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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.
Welcome to the combined Fall 2012/Spring 2013 edition of the VECAP Journal

Googling and YouTubing VE

If you look in the Urban Dictionary (http://www.urbandictionary.com/) you can find two noun-to-verb derivations: Google to Googling or Googled and YouTube to YouTubing or YouTubed. I was curious as to the results of a search using vocational evaluation so I Googled vocational evaluation and 2,080,000 results were returned. Here are a few from the first page.

- Woodrow Wilson Rehabilitation Center (state operated comprehensive rehabilitation facility) in Fishersville, VA  http://wwrc.virginia.gov/vocationalevaluation.htm
- Johnson County Industries (private community-based program) in Selma, NC  http://www.jcindustries.com/vocational-evaluation
- Courage Center (clinical service of Allina Health) in Minneapolis, MN  http://www.couragecenter.org/ContentPages/vocational_evaluation.aspx
- Vocational Consultants (private practice) in Annapolis, MD  http://www.vocationalconsultants.com/

I also found VECAPs Facebook page, VEWAA’s home page, CVE from CARF, and CVE/CWA/CCAA certification renewal from CRCC (if you are not familiar with all the acronyms, have some fun and Google ’em). A quick review of the second page yields similar information: a fact sheet from OR Office of Vocational Rehabilitation Services, a non-profit in CA, hospitals in DC and NY, law firm in CA, expert witness directory in CA, and training from federally sponsored programs and George Washington University. I think this short list demonstrates the vitality and diversity within our profession today.

I YouTubed vocational evaluation to see what else is available and found numerous videos. Following is a sampling from the 20 videos on the first page.

- *Dori Eden and Vocational Evaluation* (2:20), an attorney explaining VE from a family law perspective  https://www.youtube.com/watch?v=HBdmTbWg6L0
- *WWRC Vocational Evaluation and Career Assessments* (1:36), Steve Kirby, Human
Services Field Supervisor, being interviewed about VE
https://www.youtube.com/watch?v=v5SrdkFryM

- *Week 1* _Introduction_Pt2_Captioned.mp4* (13:10), lecture by Dr. Fran Smith on the basics of VE https://www.youtube.com/watch?v=V8oof_1xOJ0
- *MMR Episode 7- Economic Testimony* (48:37), Podcast with Drs. William Hardy and Randy McDaniel about how an economist can work with a VE https://www.youtube.com/watch?v=JaZDxg2KArw
- *Vocational Evaluation Seoul Community Rehabilitation Center* (0:46), a nonverbal (Korean captions) upbeat snapshot of VE in South Korea https://www.youtube.com/watch?v=3NRwbFCUd_4

You can also find quite a few training-related videos on the following pages along with videos of VE service descriptions from different programs. As with the Googled results, VE seems to be a vibrant profession with information available in the traditional sense—that is, brick and mortar libraries and professional databases—as well as a cache of information that is waiting to be Googled or YouTubed.

The three articles in this journal are as different as the sites I found while Googling and YouTubing. Lock, Brown, Elkins, & Chesnut describe the results of a study that examined the use of positive behavior supports with eight individuals with disabilities including Autism spectrum disorder and intellectual disabilities. The vignettes describing student experiences make this a fascinating and informative read for vocational evaluators in a similar setting. For all of the vocational evaluators or supervisors who need to conduct a program evaluation (PE) of your vocational evaluations, Chapin provides a nuts-and-bolts discussion of practical considerations to conduct such a PE. Finally, Cox examines the Raven’s Standard Progressive Matrices as an instrument for the tool box of many vocational evaluators.

Finally, a note about the numbering of this journal. The last Journal published was Volume 8 number 1 Spring 2012. Due to lack of submissions, Volume 8 number 2 Fall 2012 is combined with Volume 9 number 1 Spring 2013. We apologize for any inconvenience.

*Steven Sligar and Nancy Simonds, Co-editors*  
*Min Kim, Managing Editor*
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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 49 for new test review form

**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.
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.

Note: 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 or directly:

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# Vocational Evaluation and Career Assessment Professionals Journal

**Fall 2012, Volume 8, Number 2 and Spring 2013, Volume 9, Number 1**

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Combining Positive Behavior Supports and Social Skill Programming for Transition Success

Robin H. Lock, Donna B. Brown, Leann DiAndreth Elkins, and Pik Wah Chesnut

Texas Tech University

Abstract
This study examined the use of positive behavior supports (PBS) and a social skill intervention to increase positive responses in work settings with eight individuals with disabilities including Autism Spectrum Disorders (ASD) and intellectual disabilities. All eight individuals needed support to improve their behaviors in work settings and were enrolled in a university-based transition program for high school graduates. Students participating in this study took morning coursework utilizing both PBS and a social skill intervention. The students learned to identify behaviors for improvement as well as to chart their progress. Employers were trained to implement the PBS system and were aware of the social skills that the students selected to address. Students, employers, and the instructor collected data on the three student-selected behaviors. Additionally, participants were provided with techniques and supports for controlling their self-selected behaviors. Students, employers, and the instructor participated in interviews and surveys detailing their progress throughout the year. The results provide a summary of students’ behavior improvement in workplaces and vignettes describing student experiences. Data collected from interviews were also analyzed to determine the themes that described changes in attitudes, behaviors, and environments through the program. Overall, it appears that blending the PBS system with direct social skill intervention had a positive influence on workplace productivity and contribution.

