUATION AND CAREER ASSESSMENT PROFESSIONALS JOURNAL**

**Fall 2011  
Volume 7  
Number 2**



# **VECAP**

**VECAP**

Vocational Evaluation and Career Assessment Professionals



**VOCATIONAL EVALUATION  
AND CAREER ASSESSMENT PROFESSIONALS JOURNAL**

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## VECAP MISSION

The Vocational Evaluation and Career Assessment Professionals (VECAP) is a nonprofit organization originally founded in 1967 to promote the professions and services of vocational evaluation and work adjustment. Formerly known as the Vocational Evaluation and Work Adjustment Association (VEWAA), the name was changed in 2003 to better reflect the focus of the organization as well as emphasize the independent status of the organization. This group has no affiliation with the National Rehabilitation Association (NRA) or the NRA/VEWAA.

The VECAP organization is committed to advance and improve the fields of vocational evaluation and career assessment and represents the needs of the professionals who provide those services. Its scope of services will encompass 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.

VECAP members identify, guide, and support the efforts of persons served to develop and realize training, education, and employment plans as they work to attain their career goals.

For membership information visit [VECAP.org](http://VECAP.org).

## EDITORIAL

Welcome to the Fall 2011 edition of the VECAP Journal

We would like to take a moment to share four observations made since the last Journal. These are about a place, some people, the Internet, and our profession. These are positive indicators of our future. First, the national VECAP Board meeting was hosted by President Marsha Legg at her employment site in Baltimore, MD. If you have not been to Humanim at the American Brewery (<http://www.humanim.com>), then add it to your list of places to visit (pictured). Not only does the program offer some really unique services but they do it in an



award winning building. The interior does not just resemble—it is an upscale corporate office. The meeting rooms, offices, and break facilities are more in line with a Fortune 500 company than what you might expect from a community rehabilitation program. When you walk away, you will think this is how to do business with business.

Approximately 2,728 miles to the west (according to Google Maps) are the offices of NorCal Services for the Deaf & Hard of Hearing, which is headquartered in Sacramento, CA (<http://www.norcalcenter.org/>). This agency has provided a variety of specialized services since 1977. While they have performed assessments, they were interested in further developing vocational evaluation to enable them to meet better the vocational needs of persons served. All of the evaluators were interested in testing, the use of situational assessment, and report writing. Upon leaving Sacramento, you will be impressed with the earnestness and dedication of this group of deafness rehabilitation professionals, who, by the way, are all Deaf. This is an organization that walks the talk of empowerment.

The Postsecondary Education Program Network (PEPNet) hosted a webinar on *Assessment and Evaluation Tools for Individuals who are Deaf or Hard of Hearing*. One of the three topics was vocational evaluation. For white papers and a listing of tests, visit <http://www.pepnet.org/training/train110928/> It is promising to see vocational evaluation included as a discipline, separate from psychology, and respected for our contributions to helping students in postsecondary programs choose careers.

Lastly, the NC Rehabilitation Association Conference, held in Wrightsville Beach, also included VECAP as a sponsor and partner. At the opening breakout session, Dr. Chad Betters, VEWA President and incoming Registry of Professional Vocational Evaluators (RPVE) President, presented on our new Professional Vocational Evaluator credential (<http://pvregistry.org/>). To use a theatre metaphor, he played to a full house. There were vocational evaluators, rehabilitation counselors, program administrators, educators, and students. This kind of interest and enthusiasm is contagious. We hope you catch the fervor!

In the current Journal you will find two articles, a book review, and something different—the VECAP Test Review Form. Ms. Jill Flansburg, who is a doctoral student at the University

of South Florida, presents a unique application of cognitive behavioral therapy (CBT) as a way to reduce career indecision. Drs. Steven Sligar and Xiaoming Zeng describe the results of their study of the accessibility and readability of web sites from programs that are CARF accredited in Comprehensive Vocational Evaluation Services. Mr. Min Kim reviews *Test Scores and What They Mean* by H. B. Lyman. Mr. Kim, who is an advanced doctoral student at East Carolina University, relates the importance of test scores to our day-to-day practice.

Please note the inclusion of the VECAP Test Review Form. Tests are one of the primary tools we use in our practice and, according to our member survey, you are interested in more information about the tools of evaluation. Completing a review is your opportunity to make a contribution to others and I think you will be surprised at what you know and learn from this process.

We are very pleased to have Nancy Simonds join as co-editor. She brings a wealth of experience and knowledge of the editing process and with her expert pair of eyes will improve the professionalism of the Journal.

Given the importance of our new credential, the Professional Vocational Evaluator (PVE), we have republished Dr. John Lui's letter to the editor from Volume 7 Number 1 Spring 2011.

We look forward to our continuing dialog with you and, of course, receiving your manuscripts ([Journal@VECAP.org](mailto:Journal@VECAP.org)).

**Steven Sligar and Nancy Simonds, Co-editors**

**Min Kim, Managing Editor**

Errata and Corrections from Volume 7 Number 1 Spring 2011

We apologize to Karen Weiss-Ogden for incorrectly listing her name as Karen Ogden-Weiss.

The correct title for Drs. Chapin and Holbert's article is *Psychometric Validation of the SWBI and the WHOQOL-BREF for Vocational Rehabilitation Consumers*.

### **Introducing New Co-Editor of the VECAP JOURNAL**

Nancy Simonds has joined the Journal as co-editor. A former teacher, diagnostician, and director at private special education schools in Connecticut, Nancy now operates a successful writing and editing company. She helps instructors, college students, state agencies, and business owners communicate clearly and concisely. Nancy looks forward to learning more about our industry from VECAP contributors.

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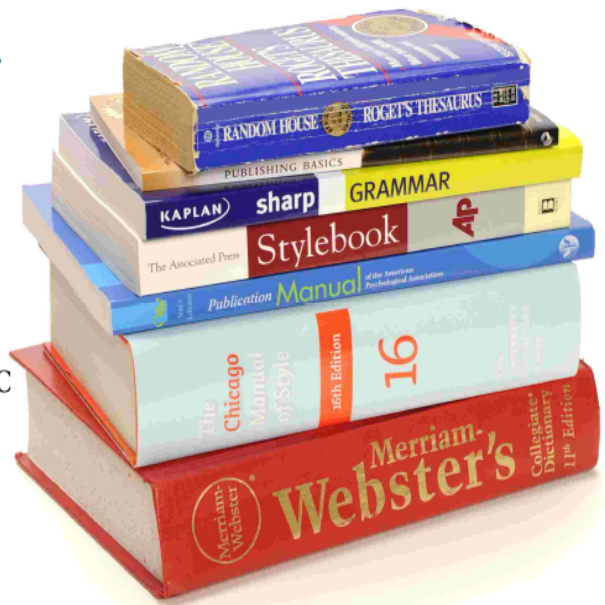
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# VECAP JOURNAL GUIDELINES FOR PUBLICATION

## Editorial Guidelines

The Vocational Evaluation and Career Assessment Professionals Journal (Journal) is an official publication of VECAP. The purpose of the Journal is to advance knowledge and practices in the fields of vocational evaluation, career assessment, and work adjustment. The Journal has three target audiences: practitioners and other professionals, educators, and consumers. The Journal provides readers with critical information to inform their practice in assessment or evaluation and therapeutic adjustment services, all with a vocational perspective. Practitioners, educators, researchers, and consumers may submit a manuscript for review. You do not have to be a member of VECAP to submit.

The Journal seeks the following types of manuscripts: research; theory building; perspectives on vocational evaluation or career assessment; reviews of books, tests, work samples; or other related topics of interest.

Note: See page 41 for new test review form [Go](#)

## Manuscript Submission

1. Use the Manuscript Review Form (see [VECAP.org](#)) to determine if the manuscript is ready for submission.
2. Submit the manuscript as an email attachment to [Journal@VECAP.org](mailto:Journal@VECAP.org).
3. Receive a confirmation email (within 1-2 days) with manuscript review number.
4. Manuscript is blind reviewed by the Editorial Board or invited reviewers who have expertise in a specific topic (typically requires 3-4 weeks).
5. Receive status email with one of the following conditions: accepted, accepted with revisions, or rejected.

## Submission Guidelines

Each manuscript must be prepared according to the current edition of the *Publication Manual of the American Psychological Association*. All manuscripts except book reviews and brief reports require a 150-250 word abstract with 3 keywords. An additional Journal requirement is to include an author bio(s), which is a single page that contains the author's name(s), credentials, and short (100 words) biographical information that will appear in the Journal if the article is published. Reviews of books, work samples or work sample systems, or other related topics of interest to the readers follow a guideline of 800 to 1400 words and no abstract. Here is a site link: [http://vecap.org/index.php?/site/publications\\_categories/C24/](http://vecap.org/index.php?/site/publications_categories/C24/)

**Note: More detailed submission information can be found online at [VECAP.org](#)**

For information on the status of your manuscript, contact:  
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For all other concerns, contact the editors at [Journal@VECAP.org](mailto:Journal@VECAP.org) or directly:

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## REGISTRY OF PROFESSIONAL VOCATIONAL EVALUATORS

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APRIL 18, 2011

Dear Editor,

As your membership is well aware, the credentialing body, the Commission on Certification on Work Adjustment and Vocational Evaluation (CCWAVES), that provided vocational evaluators to obtain the credential of Certified Vocational Evaluator (CVE) was suspended in September 2008. Since then, the Commission on Rehabilitation Counselor Certification (CRCC) has taken over the maintenance and renewal of current CVEs. New entrants into this field, especially recent graduates from various higher educational programs, have not been able to obtain their professional credential. To address this gap, in May 2009, representatives from the Vocational Evaluation and Career Assessment Professionals (VECAP) and Vocational Evaluation and Work Adjustment Association (VEWAA) organizations have been meeting as an appointed ad hoc Task Force to explore options for an alternate credential. This task force is composed of nine (9) members.

The result of this task force's efforts, including a national market analysis, is a new credential named Professional Vocational Evaluator (PVE), administered by the Registry of Professional Vocational Evaluators (RPVE). While the philosophy of RPVE is one of inclusiveness, the intent is to aid in the promotion and quality of the vocational evaluation profession. The purpose of the Registry is to provide a credential for vocational evaluators who have demonstrated attainment of acceptable standards of education, experience, and knowledge, based on the relevant knowledge and skill domains identified from the most recent practice analysis. Professional Vocational Evaluators (PVE) will, therefore, contribute to the promotion of informed choice in the career development process, vocational rehabilitation planning, employment outcomes, and/or workplace productivity by providing vocational evaluation services to guide individuals with employment or career barriers. We are delighted to inform the members of VECAP that RPVE, a non-profit organization, has been launched, effective April 1, 2011. Application Form, Application Guide, and Guidelines for Professional Conduct can be found on the website: [www.pveregistry.org](http://www.pveregistry.org). In line with the RPVE bylaws, a Board is fully functional as is its list of committees to include: Executive, Eligibility Compliance and Registration Renewal, Appeals, Professional Conduct, Standards, Public Relations and Communications, Nominations, and Finance.

Please feel free to check out the RPVE website at [www.pveregistry.org](http://www.pveregistry.org) and more importantly, please spread the word to other practitioners providing vocational evaluation services.

Sincerely,

John W. Lui, Ph.D., MBA, CRC  
President and Executive Director

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# **Website Accessibility and Readability Evaluation of Community Rehabilitation Programs**

**Steven R. Sligar**

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East Carolina University

## **Abstract**

In order to operate successfully, community rehabilitation programs (CRP) communicate with a diverse group of stakeholders via the agency's website. Based on legal, business, and ethical principles, the CRP's website should be accessible and the content readable for persons with disabilities. This cross-sectional evaluation of the home pages of agencies listed on the Commission on Accreditation of Rehabilitation Facilities (CARF) website finds that most agencies' websites did not display a designation of accessibility, were not accessible for consumers who are blind or have low vision, and were written above the reading level of the average American. Policy implications and recommendations for future research are included.

*Key words: website accessibility evaluation, readability evaluation, community rehabilitation program, vocational evaluation.*

## **Website Accessibility and Readability Evaluation of Community Rehabilitation Programs**

In order to operate successfully, community rehabilitation programs (CRP) communicate with a diverse group of stakeholders that includes consumers (future, current, and past), other professionals, and different communities, which may include local municipalities, businesses, employers, or other target groups. Following the example of other businesses, CRPs have turned to the Internet and World Wide Web as a medium for communication. The 26th Institute on Rehabilitation Issues (2002) identified Internet use as a resource for rehabilitation professionals to reach consumers and other stakeholders. In the bigger picture the United Nations lists web accessibility as

a basic human right for people with disabilities (United Nations, May 3, 2008). Two important aspects of communication are that readers of the website be able to 1) access and 2) read the web page to understand the posted material.

The importance of access is readily demonstrated as a legal requirement, a good business practice, which includes accreditation, and the right thing to do. From a legal perspective, the CRP must comply with the Americans with Disabilities Act (ADA) or Section 508 of the Rehabilitation Act of 1973 (Section 508) that states electronic and information technology must be accessible for persons with disabilities, including federal employees (U.S. Department of Justice, June, 2003). To make the case for business, Yonaitis (2002) argues that an accessible website will help to build a potential consumer base, show leadership, and actually save

money. He describes how it is less expensive to include accessibility in the original design than to make changes after the site is launched.

Another aspect of doing business is to offer quality services that have undergone a review by an independent agency such as the Commission on Accreditation of Rehabilitation Facilities (CARF; [www.CARF.org](http://www.CARF.org)). Part of the requirements to obtain CARF accreditation is for the CRP to demonstrate compliance with different standards, including those related to promoting access and the removal of barriers to consumers. Standard 2.a.(6) of the *Employment and Community Services Standards Manual* (Commission on Accreditation of Rehabilitation Facilities, 2009) discusses the importance of a website interface that is user friendly and easy to navigate. In the same section there is language about the importance of providing information in an “accessible and understandable format for the person served” (p. 126).

Finally, maintaining an accessible website is tangible proof of the CRP’s ethical conduct of business. In a description on the development of corporate compliance, O’Brien (2006) posits that an organization must have a code of ethics that is sound and known throughout the organization. She further states that the code of ethics addresses, among other topics, “marketing, service delivery and professional ethics” (p. 4). In order to follow her counsel, a CRP would market services in an accessible and understandable way. This issue of accessibility is also in line with the various professions that serve persons with disabilities. The codes of ethics for three professions, i.e. rehabilitation counselors, vocational evaluators, and

rehabilitation administrators, often employed in CRPs all have language about the importance of respect for the consumer’s dignity and advocacy on their behalf (Vocational Evaluation and Career Assessment Professionals, n.d.; Commission on Rehabilitation Counselor Certification, 2010; National Association for Rehabilitation Leadership, 2007). Sponsoring an accessible and understandable website demonstrates that the CRP operates a responsible, honorable, and ethical business.

Once a web page is accessed, it must be read and understood. Readability is the “semantic and syntactic attributes of the written word” (Calderon, Morales, Liu, & Hays, 2006, p. 49). Readability specifies the level of understandability of a web page. In other words, how difficult is it for visitors to understand the content on the web page. There is a related concept, legibility, that measures how easy the format or design of the web page is to perceive and discern. For example, a web page created with gray text font on a black background would be hard to discern due to the lack of contrast between the text and the background, but may be written in a style so easy that an elementary student can fully understand the content.

The 2003 National Adult Literacy Survey (Kirsh, Jungeblut, Jenkins, & Kolstad, 1993) found that the average American reads at the seventh to eighth grade level. In their analysis of literacy levels by various segments of the population, they found:

When the literacy levels and proficiencies of respondents who said they had an illness, disability or impairment are compared with the literacy levels and proficiencies of

adults in the total population, sharp contrasts are evident. Without exception, adults with any type of disability, difficulty or illness were more likely than those in the total population to perform in the lowest literacy levels (p. 43).

Consideration of these findings makes a compelling case to insure that CRP web pages are both accessible and readable in order to accommodate more of their consumers.

## **Background**

### **Web Accessibility Standards**

Web designers often use standards to guide the development of Web related technologies and websites, including accessibility and readability. The most far-reaching and widely recognized organization in drafting and recommending Web standards is the World Wide Web Consortium or W3C (<http://www.w3.org/>). This is an international group that “develops interoperable technologies (specifications, guidelines, software, and tools) to lead the Web to its full potential” and is the sponsor of the Web Accessibility Initiative or WAI (World Wide Web Consortium, 2007a). The WAI published the first version of the Web Content Accessibility Guidelines (WCAG) in 1999 (World Wide Web Consortium, 1999a). The WCAG has 14 general guidelines that include 66 specific checkpoints to evaluate a website’s level of accessibility. Several countries, including the United States, have laws and policies related to website accessibility. The ADA and Section 508 are the two prominent acts that mandate the accessibility of websites for persons

with disabilities. The WCAG guidelines subsume those mandated in the ADA and Section 508 (Thatcher, 2007).

To recognize the level of accessibility of a website, the WAI provides three logos to indicate three levels of conformance with the WCAG’s priority guidelines: a web page that is priority one compliant receives an A (the website *must* meet a subset of guidelines), priority 2 receives AA (the website *should* meet an additional subset of guidelines), and priority three receives AAA (the website *may* meet all guidelines; World Wide Web Consortium, 1999a; World Wide Web Consortium, 2008b). Another widely used icon, Bobby, which is the caricature of a British policeman from a discontinued evaluation system, is still posted on some websites to indicate accessibility.

WCAG contains guidelines related to readability. WCAG Guideline 14 *Ensure that Documents are Clear and Simple* has checkpoint 14.1, which states that the website will *Use the clearest and simplest language appropriate for a site’s content* (World Wide Web Consortium, 1999b). The purpose of the guideline is to assist persons with cognitive disabilities to understand the content of the website. The WCAG does not have a specific protocol to evaluate readability but, rather, relies upon a subjective evaluation, which leaves the evaluation to the webmaster. Many automated web accessibility tools do not have this feature included on its scan list.

On December 11, 2008, W3C recommended the implementation of WCAG 2.0 because WCAG 1.0 had been in existence for almost ten years. Due to the advances of the Web during the last decade, WCAG 2.0 applies more broadly to different types of web

technologies, even future ones. The major difference between WCAG 1.0 and 2.0 is that WCAG 2.0 is organized around four *design principles* (Perceivable, Operable, Understandable, and Robust) of Web accessibility. Under each principle there are guidelines that have testable success criteria at level A, AA, or AAA. While most of the guidelines in the WCAG 1.0 document are for HTML content, the WCAG 2.0 intends to make the guideline technology neutral by avoiding descriptions of specific Web technologies in the guidelines (World Wide Web Consortium, 2008c). Although WCAG 2.0 is considered as another major milestone in the standardization for Web accessibility, many criticize its complexity that may cause difficulties for adoption by web developers (Clark, 2009). At present there is no tested software validator that can examine website conformance to WCAG 2.0 in either an automated or semi-automated way.

### **Website Evaluation Tools**

There are three different ways to evaluate a website's accessibility: manual, semi-automated, and automated software (World Wide Web Consortium, 2008a). Manual checks range from visual scans for accessibility icons to the use of special software like a screen magnification program to determine if the website interacts easily with the software. Semi-automated evaluations use software to identify potential error(s) that must then be verified manually. There are several automated tools that use software to check the website for accessibility. After the evaluation, the software develops a report of errors or, if

WCAG guidelines are used, checkpoints that are not in compliance.