Key Words: Employment, Positive Behavior Supports, Social Skill Training, Transition

Combining Positive Behavior Supports and Social Skill Programming for Transition Success

Positive Behavior Supports (PBS) is a decision-making framework for developing a school climate in which problem solving strategies are utilized in tandem with the strengths of the school and its student population to establish a positive learning environment (Carr et al., 2002). Unfortunately, foundational
social skills for future success are often not specifically taught to students with disabilities, and thus hindering their success in a PBS setting (Wheeler & Richey, 2010). Students’ skill deficits must be addressed systematically in order for them to make progress in the school setting. Furthermore, as students move from school settings into employment, PBS can be applied to improve the quality workplace climates. Often, the same skill deficits experienced by the students in schools may negatively influence the individual’s success in the workplace.

In this study, social skill training was implemented to address directly specific social skill deficits in students with low incidence disabilities, particularly those with Autism Spectrum Disorders (ASD). Part of the training was to identify deficiencies and then provide direct interventions to improve skill development and to address issues that impeded progress in the workplace setting. A post-secondary classroom, focused on school-to-work transition, implemented a PBS environment coupled with targeted social skill instruction. The classroom included students who were employed part-time in addition to their attendance in the vocational program. The results of the social skill training and PBS as well as the influence these interventions had on student success in the workplace are described in the following.

An Overview of PBS

PBS is a framework of choosing, combining, and implementing evidence-based practices. Horner and Sugai (2000) describe several important aspects of PBS: making sure that all students are taught exactly what is expected in their behavior, utilizing a reward system that recognizes appropriate behavior, employing a system for collecting information about performance, and using that information to make changes to increase the student’s functioning. Additionally, PBS seeks to be socially appropriate. First, a PBS program must be comprehensive and provide behavioral expectations and responses across a variety of social situations. Secondly, PBS must be relevant, promoting skills that are both functional and useful across the students’ lives. Finally, PBS must have long-term social validity and be ongoing, creating a stable and consistent environment for the participants (Wheeler & Richey, 2010).

Wheeler and Richey (2010) described a variety of reasons to utilize PBS in schools as well as the workplace. PBS promotes the individual’s worth and dignity by placing an overwhelming emphasis on the individual’s quality of life. PBS is a non-aversive, person-centered technique, which is flexible enough to accommodate individual needs while promoting students’ full participation in inclusionary environments (Anderson & Freeman, 2000). Another reason is PBS recognizes that behavior does not occur in a vacuum without meaning and is a reflection of a person’s needs. When the person expressing a need is unable to verbalize intent, then others must help discover the needs expressed through the behaviors. PBS emphasizes naturally and logically occurring consequences but relies on positive rather than punitive responses. Overall, PBS has as its foremost goal the opportunity to increase an individual’s functionality in his or her environment and to improve quality of life.
PBS uses a three-tier system in the school setting (Scheuermann & Hall, 2012). The primary tier encompasses a universal positive support system, which engages 80-90% of the population. The secondary tier includes 5-15% of students and provides specialized group intervention for specific issues. Individual intervention is the focus of the tertiary tier and addresses only 1-5% of the population. This study sought to determine if a tiered type of system could also be successfully applied to the work setting. PBS workplaces would use all three tiers as needed by the individuals within their settings.

**Social Skills Programming**

According to McAfee (2002), although most individuals seek and desire meaningful social relationships, some must be taught social skills using specific and targeted instruction in order to fully master social skills. Certain behaviors enable an individual to obtain a goal (e.g., screaming for candy at the checkout line). These behaviors may be deemed socially inappropriate and acceptable replacement behaviors need to be explored. Additionally, some individuals may have trouble adapting a social skill learned in one environment to other circumstances or environments. These individuals require direct instruction to modify their behaviors for new environments. Finally, due to communication or reasoning deficits, some individuals can learn academically while struggling with social interaction skills.

McAfee’s (2002) *Navigating the Social World* is a social skills program for individuals with Asperger’s Syndrome, High Functioning Autism, and other related disorders. The program promotes the following five principles. First, individuals need practice to learn new social skills through team practice, which allows for both individual and team evaluation and change. Second, flexibility is a key component to enabling growth in the area of social skill training. Third, individuals learning new social skills need a smaller scale of behavior change rather than a complete overhaul in strategies. By presenting information in smaller segments and allowing time for practice, social skill training increases understanding, retention, and progress. Fourth, social skills training should consider an individual’s current needs as well as his/her future requirements. When teaching a specific behavior, the teacher must think about how the behavior may influence the student in the future. For example, teaching a student how to respond to a particular type of question is more productive than teaching the student to memorize a particular response. Finally, direct instruction and practice in a variety of settings are critical components of social skill instruction.

Bellini (2008) identified six common social skill deficits, any or all of which could have a negative impact on workplace success. The six include: problems understanding nonverbal communication; an inability to initiate social interactions; difficulty in social reciprocity and concluding interactions; poor social cognition; underdeveloped perspective taking and self-awareness; and social anxiety and avoidance of social interactions. Walker and colleagues (2004) recognized social skill instruction as an opportunity to enable a person to interact more easily and avoid negative social responses through positive relationships with others.
Specific social skill instructional practice allows for explicit targeting of deficits (Quinn, Kavale, Mathur, Rutherford, & Forness, 1999). After determining needs, the instructor can implement frequent and intense training in an effort to teach the skills and allow for generalization to other environments including the workplace (Gresham, Sugai, & Horner, 2001).