There are different automated tools, including aDesigner (<http://www.eclipse.org/actf/downloads/tools/aDesigner/>), that provide: visual representations of a web page for persons who are blind or have low vision; scores and ratings for comparisons of websites; and an evaluation of all of the WCAG checkpoints (World Wide Web Consortium, 2007b). Specifically, aDesigner provides three types of scores to quantify Web accessibility for persons who are blind: *Compliance* scores indicate the web page's compliance with current Web accessibility standards. *Navigability* scores indicate how easy the web page is to navigate by a person who is blind using screen reading software. *Listenability* quantifies the time a screen reader needs to access different parts of the web page. All three scores range from 0 to 100 with 100 as the perfect score. A zero-to-three star ordinal scale (0 star: not accessible, 1 star: somewhat accessible, 2 stars: mostly accessible, and 3 stars: very accessible) is also used for general Web accessibility for persons who are blind or have low vision. Compared to other automated evaluation tools, aDesigner is unique by assessing not only the level of web page compliance with common Web standards, but also how easy the web pages are for persons who are blind or have low vision to use. WCAG maintains a website listing a variety of automated Web accessibility evaluation tools (<http://www.w3.org/WAI/ER/tools/complete>).

To determine a website's readability level the evaluator may perform a manual check or use a software program.

Either method involves selecting a passage, counting the words and then the number of syllables per word. The results suggest the level of skill needed to read the text (Calderon et al., 2006). Two common methods used to determine readability are the Flesch-Kincaid Reading Formula (F-K) and the Flesch Reading Ease Index (FRE; Calderon, et al., 2006). The F-K provides a reading grade level and has greater accuracy in the lower grades with a ceiling at the 12th grade. The formula used to compute the F-K grade level uses the average sentence length plus the average number of syllables per word (Readability Formulas, n.d.a). The FRE yields a score between 0 and 100 with the higher the score representing an easier to read document with a corresponding lower grade level equivalent ([Table 1](#); Calderon et al., 2006). The FRE formula is based on the average sentence length minus the average number of syllables per word (Readability Formulas, n.d.b). The standard or average score is between 60 and 70 with a score <75 desired for people whose literacy skills are limited (Readability Formulas, n.d.c).

### **Previous Evaluation Studies**

As the number of websites has increased there has been a corresponding interest to determine if these sites are accessible and readable. West (2008) has conducted evaluations of government websites since 2000 that included accessibility and, in his most recent study, readability. In this study of 1537 state and federal websites, West found that after several years of increasing numbers of accessible websites, there was a decrease. Using the F-K, he found that the average readability of all sites was at the 11.9 grade level. Other studies

of U.S. government websites have reported some accessible websites but accessibility is still problematic (Gant & Gant, 2002; Jackson-Sanborn, Odess-Harnish, & Warren, 2002; Jaeger, 2006). Similar results were found in accessibility evaluations of special education programs (Flowers, Bray, & Algozzine, Fall 1999), centers for independent living (Ritchie & Blanck, 2003), liberal arts colleges (Irwin & Gerke, 2004), community colleges (Schmetzke, 2003), and state vocational rehabilitation agencies (Sligar & Zeng, 2008).

Numerous readability evaluations have been conducted in the health care industry and have focused on content posted on the Internet regarding grade levels and ease of reading for persons with varying levels of literacy. Wilson, Baker, Brown-Syed, and Gollop (2000) evaluated 49 documents posted on the CancerNet website and used the F-K to find an average grade level of 12th grade. In a similar study, Walsh and Vosko (October 2008) examined 100 articles posted on various health information websites and found an F-K grade level average of 9.85. Friedman, Hoffman-Goetz, and Arocha (June 2004) evaluated 55 websites that contained information about cancer and used the F-K, FRE and other readability tools. They found the following averages: F-K grade level of 10.9; FRE level of 41.6; and 63% of the sites were at the college level (Grade 13+).

There is no data on the reading levels or disabilities of persons served by CRPs with CVES. Jacobs (2010) conducted an analysis of Rehabilitation Services Administration 911 data of closed cases (N=44,542) that were referred to the state VR program by CRPs during FY2007. This data provides some insight

Table 1

*Reading Difficulty Rating of Flesh Reading Ease Scores and Flesh-Kincaid Grade Level Scores*

Reading Difficulty Rating	Flesh Reading Ease Scores	Flesh-Kincaid Grade Level Scores
Very easy	90-100	5
Easy	80-90	6
Fairly easy	70-80	7
Standard	60-70	8-9
Fairly difficult	50-60	10-12
Difficult	30-50	13-16
Very difficult	0-30	≥College graduate

Note: From Calderon, Morales, Honghu, and Hays (2006).

into the types of persons served by CRPs. Two variables that influence literacy are education and disability. Education levels at the time of case closure included the following: 19.4% had no schooling to some secondary education without a diploma; 9.1% had a special education diploma or certificate of attendance; 41.1% had a high school diploma or GED; 16% attended a postsecondary program (no degree); and 14.4% completed a postsecondary program (vocational certificate, Associates, Bachelors or graduate degree). All of the referrals presented with a disability and 55.9% also had a secondary disability. This data indicates that persons served by CRPs are at risk for low literacy levels. In light of the client characteristics, recent accessibility studies, and increased interest in readability of websites, it is important to examine how CRPs have responded to the needs of consumers they serve. There have been no studies conducted on the accessibility or readability of CRP web sites.

### Purpose

The purpose of this study was to evaluate the level of accessibility and readability of the home pages of community rehabilitation programs that are CARF-accredited and provide comprehensive vocational evaluation services. This sample was selected because it represented a unique service offered nationally with a field size that allowed for inclusion of all possible subjects. We fully understand that rehabilitation professionals may not have control of web design at their agency. Our intention is to increase the awareness of rehabilitation professionals and subsequently their agencies about Web accessibility and readability.

Questions that directed the study were: 1. What is the current status of the accessibility and readability of websites of community rehabilitation programs for persons with disabilities and persons who are blind or have low vision? and 2. Is there any difference between different types of organizations (i.e., government, business, education, and non-commercial organizations)?

## Methods

### Sample

The sample was obtained from an online list of vendors or CRPs that is maintained by CARF

(<http://www.carf.org/Consumer.aspx?Content=ConsumerSearch>). Using the filters supplied on the website, customer service unit (employment and community services), program (comprehensive vocational evaluation services), country (USA) and state, we identified 491 CRPs that offer comprehensive vocational evaluation services in employment and community services. A research assistant reviewed each listed CRP, coding whether a website was listed or not and if a website was available on the CARF website, the assistant then visited the home page to determine if it was working. If a listed website was not working, then a web search using the search engine Google ([www.google.com](http://www.google.com)) was conducted to determine whether or not the agency had a current website. We used the name and location of the agency as the keywords to search for the website of the agency. If no website was identified through the web search, then the agency was considered as not having a working website.

### Website Evaluation

The evaluation was conducted on working websites of CRPs in the Spring/Summer 2008. There were three parts: designation of accessibility on a home page; evaluation of Web accessibility; and evaluation of readability.

Each home page was visually checked for an indicator of accessibility such as a web accessibility icon (e.g., Bobby, WAI, WCAG, 508), statement about Web accessibility, or link to an

alternative accessible webpage. We also assessed the distribution of four different types of organizations as indicated by the domain extension of the web address: .com designates a commercial organization; .edu designates an educational organization; .gov designates a governmental organization; and .org designates a not-for-profit organization. For other types of web extensions (e.g., .net, .us), the two authors determined organizational type by a review of the home pages.

Second was the use of aDesigner to evaluate accessibility, which was selected because it provided information about accessibility for all persons with disabilities, additional information specifically for persons who are blind or have low vision, and scores for comparison of websites. The research assistant copied the home page URL, pasted it into the software, and ran an evaluation for persons who are blind and a separate evaluation for persons who have low vision. After running the evaluations, the program provided reports with scores or stars for compliance, navigability and listenability, and general Web accessibility for persons with disabilities, including those who are blind or have low vision.

A third approach was an evaluation of readability of the home pages. We used the Spelling and Grammar function in Microsoft Word, which yields Flesch Reading Ease Index and Flesch-Kincaid Grade Level scores, to conduct this evaluation. The research assistant copied and pasted the text from the home page into a blank Word document. Using the Spelling and Grammar check in Word, the assistant obtained a Readability Statistics report of the home page. The readability statistics include the

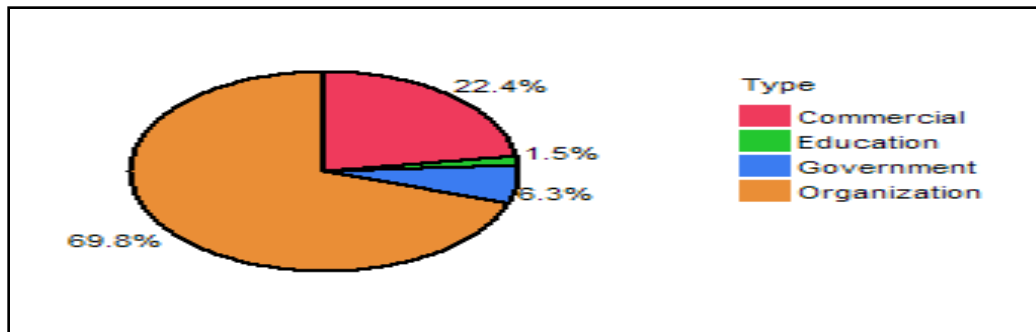


Figure 1. Percentages of Different Types of Organizations in Our Web Samples

percentage of passive sentences used on the homepage, the Flesch Reading Ease Index, and the Flesch-Kincaid Grade Level.

### Analysis

Frequencies were calculated to summarize the number of websites in our sample and indicators of Web accessibility. Means and standard deviations were calculated for measures of Web accessibility and readability. A two-sample *t*-test was performed to compare the measures of Web accessibility and readability between the groups of not-for-profit and commercial agencies. A Microsoft Excel spreadsheet was created to collect and store data, which was then imported into SPSS 16.0 (Chicago, IL) for analysis.

### Results

We found 491 CRPs listed on the CARF website and 205 of those had a website listed. A review of the 205 websites

found three that were dysfunctional. Therefore, less than half (41%) of the CRPs listed had functional websites for communication with stakeholders.

### Figure 1

Figure 1 illustrates the percentages of different types of these 202 organizations. The majority of the CRPs are not-for-profit organizations (69.8%). The second most frequent type is commercial agencies (22.4%) and the remaining are government (6.3%) or education (1.5%) organizations. We found that most of the agencies (142) did not have any designations for Web accessibility on their websites (Table 2). Half of the websites (30) that have Web accessibility designation use other indicators such as a disability policy disclaimer or a link to an alternative text website. The AA logo is not used as widely as A and AAA logos. Bobby and W3C-WAI logos are the two most popular used by the websites that display such logos. The Section 508 logo

Table 2

### Frequency of Web Accessibility Icons/Disclaimers by Types

	Bobby			WCAG			W3C-WAI			Section 508	Others	Total
	A	AA	AAA	A	AA	AAA	A	AA	AAA			
Frequency	10	0	2	4	0	1	11	1	1	3	30	60

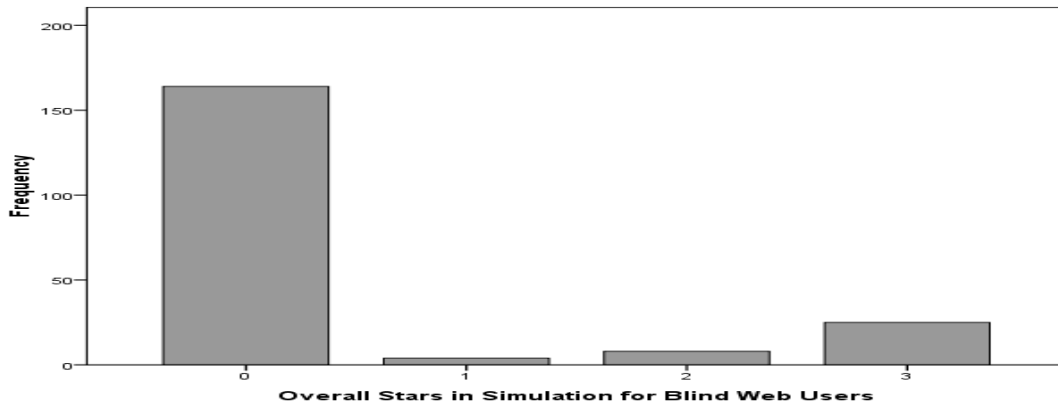


Figure 2. Distribution of Stars for Persons who are Blind

is only used in 5% of the websites with accessibility designations.

### Web Accessibility

The eDesigner measures the ease with which a user who is blind or has low vision can access a web page from the perspective of compliance with three factors: existing Web accessibility standards, degrees of listenability, and navigability of a web page. We found that the majority of the websites have an acceptable score ( $>80$ ) for compliance (67%), navigability (63%), and listenability (68%). However, only 12.2% of the web pages received a three-star evaluation when assessing the level of Web usability for users who are blind,

which means the majority of the home pages do not have satisfactory scores in all three areas (Figure 2). Unlike the evaluation for users who are blind, the low vision simulation yields a four-star score to indicate the easiness of the website for web users who have low vision. About half (51%) of the web pages were given a three-star rating (Figure 3), which means they are very accessible.

### Readability

The three variables we used to measure readability of a web page are the percentage of passive sentences on a web page, the FRE score, and the F-K score. Note that both the FRE and F-K require a certain number of sentences

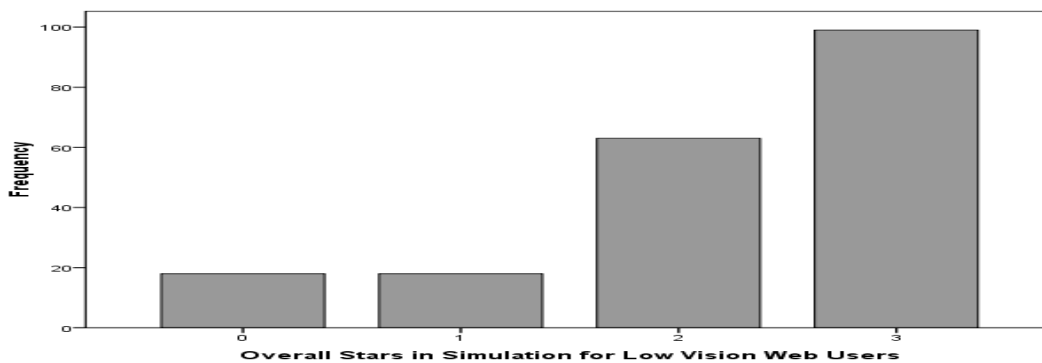


Figure 3. Distribution of Stars for Users Who Have Low Vision

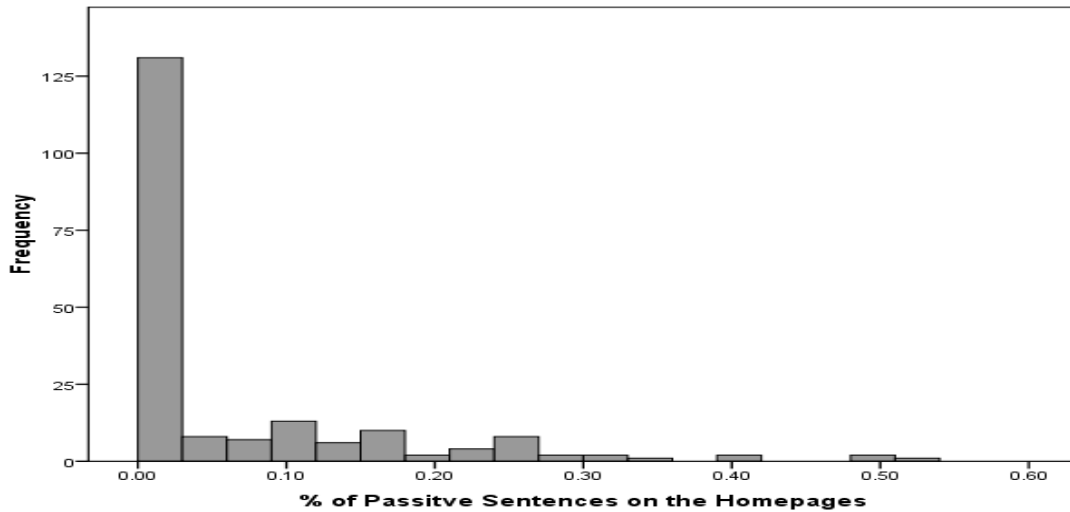


Figure 4. Histogram of Passive Sentences on a Home Page

and words to calculate the final score. Many home pages consisted of single words or short phrases and consequently the evaluation of these sites yielded a score of zero due to the limitations of the calculation. Therefore, for the analysis of FRE and F-K of the home pages, we excluded the websites with scores of zero. We found the majority of the websites (131) contained no passive sentences. Only two web pages were

written with more than 50% passive sentences ([Figure 4](#)). The average percentage of passive sentences within a home page is 6.16% with a standard deviation of 10.7%. The distribution of the FRE score is shown in [Figure 5](#). The average FRE score is 31.51 with a standard deviation of 16.4. Half of the home pages have FRE scores less than 30, which indicate college level reading. [Figure 6](#)

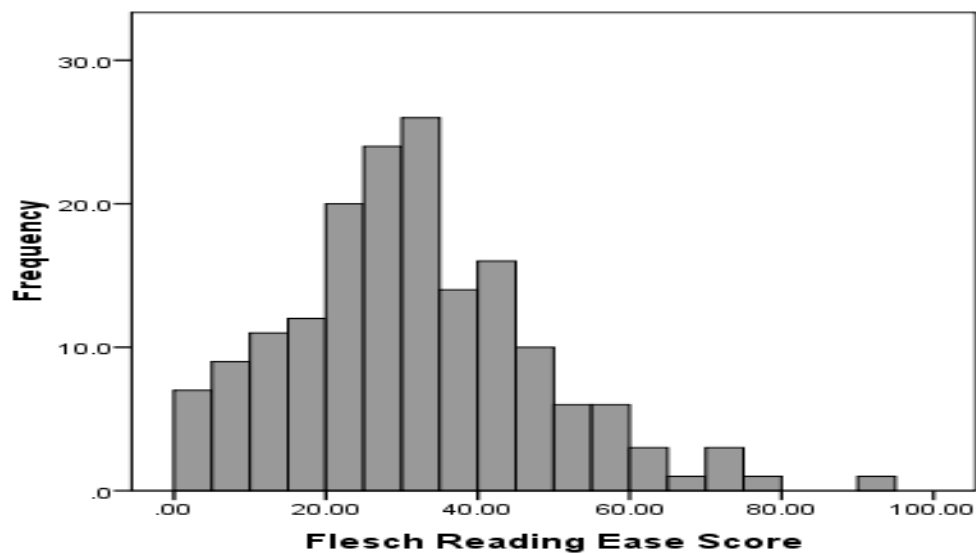


Figure 5. Histogram of Flesch Reading Ease Score of CRP Home Pages

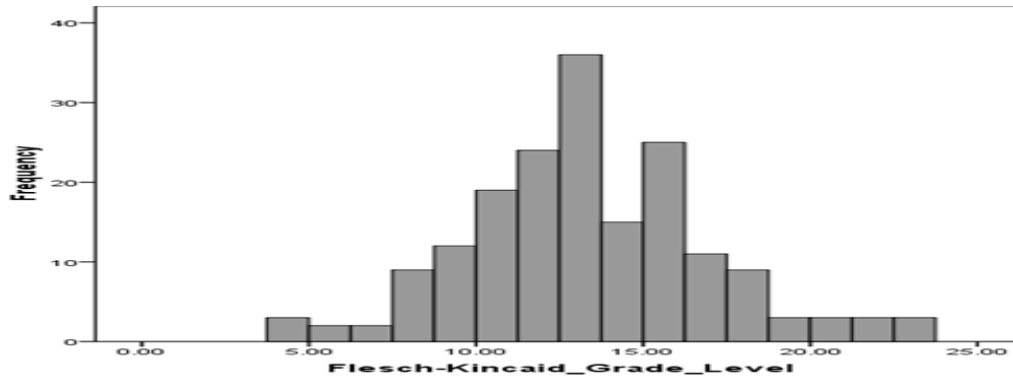


Figure 6. Distribution of Flesch-Kincaid Grade Level of CRP Home Pages

Figure 6 shows the distribution of F-K across the home pages. There were 26 home pages with a F-K zero value due to formula limitation and not a reflection of the grade level. We found that the average F-K of the homepages is 13.34 with a standard deviation of 3.60. In other words, the average home pages of CRPs are designed for visitors with college freshman to sophomore reading levels. The highest grade level in our sample is above 23, which means the home page requires post-graduate education to be understood. However, of the 176 evaluated home pages, only 10 (5.6%) have a F-K below grade 8, which is the average reading level of adults in the United States.