**Methods**

This study began by establishing an intervention program that incorporated the PBS framework with a social skill instructional program. The PBS framework followed the four-system perspective described by Wheeler and Richey (2010). First, a clearly defined set of expectations for work-related behaviors was established in the university-based post-secondary vocational preparation classroom. These behaviors, accompanied with pictures showing the actions, were reviewed on a daily basis. The pictures were posted in the classroom for daily reviews. Secondly, students kept records of their behaviors with respect to these expectations, and their data sheets were posted and accessible to them throughout the day. A weekly conference with each student concerning his or her progress on these behaviors allowed the instructor and the student to assess progress together and to consider any needed changes to the program to promote growth. The class followed routines throughout each day to maximize the students’ opportunities to practice certain skills. Whole group instruction occurred when problem behaviors surfaced or new behaviors were introduced.

As students went to work each day, they carried index-sized data collection charts that listed the expected behaviors. See Figure 1 for an example of students’ data collection card. Students were encouraged to chart their positive responses for targeted behaviors during and after job-related
activities. The students then reviewed the charts with their instructors daily before they returned to work. Their work supervisors were also asked to provide data concerning the behaviors for the day. Finally, individual on-the-job difficulties were addressed and specific interventions were implemented to address challenging behaviors.

In addition to the PBS system, social skill instruction for particular problem behaviors was undertaken following McAfee’s (2002) basic steps. A task analysis addressing the desired behaviors identified as missing for each student determined the fundamental steps required for a specific task, and the student was observed to assess the skill deficits. Next, the student and the instructor discussed the behavioral response, and the student was encouraged to evaluate his or her understanding of why it occurred. The instruction for each skill was completed on a one-to-one or small group basis, and data was collected during each session by both the student and the instructor.

Participants

Eight students, three males and five females, from 19 through 28 years of age participated in the year-long study. Three of the females were Hispanic and two were Caucasian. Two males were Caucasian and one was African American. Seven students (two males and five females) had graduated from high school with traditional diplomas but were not required to pass the state-mandated assessment. One student (male) had completed high school with a certificate of completion rather than a diploma. Disabilities represented in the study included intellectual disabilities and Autism Spectrum Disorders with a variety of co-existing conditions. Each student or guardian signed a participation or assent form as required by the Institutional Review Board at the university where the classroom was located. The students attended a morning university-based transitional vocational preparation class from nine to one o’clock on a weekly basis throughout the academic year. The students worked in the afternoon for a period of two to four hours. All students completed work related tasks during the morning program on campus. PBS was featured in this setting and social skill instruction was used to address challenging behaviors and increase desirable behaviors.

Settings

The classroom morning program included three rooms with a different job skill focus in which the students worked as a group to complete the tasks on a daily basis. The students completed daily direct instructional sessions concerning particular social skills and engaged in individual instruction for their own particular goals. The students also focused on group and individual social skills during work time and mealtimes.

The work settings included four placements at on-campus dining facilities. Students’ work responsibilities involved clearing and cleaning tables, emptying trash cans, filling silverware bins, stuffing napkin holders, sweeping, and picking up discarded trash. One student worked in an office setting where the student filed and shredded documents, answered the phone, and kept an office inventory. Three students worked at a charity shop stocking shelves, hanging and distributing clothes and shoes, moving new
donations to the correct bins, and sorting items for pricing.

**Intervention**

The intervention program was based on the PBS framework in both the classroom and the workplaces as well as specific targeted social skill instruction for identified problem behaviors. Students were involved in identifying negative and positive behaviors. They were taught assessment and charting skills for documenting behaviors. Students attended evaluation sessions to develop and implement behavior change processes for both the classroom and the workplace. Videos of workplace behaviors provided visual examples. The social skill curriculum, *Navigating the Social World: A curriculum for individuals with Asperger's syndrome, high functioning autism and related disorders* (McAfee, 2002), was referenced for ideas regarding specific social skill interventions. Social skills addressed in the curriculum included, but were not limited to, recognizing and coping with emotions and stress, communication skills, abstract thinking, and promotion of positive behavioral responses.

A six step process was used to create the PBS environment. First, the students and the instructor made a list of desirable behaviors for the classroom and the workplace. Several of the students had been working for a while and were able to articulate positive employee actions. The group watched videos in order to gather additional lists of behaviors. Students and the instructor also identified problematic behaviors for both the classroom and workplace. The positive and negative behaviors were posted on two different wall charts.

The second step involved ranking the desirability of behaviors in the workplace, which was a particularly difficult task for some students. However, the instructor spent considerable time describing and practicing how the categorization of behaviors could support development of conduct that would improve workplace performance. The class selected behaviors that needed to be addressed, charted those behaviors in positive ways, and placed the posters on a classroom wall. Finally, each student developed a personal chart of desirable and unwanted behaviors to address.

In the third phase, the instructor began social skill intervention to address the class goals for workplace behavior. To begin, the instructor asked the class to state problem behaviors they saw in the classroom. These challenging behaviors fell into four categories: 1) management issues, 2) work-production issues, 3) civility, and 4) communication deficits. Management problems included trouble moving between the vocational classroom and vocational workroom where the students engaged in work-related tasks, difficulty following routines, disruptive problems associated with materials distribution, unruly group behavior involving certain individuals, and inappropriate interactions. Work-production issues included beginning work on time, staying on task, focusing on the work at hand, initiating and maintaining motivation, and completing tasks. The third category, civility, included students’ treatment of each other, inappropriate conversations, and a lack of compliance with requests for particular behaviors, such as pushing, shoving, negative facial expressions, and over-reactions to correction.

Communication deficits were an
overarching problem for most students and included inappropriate language and discussions, tactless responses to requests for compliance, lack of confidence when corrected coupled with an inability to discuss the matter with the supervisor, and expressions of positive and negative emotions.

Fourth, students and the instructor discussed large group reinforcement as well as individual and self-reinforcing strategies. As a group, students outlined a plan for dealing with problem behaviors encountered in the classroom as a whole. The instructor then worked separately with each student to plan a self-reinforcement plan based on the student’s charting of his or her behaviors. Students wanted visual depictions of the progress they made as a class; so, they created a group charting system. They also articulated a plan for dealing with problem behaviors including student responses and instructor actions. Lastly, each student and the instructor created an initial plan for dealing with individual problem behaviors both in the classroom and on the job.

Phase five consisted of learning to evaluate behaviors from a group and individual perspective. Students were taught basic skills for charting behaviors in five different categories. They were engaged in the development of a visual aid that was used for the entire classroom. Additionally, each student produced an individual tally chart to assess his or her behaviors in the classroom setting. As a final step, students recorded their performance ratings in their work diary and made a graph daily to see how they were progressing.

Data Collection

Data collection consisted of two major approaches: a) a direct approach including behavioral charts from the classroom and workplaces, and observation of students in the workplaces, and b) indirect approaches including interviews with students, employers, and instructors, and a survey for employers. For behavioral charts, baseline data were collected from classroom. Data collected from workplaces were evaluated under four categories: management issues, work-production issues, civility, and communication deficits. Classroom data was collected on student behavior in each category by two teaching assistants in both the classroom and workroom on a daily basis for a portion of each day. Workplace data was collected by job coaches on a weekly to biweekly basis at the student’s worksite. The data collection sessions ranged from 30 minutes to one hour. Interviews focused on gathering data related to workplace behavior progress and changes based on the introduction of PBS. The employer survey concerned employers’ understanding of PBS and their perceptions of the use of PBS. Data collection occurred over one academic year for nine months, although student charting did not begin immediately.

Data Analysis

The data were analyzed using a mixed methods approach. Participants’ positive responses in workplaces at the beginning and at the end of the program were compared. Employer perceptions and specific behavioral incidents were gleaned from the interviews with students,
employers, and the instructor to form case studies. Themes from the interviews, surveys, and observations of students in the workplace were also identified.

**Research Questions**

The following research questions guided the study: 1) Does the combination of a PBS system and direct social skill instruction positively impact student behavior in the job setting? 2) Can students utilize a PBS and social skill program in the workplace to transform positively their workplace behaviors?

**Results**

The results of the study indicated that the combination of PBS and direct social skill instruction had a positive impact on both the students’ classroom and workplace performance. The analysis revealed a variety of outcomes that were demonstrated across students as well as some individual success stories. Figure 2 presents students’ individual positive behavior growth in the four social areas described earlier. The results indicated that all participants demonstrated growth in positive responses in all areas. Specific details will be discussed on an individual basis (see Figure 2.).

**Individual Gains**

All eight students demonstrated gains during the program. In the following brief case studies, pseudonyms were given to each of the participants and distinct identifiers were omitted to protect anonymity.

**Jason.** Jason was a 20 year-old Caucasian male with a high school diploma and a diagnosis of ASD. He was employed for six of the nine months of the academic year at a campus-based dining facility cleaning tables. He selected three social skill areas on which to focus during this time. These areas were personal management, work-performance, and civility. Specifically, Jason worked on moving successfully from task to task during work, completing a task that was assigned to him, and using appropriate language when he felt angry. His baseline behavior collection reflected low positive responses in all three areas both in the classroom and at work. As the social skill instruction progressed, Jason began to show marked improvement in the classroom but continued to have problems in the workplace indicated by the daily charted data. Although the employer had requested that Jason refrain from charting his behavior during work hours, he finally relented and allowed the self-recording. The instructor noted improvement in Jason’s workplace behavior once he began charting his responses at work rather than after the work session.

**Maria.** Maria was a 19-year-old high school graduate, Hispanic female with intellectual disabilities and ASD. She was employed for five of the nine months that academic year at a charity store sorting and shelving materials and clothing. Her social skill goals centered on communication issues and specifically targeted her inability to initiate conversations, her difficulty engaging others for help or further instruction, and her anger management difficulties including crying rather than
speaking when she felt ignored. Maria did not have a communication disability; rather, she had a very low speaking voice and tended to keep her head down and avoid eye contact. She was interested from the beginning in developing some new ways of gaining people’s attention, but she did not have any ideas about how to make that happen. Maria and the class brainstormed some ideas about obtaining contact with others, and Maria demonstrated noteworthy gains in the initiation of conversations and in asking for assistance, but she continued to have some trouble determining alternative behaviors to gain attention, particularly at her workplace.

**Theo.** Theo was a 23-year-old African American male student who had obtained a certificate of completion upon graduation from high school. He was diagnosed with ASD and was predominantly nonverbal. He appeared to have well developed receptive language, but he experienced great difficulties with expressive communication. Theo worked at a charity store for all nine months during the study. Theo reluctantly used a communication device to indicate his wants and needs. He also reported feeling

![Positive Responses on 4 Social Skill Areas](image)

**Figure 2. Students’ individual positive responses growth in 4 social areas**
anxious at work. He chose three social skill areas on which to work including communication, civility, and workplace management issues. At the beginning of the study, Theo would look at a person who was talking to him but did not respond verbally or with body language. He often complied with the speaker’s request, but only if the speaker was acceptable to him. The social skills addressed centered on acknowledging the other person and then indicating the desire to comply with or to refuse the request. His third goal was to find a technique to support his focus on his work and to lower his anxiety in the workplace. For this goal, an iPod programmed with his favorite music was used during his work sessions, whether in the classroom or at his workplace. Theo demonstrated marked improvement with the support of the iPod and, additionally, he was more willing to use his communication device.