### Comparison between Different Types of Agencies

Due to the low number of agencies in the education (edu) and government (gov) groups, we combined these with not-for-profit organizations (org) to compare with the commercial (com) group. We found only one outcome variable that has a statistical difference between two groups. This is the variable “overall number of stars in simulation for blind Web users” ([Table 3](#)).

### Discussion

This study is a cross-sectional assessment of the home pages of agencies listed on the CARF website. The study is from the perspective of web content accessibility and readability for people with disabilities, in particular Web users who are blind or have low vision. Although we did not intend to evaluate the CRP websites comprehensively due to limited resources, many findings still indicate that there is room for improvement at many of the websites listed by CARF.

If a website had any accessibility indicator, then we accepted that as meeting a criterion for inclusion in the study. Still, only 30% of the websites display any type of designation of Web accessibility on their home page. Although the presence of designations may not mean the website is accessible, the lack of designations may indicate that the site developers have not considered Web accessibility or perhaps have no intention to build an accessible website. Regardless, a designation (present or not) sends a message to visitors about the agency’s value of accessibility. We noticed an interesting pattern appeared from websites adopting

Table 3

*Comparison between Commercial and Non-Commercial Agencies*

	Type	N	Mean	SD	P value
FRE	Commercial	34	27.12	15.79	0.936
	Non-Commercial	136	32.61	16.43	
F-K	Commercial	35	13.86	2.98	0.258
	Non-Commercial	144	13.22	3.74	
Passive Sentences on the Home Pages	Commercial	42	.06	.12	0.600
	Non-Commercial	157	.06	.10	
Compliance Scores for Blind Simulation	Commercial	43	84.62	15.27	0.065
	Non-Commercial	158	82.67	23.05	
Navigability Scores for Blind Simulations	Commercial	43	85.09	22.10	0.768
	Non-Commercial	158	84.17	23.58	
Listenability Scores for Blind Simulation	Commercial	43	84.12	17.00	0.082
	Non-Commercial	158	82.12	23.79	
Overall Stars in Blind Simulations	Commercial	43	.23	.78	<0.01
	Non-Commercial	158	.54	1.09	
Overall Stars in Simulation for Low Vision Web Users	Commercial	42	2.14	.87	0.331
	Non-Commercial	156	2.25	.98	

the Web accessibility logos: most of the websites have either A (minimally required compliance) or AAA (maximally required compliance) logos to indicate their level of Web accessibility. This may suggest that a two-level criterion (minimum and maximum) is more practical than a three-level one for Web accessibility self-evaluations.

We used three variables to measure the readability of the homepages – percentage of passive sentences, FRE, and F-K. We found that the majority of the home pages have few passive sentences. This could be explained by the typical succinct style of writing on home pages. Usually a home page, with a few paragraphs and a number of short, linked phrases, serves the role as a summarized overview of the host organization and the “grand central,” guiding visitors to other parts of the website. Therefore, typically there are not many complete sentences on a home page (Lynch & Horton, 2008).

However, the result from the measures of FRE and F-K indicate that most of the home pages are written in a style that is above the recommended reading level of average Americans. The result is more surprising given the succinct style of home page writing and fewer long paragraphs shown on these home pages. This result may be even more problematic for some consumers who participate in CARF services because they may fall within the group that has below basic prose literacy (Kirsh et al., 1993). Thus, the low readability will present as even a bigger barrier for those consumers to obtain a complete understanding of the provided services. Although we only measured the home pages of selected CARF-accredited agencies, other web pages within the same site may contain even more complete sentences. Consequently the readability of those pages would be more challenging for site visitors to comprehend.

Because people with disabilities often need special assistance to enter or

reenter the job market, making a web page accessible to this group will allow agencies to recruit more consumers and fulfill the agency's mission.

Surprisingly, we found most of the websites lack an accessible home page to satisfy the needs of Web users who are blind. These consumers often use assistive technologies such as a computer screen reader to access the content on a web page. Compliance with published Web accessibility standards ensures the web page is accessible from the perspective of assistive technologies. Our evaluation goes beyond Web accessibility by including navigability and listenability to make sure that Web users who are blind have the same experiences as sighted users. We found that a limited number of sites can excel in all three areas. This may be attributed to the tediousness of maintaining a web page that is both dynamic and accessible or a lack of effective tools to help web designers construct a usable site for people with disabilities (Clark, 2009). For example, even many highly rated websites may lack accessibility features on their web pages (Ivory & Megraw, October 2005). Tools that can help web designers and developers to integrate accessibility as an inseparable design process are needed if we want to observe universal usability.

Our initial expectation was that we would find some statistical differences between the not-for-profit organizations and commercial organizations because of the different structures and requirements for their operations. However, we found little difference between the two groups other than the overall Web accessibility for Web users who are blind. This difference may be attributable to the sensitivity and practices that foster better compliance

with Web accessibility standards and relevant legislation of not-for-profit organizations. For example, included in the non-profit grouping are government websites that are mandated to abide by Section 508 of the Rehabilitation Act. The no statistical difference in other assessments could be caused by lack of legislative mandates (e.g., readability) or negligence (e.g., accessibility to low vision users). All of the websites still need to improve their accessibility and readability.

### **Policy Implications**

Our findings have implications for policies related to the CARF accreditation process. First, all accredited agencies need to comply with Web accessibility standards and legislation, especially when they have contracts with the state or federal governments. Compliance is important from both an ethical and business perspective. Second, accredited agencies need to make the content on their website no higher than an eighth grade reading level to ensure that the web page can be understood by most Americans. The agencies need to use accessibility and readability evaluation tools and the results of these evaluations to improve their websites. There are also implications for CARF. Stronger language related to website accessibility and readability with specific examples can be included in the standards and interpretations and the self-study guide. Surveyors can be trained and charged to look for indications of accessibility and readability evaluations and actions taken by the agency to utilize the findings.

### **Limitations**

There are several limitations of the study. First, because of the unbalanced

sample size between the categories of agency type, we did not have an opportunity to investigate all the differences between them. Our expectation is that either governmental or educational websites will show a ducted, then a manual evaluation needs to be employed, which is expensive in terms of both time and cost. However, Casado, Martinez, and Olsen (July 2009) showed that the results of an automated evaluation could definitely be used to approximate the results of a manual evaluation. Third, we used only the home pages of CARF accredited agencies and expected that the entire website could be estimated from the evaluation of the home page. We also assumed that most of the consumers access the website through the home page. However, this might not be true due to the popularity of Web search engines and their capability of leading to any web pages on a website.

### Future Study

This cross sectional study only depicts the status quo of Web readability and accessibility of CARF-accredited agencies. The results show that most websites are not desirable for people with low literacy and who may also have a disability. Most of the websites do not have a perfectly accessible home page and much of the contents are incomprehensible for the average consumer. A follow up question to the study would ask the reasons for such low levels of accessibility and readability. Is it because the agencies do not know the existing legislation or standards with which they should comply? Or it is just too costly and tedious for the agencies to maintain a usable website? Is there a systematic tool that can minimize the effort of such a goodwill endeavor so

different pattern of Web accessibility and readability due to legal obligations. Second, to investigate Web usability, we only relied on an automated evaluation of home pages. If a comprehensive evaluation of web pages is to be conducted, that a website can maintain accessibility and readability with minimal intervention from the webmasters? The voice of the consumer is also missing from this evaluation: what are their perceptions or experiences with these websites? All of these questions provide directions for future study.

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# Using Cognitive Behavioral Techniques to Reduce Career Indecision

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## Abstract

Cognitive behavioral therapy (CBT) techniques are examined to assist counselors to conceptualize and intervene with career indecision. Research shows variables that correlate with career indecision are successfully alleviated by CBT such as dysfunctional thinking, anxiety and depression, and poor problem solving skills. Examples of popular CBT techniques like assessment, cognitive restructuring, and skills training are given in relation to career counseling for persons with disabilities. Evidence based research is necessary to examine the effectiveness of these techniques with career indecision.

*Key words: career indecision, cognitive techniques, vocational evaluation*

## Introduction

Career indecision is a complex cognitive and emotional process. Recent research describes cognitive, emotional, and behavioral variables associated with career indecision that substantiate the author's experience using cognitive behavior therapy (CBT) techniques in career counseling with persons with disabilities. Career indecision and cognitive therapy are defined, and variables examined in recent research are discussed in career counseling context. Implications for future research are suggested.

A cursory glance at articles recommended by a search on EbscoHost.com does not produce many research findings connecting cognitive techniques to career indecision, especially within the last 10 years. However, these techniques appear well matched to career counseling since both are typically short-term and include a practical goal. In fact, cognitive techniques have been used in a college career counseling center setting to improve homework compliance by Baruch, Kanter, Bowe, and Pfenning in 2011, and

the relationship between dysfunctional thoughts and career indecision has been examined in dissertation research by Chang in 2007. Career counselors develop an affinity for one therapeutic style or another, but this inquiry provides examples as to when and how cognitive techniques might assist an indecisive client.

## Career Indecision

Decided clients are those who have made a career decision. These clients might profit from counseling that is designed to formulate other steps in decision making and to determine if their choice was inappropriately made. Undecided clients have not made a career decision but might not view their current status as a problem; they prefer to delay making a commitment. The indecisive client is characterized as one who has a high level of anxiety accompanied by dysfunctional thinking. This client type is often labeled as not having cognitive clarity or as having irrational beliefs (Zunker, 2006, p. 87).

Career indecision is faced by many persons who must work or want to work.