**Sharon.** Sharon was a 28-year-old Caucasian female who was diagnosed with ASD. She also had other mental and physical health issues, which presented many challenges. Sharon had a regular high school diploma and had held jobs before, but she had been fired for a variety of personal issues. Sharon was employed for seven of nine months in an office on campus where she filed and sorted documents, and sometimes answered the telephone. Sharon easily identified three social skills that she needed to address: civility, communication, and management. She was quite excited about acknowledging her deficits and struggled to pinpoint her strengths. Her fascination with her deficits often created situations where she refused to change those behaviors as they brought her much personal satisfaction. The instructor and Sharon worked to find three less complicated behavioral issues to highlight during the year. As a result, Sharon selected the following: going to the restroom and returning without commenting on the experience; accepting a positive comment from someone; allowing another to be praised without mention of her. Sharon chose these three issues because she felt that people were often offended by her inability to react positively in both the classroom and workplace environment. One of the most challenging aspects of her social skill program was determining which positive reinforcers would be more effective than the gratification she derived from her negative responses. Sharon also had a difficult time generalizing the skills she learned from the classroom to the workplace. She depended on the instructor and “behaved” to please her. Therefore, when Sharon moved to the office setting, considerable efforts were taken to establish a mentoring program to encourage her desire to please others.

**Chris.** Chris was a 20-year-old Caucasian male with intellectual disabilities who earned a diploma although he did not take the state-mandated assessment. Chris worked on campus at one of the dining facilities in a residential hall during the academic year. Chris’ responsibilities included clearing and cleaning tables, restocking napkin holders and silverware bins, bagging and taking out the trash, replacing chairs at the tables, and sweeping and mopping the dining room.

Chris chose three social skill goals, which included becoming motivated for satisfactory task completion (work production issues), accepting and implementing suggestions for improvement (management issues), and using appropriate
Chris enjoyed his time in the classroom and was especially happy during unstructured activities. He initially showed unwillingness to participate in job-related skill development and tended to find something else to keep busy while appearing to be engaged. Chris often became unhappy when asked to complete a particular task and spoke with an increasingly loud voice as his unhappiness escalated. Chris learned and used some replacement behaviors for his shouting during classroom work settings. Three weeks passed before Chris responded to reinforcement for task completion, and he required a lengthy period of direct reinforcement in the classroom before he began to respond to verbal reinforcement. When Chris moved into the workplace, he reverted back to his previous behaviors but was responsive to working with his job supervisor. The supervisor took an interest in Chris beyond the three social skill goals and went out of his way to spend time with Chris to deliver encouraging comments as he worked. The supervisor also began by working side-by-side with Chris and explaining the tasks as he went along. Chris was especially eager about sharing his social skill chart with the supervisor.

Norma. Norma was a 23-year-old Hispanic woman who had received a regular high school diploma. She was diagnosed with ASD with depression and anxiety. Norma worked for eight months at a charity store where she helped price and sort clothing for placement on the racks, and organize sections of the store for better customer service. Norma was particularly good at cleaning, arranging, and systematizing, and her skills were utilized at the store. She was also given increased job responsibilities because of her ability to learn new tasks quickly. Social skill development was particularly critical for Norma because she was an efficient and effective worker when she was on task, but she often became withdrawn and sullen without any apparent reason. The three social skills Norma elected to improve included communication, work production issues, and management. The behaviors that she targeted included expressing what made her unhappy, working on a task even when she felt unhappy, and using optimistic self-talk to help with her motivation. Norma enjoyed charting her behaviors, quickly noted both up and down turns, and moved through these social skills during her classroom placement. When Norma transitioned to the work setting, she experienced some difficulty in generalizing these behaviors, again becoming withdrawn and sullen. For three weeks, an on-site job coach helped Norma to engage in her social skill behaviors and to chart them successfully, increasing her performance tremendously. The job coach’s presence and subsequent phase-out seemed to be a constructive way of moving Norma through the transition from classroom to job site.

Angela. Angela was a 19-year-old Caucasian student who had received a regular high school diploma. Angela had a diagnosis of ASD and nonverbal learning disability that impeded her ability to comprehend facial expressions, deal with novel stimuli, understand the exact meaning of conversations, and handle social judgment. Angela was reluctant to participate in the job training program as she felt she would only continue to experience failure. She attended a couple of sessions
and found a friend in the class, increasing her willingness to attempt the program. Angela worked for eight of the nine months at a residence hall dining facility on campus.

She selected three social skills to develop during her time in the program. The first skill involved communicating her employment accommodation needs to her supervisor. The second skill was to utilize a system for improving her ability to complete a task (work production issues). In this case, Angela selected a note card containing both words and pictures for each of her job responsibilities. At the start of her job, each duty was represented on a separate note card with detailed graphic and pictorial steps. As she became more accustomed to her responsibilities, she was able to shorten the note cards’ contents. The final social skill on which Angela worked involved her break time behavior (civility). Angela did not appear to know what to do or how to utilize her break time differently because she often isolated herself from the group during break in the classroom and would sit or stand in the dining facility and stare at the diners in the workplace. Including Angela in a group during class time had been accomplished relatively easily by asking her to find a partner. However, when faced with entertaining herself during break time on the job, she did not have a ready partner and was not sure about what was appropriate. Angela needed help to develop this social skill and the job coach started by observing her behavior in the break room. Then, the job coach sat with Angela and asked her to describe what people were doing in the room, specifically concentrating on those who were sitting alone. Finally, the coach asked Angela to make a list of the activities she liked to engage in by herself. Together, they selected five different actions for break time. The five included listening to music on her iPod, looking out the window as people walked by, playing a game on her phone, drawing in her notepad, and walking outside and singing softly to herself on a bench by a shade tree. Angela made a note card that listed these activities with a picture, providing her a visual reminder of appropriate break time activities.

Kat. Kat was a 26-year-old Hispanic female who was diagnosed as an adult with Asperger’s Syndrome. She had a regular high school diploma and had held several different jobs including work in childcare and fast food. She worked at the Student Union, which was the busiest and most challenging of the dining facilities on campus. Kat worked for the entire nine-month academic year, loved the fast pace and energetic environment of the union.

Kat selected three social skills to address during her time in the program: management, work production issues, and communication. The particular behaviors included increasing her social confidence, improving her recognition of her strengths in the workplace setting, and verbally communicating her needs to her supervisor. For Kat, confidence was the biggest issue to address because the other two social skills dovetailed into this one. Her ability to recognize strengths and verbal communication were highly dependent on confidence. She was highly competent but extremely critical of herself and often expressed disappointment in her performance. Kat became quiet and withdrawn when she was unhappy with her job completion but would not explain her unhappiness to others. She appeared to be upset about task completion when, in reality, she was responding to her own perception of
self-failure. The instructor went with Kat at the beginning of her work experience and rated her performance. They compared notes several times during the work period and again during the recording session each following day. Kat was encouraged to talk about what went well and what problems she encountered throughout the day. Finally, once she had determined the supports that she needed in her work environment, Kat practiced using her notes as evidence of her needs and explaining her requirements to the supervisor with support from her instructor. By the end of the year, Kat was able to explain her needs to her supervisor in a short conversation using her diary as a prompt.

**Themes**

Researchers conducted interviews with students, instructors, and supervisors. Surveys completed by employers were also collected. Four themes emerged across the participants based on the collected data from the interviews and surveys. These themes included a change in expectations, a new ability to look for ways to alleviate problems, an increase in task completion and compliance, and a sense of usefulness expressed by both the supervisors and the students. These four themes suggest that combining PBS with social skill interventions enhanced the success of the students’ work experiences.

**Change in expectations.** Students, instructors, and supervisors reported positive changes in their expectations of the students’ behavior and work production. Employers reported changes in the students’ civility as well as their understanding of safety issues. Employers also reported new knowledge about working with individuals with disabilities. They had a better understanding of their responsibilities toward the worker and felt that there were steps they could take when problem behaviors occurred. The instructors indicated that students appeared more confident and proactive in response to problems in the workplace. The students acknowledged improvement in autonomy, self-control, and positive feelings towards the work environment.

**Alleviating problems.** As the employers discussed the use of PBS and the social skill intervention program, they praised the process for creating a positive attitude and environment that allowed them to work proactively with the students. They appreciated the simplicity and the individual responsibility focus of the plan; however, they recognized that they could also use the interventions to identify and address other problems in the workplace. The instructors indicated that the program provided opportunities to teach the students additional new responses once foundations were established. Another advantage of the intervention was that generalization also took place in the workplace. Finally, the students explained that the constructive approach to previous problem behaviors provided them with feelings of accomplishment and pride. They welcomed the intervention structure, felt in control of their behavior management, and reported a more optimistic outlook on work in general.

**Increase in task completion and compliance.** The comments recorded from employers were highly replicated and reflected their appreciation of the reduction of off-task and/or out of work placement events, problems that had previously resulted in significant disruptions.
Employers further indicated that the clear delineations of expectations for behavioral responses resulted in a reduction of problem behaviors. Additionally, the program provided a method to handle other undesirable behaviors not addressed in the original interventions. The instructors and job coaches noted that students’ understanding and planning for consistent self-reinforcement resulted in a huge jump in compliance and that this compliance was clearly linked to more positive work outcomes in general. Most importantly, the students described feelings of cooperation with their co-workers and they depicted an orderly environment where they knew what to do and where to go for assistance. Each expressed pleasure at controlling a behavior independently while making strides in the workplace.

A sense of usefulness. Employers, the instructor, and students all noted their upbeat attitudes toward the usefulness of individuals with disabilities. Employers expressed surprise that the students could be so productive and could contribute as much as other employees. The instructor noted that the decreased focus on external control of problem behaviors resulted in improved energy in the workplace and students’ desire to be more in accordance with other employees. Students were encouraged that the majority of interactions with other employees and their supervisors were positive in nature, and the students felt a sense of accomplishment as they completed tasks as quickly and efficiently as other workers. The students described a decrease in their desire to respond negatively to peer interactions or supervisors’ requests as the students enjoyed the positive climate.