Sometimes, people are unable to determine what occupations might give them job satisfaction. These individuals may not know what their values are, what environments they prefer, or how to prioritize these elements when making a choice. Career decisions are made in light of how a person sees him or herself (Cook, 1991). Other times, indecision is compounded when a person does not know what skills and abilities are required by different jobs.

Because job satisfaction is a subset of life satisfaction, career indecision can have a negative impact on general well-being (Semmer, 2003). Although career indecision is a normal and ongoing process of career exploration, it is potentially frustrating to the client. As a result, the client may hold a number of irrational beliefs about him or herself. Because dispelling these cognitive distortions is a basic tenet of cognitive behavioral therapy (CBT), these techniques are a good option when working with clients who struggle to make a career decision.

### **Cognitive Behavioral Therapy (CBT)**

Cognitive behavioral theory suggests that persons react to what they believe or think about an event, not the event itself (Dobson & Dozois, 2010; Leahy, 1997). That is, something happens and a person interprets it from his or her own frame of reference, and then reacts to that thought. For example, imagine you were planning to play in a softball tournament this weekend and it rained. You could be disappointed because you could not play, or you could be happy to spend time doing something else. The poor reaction or emotional disturbance is caused by your negative appraisal of the event.

Furthermore, an individual may form beliefs about the world or what will happen based on previous experiences (Leahy,

1997). These assumptions or preconceived notions may influence how the person thinks about events and then responds, regardless of what actually happens. A person interprets events in a way that fits these distorted cognitions (Beck & Weishaar, 2008). That is, meaning is assigned to new situations based on what the person fears will happen or what has happened in the past, not on what is actually happening. Therefore, by changing a person's thoughts, the counselor may be able to change resulting emotions and behavior, and decrease troublesome symptoms.

CBT is well documented in the evidence based research, and is often an approved therapy by third party funding. A career counselor might use CBT with a client whose emotional distress does not interfere with understanding the premise of the theory, as it is a collaborative process, and one who will participate in session discussions and possibly homework, since success depends on practice to instill new thoughts and behaviors. If cognitive distortions can be reduced or eliminated, the client may be able to consider a wider range of occupational options and clarify personal values related to job choice.

### **Cognitive Techniques for Career Indecision**

Three CBT techniques used to counsel career indecision are addressed in this section: assessment, cognitive restructuring, and skills training. Assessment helps identify suitable interventions for the specific problem (Saka, Gati, & Kelly, 2008), improves self-efficacy (Betz & Vuyten, 1997), and provides documentation regarding the client's skills and interests. Cognitive restructuring examines cognitive distortions by comparing information about the person and the job or labor market to dispel irrationalities and develop choices.

Skills training teach the client how to communicate thoughts about jobs, ask for necessary information, and learn to make decisions. There are additional cognitive techniques that might be suitable for the career counselor, but they are not presented here. Assessment, cognitive restructuring, and skills training may be most pertinent to career assessment and vocational evaluation.

### **Assessment**

Many types of assessment are used in cognitive behavioral approaches, and vocational interest testing is a good start to find out what types of tasks the client believes are interesting. Results that document aptitudes, preferences, and attitudes help initiate communication between counselor and client regarding the client's thoughts, emotions, and skills. Results are reviewed with the client, and rapport established to collaborate on a career goal that is realistic in terms of restrictions imposed by disability conditions, local labor market, and social issues; e.g., funding, time commitment, and so forth. Requesting information and perceptions from the client about medical or psychological conditions, educational, social, legal, financial, and employment histories uncovers the client's values, aspirations, concerns, and development (Dobson & Dobson, 2009).

Assessment can help identify negative career thoughts (Osborn, Howard, & Leierer, 2007). Pointing these tendencies out, as well as teaching the individual to self-monitor for negative thoughts, may improve the quality and affectivity of career thoughts. If career options are dismissed based on cognitive distortions, then not all realistic choices are considered. Assessment can either examine a client's responses on a formal, structured inventory, or ask for additional information during the counseling session; e.g., "What do you tell yourself about working as a doctor?" Assessing a

person's thoughts and asking for explanations to clarify are CBT techniques designed to uncover core beliefs (Dobson & Dobson, 2009).

Assessment also points out areas where the individual needs additional information or has continual dysfunctional career thoughts (Wright, Reardon, Peterson, & Osborn, 2000). Lack of information can be a problem whether it is a lack of information about self or the job. Certain tests lend insight as to how persistent the individual is when thinking about a particular career field (Sampson, Shy, Hartley, Reardon, & Peterson, 2009). For example, if a person consistently scores high in the same interest category, whether asked about tasks or job titles, there may be a definite preference that persists across companies or career ladders. Helping the client get enough information and develop several options may assist in solving career decision making problems (Dobson & Dobson, 2009).

### **Cognitive Restructuring**

Cognitive Information Processing (CIP) theory suggests that information is needed to make good career decisions (Wright et al., 2000). This information can be about the person, the job, or how to go about making a decision. Furthermore, emotions and thoughts are involved in making career decisions, with emotions as the motivating force (Meyer-Griffith, Reardon, & Hartley, 2009). In other words, how a person feels about personal career thoughts determines what behavior is performed.

Cognitive distortions can keep the individual from taking in additional information about careers, or interfere with learning decision making skills (Wright et al., 2000). The counselor can teach the individual how to identify negative thoughts and reframe them more positively (Osborn et al., 2007). For example, the original negative thought might be, "My mother

doesn't respect my desire to be an artist, so to heck with her." Reframed phrases might include, "I would prefer to get respect from my mother for pursuing a career as an artist, but if I don't get it, I can still have a relationship with her." This includes reframing negative thoughts to change the boundaries of jobs to find meaning (Dik & Duffy, 2009). For example, cosmetology or food preparation can be thought of as avenues to serve others, but without pursuing lengthy training. By having the client define what leads to a good choice (Betz & Vuyten, 1997), the counselor can teach persons to examine what their vocational identity is (Dik & Duffy, 2009).

Morrell (2004) suggested the use of Socratic questioning to ask questions about the basis of previous answers to examine inconsistencies in beliefs about jobs and careers. If a person makes assumptions based on faulty conclusions, following up with questions about what faulty outcomes are anticipated may assist him or her to see the original mistake in rationale. Even though these questions may not get a definitive answer, the act of examining the schema may break the habit of thinking in a pre-defined way, and allow new or additional information for consideration. Subsequently, other actions and other decisions become more likely. This technique helps the client learn how to make decisions, instead of just doing what the counselor says.

### **Skills Training**

CBT is educational and teaches the client different ways of thinking and behaving. Some clients may have to build other skills before they are ready to combat career indecision (Saka et al., 2008). These skills build a foundation for counseling sessions, such as being able to discuss accurately cognitive distortions, and choose a viable vocational path.

**Communication skills.** How well a person communicates and receives communication affects the ability to make career decisions, and can signal to the counselor that there is a problem (Meyer-Griffith et al., 2009). If what is truly meant is not effectively expressed, then the counselor may not be able to provide accurate feedback. Therefore, a collaborative relationship, with plenty of feedback loops built into each session, best serves the treatment of career indecision.

**Decision making skills.** Some individuals may have never had the opportunity to make decisions (Fore & Riser, 2005) so this activity might be built into the counseling session or homework assignment. Just as with many new behaviors, the counselor encourages the client to make a small decision at first, so that the anxiety is not as great and to get practical experience weighing the options. For example, a client might be asked to decide what time to meet for the next session or what homework assignment to complete prior to being asked to choose a college.

Besides building self-efficacy by showing clients what they can do, successful decision making hinges on using accurate information to identify real barriers. Viewing the client holistically includes asking personal questions about active symptoms and need for accommodation, prognosis, stamina, social supports, and familiarity with community resources, such as transportation systems. Collaboration also facilitates agreement regarding the basis of career indecision and goals of career counseling (Dobson & Dobson, 2009).

### **Variables Correlated to Career Indecision**

Saunders, Peterson, Sampson, and Reardon (2000) found that several variables were related to career indecision and to each other. Several variables have been found to

correlate with career indecision. The variables described in this section are also mentioned in the CBT literature as issues frequently addressed in therapy. The following sections describe the variables, their relationship to career indecision, CBT techniques that can be used to alleviate career indecision, and examples taken from the author's caseload in vocational evaluation. Variables were chosen based on their appearance in recent literature. It is interesting to note that there do not appear to be more recent studies than Saunders et al. (2000) regarding variables related to career indecision, besides a dissertation in 2007.

Examples are given from the author's experience working with persons with disabilities who request state government funding to find suitable work or training. Some of these clients have worked before, and some have never worked, and are dependent on family or Social Security benefits until their conditions stabilize, or they re-learn to perform activities of daily living. The following examples show how cognitive techniques can be used in vocational evaluation, and are not meant to be represented as documentation.

### **Cognitive Variables**

**Cognitive distortions.** Cognitive distortions are also known as dysfunctional thoughts or irrational beliefs, and refer to illogical assumptions the client has (Leahy, 1997) that lead to negative effect. Cognitive distortions may be corrected by cognitive restructuring (Osborn et al., 2007). An example of an irrational belief is that there is one perfect choice. Emotional distress is caused by the fear about not being able to find that perfect choice (Stewart, 1999). Cognitive restructuring may help to recognize outcomes besides failure, alleviate emotional distress, and subsequently consider additional vocational goals.

According to Saunders et al. (2000), dysfunctional thoughts negatively affect career decision making. For example, a person may think, "My grandfather and my father are carpenters, and they want me to be a carpenter. If I don't learn how to be a carpenter and work with them, they will hate me, and it will be awful." This dysfunctional thought causes emotional distress at the prospect of losing the support of family members as well as a reluctance to make a career decision due to believing that any alternate choice will be wrong.

Sometimes a loss of functioning leads to cognitive distortions, such as "If I can't do what I used to do, then there must be nothing I can do." These irrational thoughts form even when continued unemployment causes obstructed quality of life, in terms of living in a safe neighborhood, getting enough to eat, and maintaining relationships with others. Disputing these irrational thoughts may require assessment to determine what marketable skills are present, cognitive restructuring to examine alternatives (e.g., "It's true that I can't do what I used to, but there are still things I can do in the labor market"), and skills training to improve the client's independence.