Discussion

The results support the hypotheses that combining a PBS system with direct social skill instruction positively impacts student behavior on the job as well as the notion that these interventions can be implemented to help change undesirable workplace behaviors. Through direct use of social skill interventions and a PBS work environment, students reported the adjustments in their behavior and attitudes in the workplace were encouraging. Training employers to use PBS resulted in job sites that reflected more stable, positive climates. Additionally, the employer training transformed the supervisors’ roles from managers of negative interactions to partners in creating successful workplaces. While individual students required varying levels in the intensity of their social skill trainings both in the classroom and the workplace, this unique, personalized aspect of the approach improved students’ self-reliance and placed an emphasis on self-determination. Social skill training seems to be necessary for many individuals with disabilities and this study found that involving the students in determining the focus as well as charting of behaviors was a critical component of success. Overall, PBS and social skill intervention aided individuals with disabilities to take charge of their employment outcomes.

Limitations of the Study

This study was conducted in a university-based program with students who worked on establishing a community presence. Therefore, employers in this study may have a more positive impression about individuals with disabilities than other employers. Due
to the limited participation from employers, additional information on how employers’ rated the change in workplace behavior was not collected. Additionally, the small number of students involved in this project reduced the researchers’ opportunity to generalize the results to the larger population of individuals with disabilities. Finally, student success was related to employers’ willingness or ability to implement the PBS system in their workplace. Some were more successful than others, a factor which could have negatively influenced the results of the study. Moreover, previous work experience of each participant and other factors that could possibly influence the change in participants’ positive behaviors were not addressed in this study.

**Future Research**

Future studies should include factors like previous work experience, and other factors that could influence behavior change in order to make the results more accurate. Another direction of future research is to increase employer participation to investigate the change in workplace behavior from employers’ perspectives. Even though the need to combine PBS and social skill intervention was clearly presented, future studies could explore outcomes for individuals with disabilities by implementing either social skill interventions or a PBS system in the workplace, rather than instituting both strategies at once. Other studies could incorporate single subject design to chart more accurately behaviors from baseline through intervention to an explanation of the meaning of the results. Such a design would require the placement of a data collector in the workplace. An additional study design could examine a selection of students who share the same target behavior to determine the effectiveness of different strategies on changing a single behavior across individuals.

**Summary**

The study examined the combination of a PBS system and social skill instruction to influence employment outcomes in eight individuals with disabilities. Employers were trained to implement the PBS system as well as their students’ individualized social skills programs, each of which included three behaviors. Students selected the behaviors to address and were taught how to chart their behavioral responses. Additionally, they were provided with techniques and supports for controlling their selected behaviors. Overall, it appeared that blending the PBS system with direct social skill instruction had a constructive influence on the workplace outcomes because all participants showed desirable growth on positive responses, an increase in work performance, and reported satisfaction in social interaction in the workplace.

**References**


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Challenges in Program Evaluation Preparation and Survey Implementation

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Abstract
Program evaluation is used by vocational evaluation, career assessment, work adjustment, and rehabilitation counseling agencies. The Commission on the Accreditation of Rehabilitation Facilities requires organizations to obtain feedback from persons served and other stakeholders. One method of obtaining feedback is through research and evaluation, which requires selecting areas to be measured, collecting and analyzing data regarding these interest areas, and then reporting results. Issues to consider as well as strategies to address these issues are discussed in the preparation and implementation of data collection and analysis in the survey research used for some program evaluations and by researchers.

Keywords: Program Evaluation, Survey Research

Challenges in Program Evaluation Preparation and Survey Implementation

Program evaluation is used by vocational evaluation, career assessment, work adjustment, and rehabilitation counseling agencies to make policy and practice decisions. Additionally, the Commission on Accreditation of Rehabilitation Facilities (CARF) promotes an ASPIRE to Excellence® framework for quality improvement. One key step within this framework is for the organization to obtain feedback from the persons served and other stakeholders, which is the P in ASPIRE. Improved outcomes have been reported from persons served and stakeholder feedback (CARF, International, 2013).

The research and evaluation process includes selection of areas to be measured, collecting and analyzing the data regarding these areas of interest, and then reporting the results (Thirty-sixth Institute on Rehabilitation Issues [36th IRI], 2011). Excellent resources are available that describe how to assess program quality such as Performance Management: Program Evaluation and Quality Assurance in Vocational Rehabilitation (36th IRI, 2011) and how to design and execute a survey such as Internet, Mail, and Mixed-Mode Surveys: The Tailored Design Method (Dillman, Smyth, & Christian, 2009). A program evaluator (PE) can follow these recommendations for effective program evaluation and survey research and still encounter barriers that delay the initiation and completion of the program evaluation. The purpose of this article is to discuss issues to consider and challenges to avoid in preparing for program evaluation, using the Internet to survey consumers, and in the execution of program evaluation using survey research.
Preparing for Program Evaluation

There are seven core components that must be in place prior to initiating a program evaluation. These include: a mission statement, vision, and values that have been clearly communicated to all stakeholders; organizational goals with measurable outcomes and timelines; measures of the agencies outcomes and objectives; program evaluation data systems; data analysis; and dissemination of the program evaluation results; and continuous improvement/development (36th IRI, 2011).

Consumers

Program evaluators, preparing to initiate a research study for program evaluation purposes, must develop a written proposal that describes the research questions, hypotheses, design, and population to be sampled. In planning (e.g., State Plans) or forecasting (36th IRI, 2011), permission to sample a population, other than your own consumers, may require gaining the trust of the organization or agency responsible for this information in order to access their electronic mailing list or listservs (Suarez-Balcazar, Balcazar, & Taylor-Ritzler, 2009) prior to contacting consumers. In recruiting participants, Lindsay (2005) describes the importance of presenting oneself and their research to the stakeholders, gatekeepers, and consumers. The stakeholders and gatekeepers can facilitate or prevent access to the sample and participation in the study by consumers. The key is to present the value of the research for all parties, which can be particularly challenging if there are more reasons to reject the study than support the study. Finding the benefit, however small, for all of the stakeholders will help the PE gain support for the study. Benefits can include being an advocate for consumers and the usefulness of the research for consumers (Lindsay, 2005).