If cognitive distortions exist, such as "Even though I've never worked before and have no training, I must start out making \$40,000 per year, or I just won't be able to live," then Socratic questioning, coupled with "sympathetic listening and positive reinforcement... in a supportive environment" (Morrell, 2004, p. 555) follows to dispute that the client does not make much income from Social Security benefits, and yet is able to survive. The client's reason for making \$40,000 per year is sought and examined for underlying schema. The link between thoughts, behavior, and emotions is therefore illustrated, which is a basic principle of CBT (Dobson & Dobson, 2009).

Self-monitoring is encouraged to identify additional negative thoughts or ones that might develop in the future (Osborn et al., 2007). For example, “The local college does not offer the degree program I want, so that means I won’t get to go to school, and I can’t stand it.” Then, negative thoughts are discussed to practice restructuring or reframing. The dysfunctional thought might evolve into, “Even though the local college does not offer the degree program I want, I can take some online classes while I work part-time as an assistant before I commit to relocating in order to go to school.” Only at this point can decision making be addressed, after the irrationalities are confronted and replaced with feasible alternates.

**Vocational identity.** Vocational identity may be a schema upon which self-knowledge and occupational knowledge are based (Saunders et al., 2000). Schemas are “enduring cognitive patterns... [such as] attitudes, values, assumptions, beliefs...” (Dobson & Dobson, 2009, p. 151). Schemas influence subsequent beliefs and how choices are made, and challenging those schemas can lead to more effective thinking about careers (Morrell, 2004). When individuals are presented with additional information, they compare it to a vocational identity schema to see if it matches what their preconceived notions are. For example, a client may wish to work at a particular job because of how it is portrayed on television or may want to start at an executive level to gain status, without regard to what the essential duties are. CBT allows a person to identify and examine his or her schemas so that they do not obscure choosing other options (Dobson & Dobson, 2009).

**Self-efficacy.** Self-efficacy is correlated to decision making (Betz & Veyten, 1997). If a person believes that he or she is able to make a good decision or possesses the talent necessary to perform at a certain job, then career decision making is more likely.

Getting additional information about the job during vocational exploration or discussing the individual’s beliefs about making decisions can clarify options. Teaching and presenting the client with factual information is an essential part of CBT.

A lack of self-efficacy can be related to not having a stable self-identity (Saka et al., 2008). Knowledge of interests and preferences can be used as a way to identify what characteristics in a job environment match a person’s preferences (Dobson & Dobson, 2009). Persons with disabilities sometimes consider medical or counseling professions because of exposure to these fields during their own treatment. However, not every school offers every degree. As a homework assignment, the client can research what kind of training is available at local schools and the entrance criteria. Time estimated to complete the degree is taken into account, because not all persons are able to stay out of the workforce long enough to attend school full-time. Additionally, not all jobs require four-year degrees, and the client needs to know where on the career ladder a degree might place him or her.

### **Emotional Variables**

According to CBT, thoughts cause feelings, but strong negative feelings are a common reason for clients to enter counseling. Emotional upset is a secondary issue in career indecision. The first problem is related to the inability to decide on a career; the second problem is being upset about the indecision (Cognitive Behavior Therapy..., n.d.). Even though emphasis is placed on cognitive techniques, it is important to realize that emotions can have a negative effect on career decision making (Saunders et al., 2000). As a potential consequence of beliefs about activating events, the client’s belief about these emotions generates additional consequences.

“Oh, my gosh! I feel really angry! That must mean that this is horrible!” Since anxiety and depression correlate with career indecision, these emotions need to be detected and treated before making major career decisions. One cognitive technique is to examine the negative emotion and its origins. If the thought causing the negative feelings is unrealistic, then it can be changed.

**Anxiety.** When making a career decision, clients often feel like they must be able to predict the future and make decisions about it (Nichols, 2006). Making important decisions based on estimates and guesses can cause anxiety, or an unsettled, unsure feeling. There is a moderately strong correlation, i.e.  $r = .36$  to  $.42$ , for trait or state anxiety and career indecision (Saunders et al., 2000). If one cannot decide what training to pursue, there is a sense of the unknown. Some persons may see the unknown as a negative or frightening prospect, and link career decisions with this fear. The resulting anxiety can cause persons to avoid thinking about career matters or can cause persons to make poor decisions if they do not take all the alternatives into account. Beck and Emery (1985) suggested that anxiety results from a person's estimate that they are in some kind of danger because of unsolvable threat. However, that estimate can be based on an irrational belief that something bad will happen, even when it has not yet occurred. One can fear making the decision in the first place, fear making the wrong choice or fear not being able to perform in one's choice (Saka et al., 2008). Because anxiety is a condition successfully treated by CBT, these techniques may also be useful during career decision making (Dobson & Dobson, 2009).

Some persons who are unemployed and disabled are unique in terms of the anxieties they face when thinking about going to work. If they receive Social Security

benefits, those monies and the associated medical insurance may be terminated once they make more than a certain threshold. This financial insecurity causes a mental tug of war between wanting to grow and realize one's potential by entering the work force, and not jeopardizing the safe but unsatisfactory dependency. Not knowing whether one can replace monetary benefits can result in anxiety. Other persons experience a certain amount of depression due to loss of a previous career or lifestyle when they became disabled. These emotions may be countered with information about how earnings affect their benefits or what assistive technology exists.

**Depression.** Depression, or negative thoughts about self, world, and future as measured by the Beck Depression Inventory, has been found to correlate moderately ( $r = .37$ ) with dysfunctional career thoughts (Saunders et al., 2000). If a person is unsure about what choice to make, depression regarding the unknown future might be experienced. Conversely, if a person is depressed, the ability to concentrate and make decisions may be less likely. CBT has been shown to treat successfully depression, and depression that is linked with career indecision is no exception (Dobson & Dobson, 2009).

### **Behavioral Variables**

Career indecision is promoted by ineffective problem solving skills and decision making skills (Saunders et al., 2000). Problem solving and decision making are described here as behaviors that result from cognition and emotional influence. Problem solving relates to decision making because we compare the current situation with previous ones to see what the previous solution was (Nichols, 2006), and make repeat choices if the outcome was desirable. Therefore, problem solving is necessary to make decisions (Symes & Stewart, 1999). In

cases where an individual has no previous experience or solution, more information is needed prior to making a decision.

As a way to provide additional information, local labor market statistics are consulted to determine what an average wage is for persons in a particular occupation, as well as what the career ladder is for that field. Then, what is needed to enter that field and where training or experience can be obtained is identified. These steps in career counseling are akin to generating alternate solutions to the problem during CBT (Dobson & Dobson, 2009) and help base decisions on factual information.

**Decision making.** Individuals need information to make decisions, but also must be able to draw conclusions and make meaning (Symes & Stewart, 1999). For example, if a person starts to make choices between career options but comes to an impasse, it may seem easier to give up instead of concentrating on the nature of the problem and brainstorming solutions. Similarly, if a person does not know how to get started in making a decision or does not know how to compare two options, again, he or she may just give up trying. Every effort is made to show the client that developing alternate options improves the selection of goals from which to choose. During vocational exploration, feedback is based on documentable, objective data (e.g., tasks and training recommended by the federal Department of Labor), school catalogs, and the like.

**Locus of control.** Dysfunctional career thoughts correlate mildly with locus of control ( $r = .26$ ; Saunders et al., 2000). Locus of control is a complex process, but is examined here as a result of cognition and emotional influence. That is, determination of who or what controls the situation may be affected by thoughts and the emotions produced by those thoughts, and in turn, may influence subsequent thoughts and

emotions. When a person believes that it does not matter what vocational decision is made, or that the outcome of the decision will be bad, this perceived lack of control can contribute to dysfunctional career thoughts. Knowledge about decision making skills may improve one's sense of control over the situation (Fore & Riser, 2005). If a person understands how to make a good decision, it may lend confidence that the right choice will be made, and subsequently allow for consideration of all the possibilities.

### Future Research

As mentioned previously, limited recent research provides examples of cognitive techniques used during career counseling. Evidence based research needs to compare cognitive techniques to other treatments and to a control group to make comparisons about the effectiveness of various interventions on persons who are faced with career decisions. On the surface, career indecision is a problem solving issue and might best be addressed by the problem solving or cognitive restructuring modality of cognitive therapy.

Saunders et al. (2000) suggested that further research might examine other constructs, besides vocational identity, trait or state anxiety, and locus of control, and their relationship to career indecision, because these authors may not have found all the correlates or additional mediating or moderating variables. A number of questionnaires have been developed and tested to look at personality tendencies and temperaments, intelligence, various skills, preferences, and habits, and assessing for constructs that negatively affect career decision making might be useful during counseling. Future research might identify other variables treated by CBT to see if they

also correlate with career indecision, such as the ones listed above.

Osborn et al. (2007) suggested a need for longitudinal studies to see if the decrease in dysfunctional career thoughts was maintained outside of treatment. Because persons may be more prone to changing jobs or careers now than in the past, maintenance of career decision making skills may be a career counseling issue. That is, since career is a developmental process, it is helpful to the student or client who completes career development activities to refer back to those career decision making skills later on, when facing job change again. It may also be useful to assess career decision making and dysfunctional thoughts so that specific skills deficits can be identified and remedied.

An additional study might examine how career indecision manifests itself such as determining the differences and similarities between groups who can and cannot identify their interests. Comparison groups might be divided in a two-by-two matrix, ones who can or cannot tell what they like, and ones who can or cannot tell what they dislike. The study would examine what demographic variable, ability, and personality traits differences, if any, exist between the groups. These results might provide some insight as to what career counseling service might be useful for what population. For example, persons who do not know what they like or what they dislike might need some practical experience, shadowing an employee in the community, or some other hands-on demonstration of day-to-day tasks. If a person does not know what to consider interesting, then that person may not have enough information about the job with which to compare self. Each group might benefit from different information resources, different lengths of interventions, and different types of self-help activities, or there may be no differences between the groups at all. Results may affect interest

testing during assessment, the need to triangulate test results, or the addition of non-standardized methods to describe interests and values.

## Conclusions

Career counseling is a clear-cut, goal-oriented intervention to help persons make decisions about their future. The nature of the typical career counseling activity lends itself to cognitive interventions, and in fact, assessment is essential to both fields. However, not much evidence based practice is established to connect career counseling with cognitive techniques. Implications have the power to affect school funded programs and labor force innovations, such as unemployment offices and rehabilitation agencies.

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## Book Review

### *Test Scores and What They Mean* (6th ed.)

Lyman, H. B. (1998).

Boston: Allyn & Bacon. ISBN-13:9780205175390.

Min Kim

East Carolina University

### Introduction

*Test Scores and What They Mean* will assist readers to understand the various types of psychological testing instruments and the meaning of scores. The author includes descriptions of the methods of scoring various instruments from the perspectives of test administrators and test takers with examples of reports based on educational evaluations. This book is an instructional text rather than a procedural manual. Although Lyman's book was written 13 years ago, the basic material is still quite relevant to vocational evaluators and others who use tests in their daily practice. In addition, the book has been used in professional and academic circles due to its overall faithfulness to test scoring practices by professionals and through text revisions. Because Lyman includes user-friendly descriptions of statistical concepts, such as various types of test scores, readers do not need a strong passion to finish reading the book or to understand statistical concepts. Field experts and students with interests in statistical methods and scoring may also benefit from this book.

### Noted Contents and Areas for Discussion

Lyman's sensitivity regarding basic statistical meaning is one of the strengths of this book. For instance, he discusses topics such as the reliability coefficient of scores for variable  $X$  as denoted by  $r_{xx}$ . A Person coefficient of  $r = .90$  on a test means that

90% of the test score is accurate while the other 10% may be caused by error or uncontrollable variances, and a coefficient where  $r = .80$  represents "good reliability" (Heppner, Wampold, & Kivlighan, 2008). Lyman addresses these issues for readers with comfortable and easy explanations of the various types of test scores and their significance to facilitate the readers with an overall familiarity with test reports and documentation.

Lyman's description of the roles and relationships between test administrators and test takers is especially noteworthy when he discusses the role of rapport. The author reminds readers that testing is a process not only of scoring, but also of building human relationships, which provides readers with a more global and humanistic perspective.

Also included are controversial topics like the evaluation of new tests and local norms. Surprisingly, this book describes and clarifies cautions about scoring tests and interpreting test outcomes as being unfair to minority groups and a potential invasion of privacy. The concern for the individuals from the sample population as regards ethical matters demonstrates the global sensitivity of the text. The author provides a list of preferable factors found in a good test manual in a way that is user-friendly. These ten factors include: title, author, administration education level, scoring scales, eligibility for purchase, average length of assessment, availability of special scoring, assessment results communication, special equipment needed, and prices and

ordering. These ten factors coincide with current test manuals in the rehabilitation field. For example, the Wide Range Achievement Test 4 in the U.S. (Wilkinson & Robertson, 2006) and the Community Integration Skills-Assessment in Korea (Kim, Park, & Lee, 2004) follow Lyman's ten factors in their respective manuals. Similar guidelines are also found in the American Psychological Association's ethical principles in "Standard 9: Assessment" (<http://www.apa.org/ethics/code/index.aspx>).

Lyman provides additional context and explanation about the basic principles of scoring so readers can apply these principles in various situations and fields. A "pretest" found early in this book provides a motivational framework for readers to apply the reading materials that follow with greater ease and understanding. By using real data and output files, the author explains how to read reports and interpret test outcomes and how to apply a practical interpretation method. Authentic materials and outcome data are used to help readers understand how research data is applied, evaluated, and interpreted.

### **Limitations**

There are two limitations of this text. First relates to the readers' level of exposure to and experience with statistics. Lyman provides limited definitions of statistical concepts, and lacks practical suggestions found elsewhere in the book. For example, the author does not define the meaning of "P-value" and "significant difference." This lack of discussion may leave some readers without the basic knowledge to understand an important facet of test reliability. Additional reading materials and books may be necessary to bolster the readers' understanding of key concepts. Although Lyman does satisfactorily define objective-

subjective-projective questions, there is no suggestion for utilizing a sense of *savoir faire* between using objective-subjective questions. In school systems, most tests pursue objective lines of questioning for easy scoring and fast calculation. Historically, some evaluators have used subjective tests, such as sentence completion and storytelling line tests, to assess the client's thinking process and imagination (Herjanic & Campbell, 1977). Evaluators need standards or suggestions for when to use and how to score subjective tests. The author needs to update terminology and new techniques for establishing reliability and validity, such as forced-choice ranking questions and culture-(un)fair questions.

### **Conclusions and Implication for Evaluators**

Despite the limitations, this book is a helpful resource for students or professionals who want to understand or review basic test theory and different types of test scores. Many books on testing and test scores include complicated formulas without a corresponding basic understandable explanation. Lyman affords readers the opportunity to gain the passion and confidence for testing through becoming familiar with test scores as well as an understanding of some of the controversy involved in testing. To assure a more powerful effect when using this text, graduate level instructors need to explain basic statistical concepts and include demonstration of the concepts outlined in the book. Lastly, vocational evaluators and graduate students in rehabilitation will gain more insight from the perspectives of test administrators and takers.

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## VECAP Test Review Form

Do you have a test that you use in practice that provides you and the person served with information to make an informed decision? Please share your knowledge, wisdom, and insight with our readers. This effort to collect information about tests we use is in line with our mission to improve and advance our field and you can help.

The VECAP Test Review Form is designed to gather information about tests currently used in vocational evaluation and career assessment. The form is a synthesis of ones used by Drs. Jean E. Johnson (Langston University), Pam LeConte (George Washington University), Greg Long (Northern Illinois University) and Steven R. Sligar (East Carolina University).

The form is self-explanatory and some example questions are included to help with your review. There are five parts:

- Ordering Information
- Purpose, Development, and Standardization (the psychometric properties)
- Practical Evaluation (how do you administer the test?)
- Reviewer Comments (what did you think about the test? which populations can/cannot be tested?)
- Summary Evaluation (how can vocational evaluators and career assessment professionals use the test?)

To submit a Test Review, complete the form and email it to [Journal@VECAP.org](mailto:Journal@VECAP.org). The Test Review will go through the peer review process and be published in the VECAP Journal and posted online.

An electronic version of the VECAP Test Review Form is available on the VECAP website [http://vecap.org/index.php?/site/publications\\_categories/C24/](http://vecap.org/index.php?/site/publications_categories/C24/)

## **Vocational Evaluation and Career Assessment Professionals Test Review**

**Test Review:** (Name of Test)

**Reviewer:**

**Institutional Affiliation:**

**Author(s):**

**Publisher:** dates of publication, including dates of manuals, norms, and supplementary materials (especially important for tests whose context or norms may become outdated).

**Contact/Purchase:** information (e.g., company address, website).

**Cost:** of the test that may include booklets, answer sheets, other test materials, available scoring services (e.g., online availability, CD, hand scoring templates or other methods).

**Examiner Qualifications:** Vendor purchase requirements (may be old APA Level A, B, or C). Also includes specific training required to administer the test.

**Training:** availability from the test vendor.

### **Purpose, Development and Standardization**

**Purpose:** As stated by vendor.

**Type:** Interest, aptitude, achievement, intelligence, values, other.

**Nature of Content:** What is measured (verbal, numerical, spatial, motor)?

**Items:** How the items are presented (power, multiple choice, written, pictorial, orally).

**Reading Level:** What is the reading level to take the test (per the manual)?

**Language:** What language(s) versions are available?

**Subtests and Separate Scores:** describe.

**Norms:** Population sampled (selection criteria, gender, age, race, ethnicity, other characteristics).

**Reliability:** Types, procedures, and formula used (e.g., retest, parallel forms, split-half, Kuder-Richardson, coefficient alpha, inter-rater reliability), including size and nature of samples employed and range.

**Standard Error of Measurement:** included?

**Validity:** Type (content, criterion-related predictive or concurrent, construct) and range.

### **Practical Evaluation**

**Qualitative Features:** of test materials (e.g., design of test booklet, editorial quality of content, ease of use, durability, attractiveness, and appropriateness for test takers).

**Administration:** How done (1:1, group) and directions (specific, general).

**Start and Discontinue Rules:** Describe if applicable.

**Time:** Test time and total administration time.

**Recording:** How are item responses recorded?

**Scoring:** Discuss the general directions for scoring.

**Accommodations:** Are any accommodations allowed during administration (per the manual)?

**Rapport:** Is this addressed? If so, how (per the manual)?

## **Reviewer Comments**

Some questions to consider:

- Do you agree with measurement description (explain; if you disagree, then what do you think the test really measures?)
- How clear are the directions? Is the test easy to administer, score, and interpret?
- Is the test face valid?
- How can this test be used with different people? Can it be adapted/modified for various populations?
- Consider the following: persons with learning disabilities; blind or low vision; deaf, hard of hearing, or other communication problems; mobility limitations; cognitive limitations; paralysis or impaired limb functioning; history of substance abuse; or disadvantaged.

Which of these groups would be appropriate to use the test without modification? Who could use the test with modifications or accommodations?

- What are the cultural implications of using this test?
- Your personal observations or insights gleaned from administering, scoring, and interpreting the test.
- Other comments that address unique aspects of the test.

## **Summary Evaluation**

- Major strengths and weaknesses of the test across all parts of the evaluation.
- What is the primary use of the test for purposes of rehabilitation with persons who have disabilities, are disadvantaged, and/or present substance use issues?
- How can this test be used in practice by vocational evaluators?

## **References**

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## Professional Membership in VECAP

Definition according to Bylaws:

Professional members shall be those individuals actively engaged in the practice of some aspect of vocational evaluation or work adjustment training. This shall include those individuals who are immediate supervisors, teachers, or researchers in the fields of vocational evaluation or work adjustment.

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