When gaining permission to access a group, the PE should determine if the agency can provide the specific list of consumers to be sampled. For example, if the PE is only interested in consumers with spinal cord injuries, will the agency be able to separate persons with a spinal cord injury from persons without a spinal cord injury? If the database cannot be narrowed, it may be difficult, if not impossible, to sample the population desired. This could decrease the sample size, delay the research, or increase the research cost. Once the lists of consumers are obtained, the database is reviewed. Among other benefits, reviewing the database allows for identification of missing variables and discrepancies, removal of unnecessary information (e.g., Social Security numbers), and confirming the integrity of the data.

Different issues should be considered if the PE plans to compare or match groups of consumers. In a comparison study (see Chapin & Kewman, 2001), the ideal would be to have an equal number or close to equal number of consumers in the two groups (e.g., employed versus unemployed). Research findings are affected if the difference between the two groups is significant. The PE should use discretion when determining how to match consumers. For example, the PE makes decisions on demographic variables (e.g., age, gender, injury severity) matched between the two groups. If exact matches cannot be made, the PE has to decide if there are sufficient matches to complete the study or if other decisions need to be made that will modify
how the groups are matched. For example, if consumers who are employed are matched with consumers who are unemployed based on age, gender, and years employed, but there are not enough groups who represent consumers in the 20 – 30 year old age group, the PE may decide to expand this age group to 20 – 35 year olds.

**Archival data.** Many PEs will choose to use archival data or data that has already been collected. One example of archival data is the Case Service Report - RSA-911 (United States Department of Education Office of Special Education and Rehabilitative Services, Rehabilitation Services Administration, 2004). There are advantages and disadvantages to using archival data. One advantage of archival data is that since it has been collected, it saves the PE the time required to design a new study and collect the data (Donnellan, Trzesniewski, & Lucas, 2011). Additionally, this decreased collection time may expedite the completion of the research, thus increasing the speed at which the PE can submit the results describing the study. Archival data may reduce data collection problems, the need for additional resources (Kiecolt & Nathan, 1985), and the cost of the research study. The data may also be longitudinal, have larger sample sizes, and be of a higher quality than data that could be collected by the PE alone. The data is often free or can be obtained at minimal costs. These data sets can offer an opportunity for PEs to replicate study findings or test alternative explanations (Donnellan et al., 2011).

There are several disadvantages to using archival data, such as the PE not having complete access to how the data was collected and what problems occurred during data collection. Additionally, the available data sets may not address the research question under study by the PE (Donnellan et al., 2011). If the archival data is to be used for sample comparison among multiple databases there may be problems in how the data was collected in the different databases (Kiecolt & Nathan, 1985). For example, if there are a number of constructs being measured in larger data sets, the original researcher may have decided to use a short or abbreviated version of an instrument such as the Craig Handicap Assessment and Reporting Technique (CHART) as opposed to the longer version of the CHART (Whiteneck et al., 1992). Thus, discussion of reliability and validity has to be based on the version of the instrument used. Additionally, a PE may only use a few questions from the CHART or one section of the CHART, such as the questions that relate to social integration, as opposed to the entire instrument. The PE should reference the original research to determine what form of the instrument was used. Based on these results the PE can then decide if this archival data will answer the research question he or she is posing. Using archival data requires time to understand the data set (Donnellan et al., 2011). This can include understanding the definition of terms, how variables were coded, and what decisions the researcher made when insufficient data was obtained. During this learning phase, the potential exists for another PE or researcher to analyze the same data set with a similar research question (Donnellan et al., 2011). Data collection errors are not readily apparent in archival data (Kiecolt & Nathan, 1985). Another disadvantage is “fishing” for significant
correlations versus hypothesis testing. Fishing means that the PE is looking for significant results in the data without having specific research questions in mind. Additionally, archival data tends to be correlational, thus precluding casual inferences from the data set (Donnellan et al., 2011).

The PE should determine who owns the archival dataset and make contact with the agency. The purpose of this contact is to determine if the datasets can be obtained in a timely fashion and if the desired data is available in a usable format that allows for easy analysis. The PE should be trying to understand how the data was collected and coded and determine if the nomenclature used by the agency is the same nomenclature the PE plans to use (Kiecolt & Nathan, 1985). The need for consistent nomenclature reinforces the need for codebooks when using archival data (Pienta, O’Rourke, & Franks, 2011). Copies of the data collection instruments will aid understanding (Pienta et al., 2011). If a subset of data is being requested from the original researcher, it would be beneficial to the PE requesting the data to be specific about the type of data required (e.g., section of the database, race/ethnicity, years of interest) and the format for data analysis (e.g., SPSS, SAS). This will insure that the requestor of the data receives the desired information in a format conducive for data analysis. For example, if the PE is interested in comparing consumers based on their race/ethnicity, gender, and type of disability from 2010 to 2011 and the original researcher can only supply data from 2009 on gender and race/ethnicity because no information on disability was collected, then the dataset would not meet the PE’s criteria.

**Timelines**

The research proposal would benefit from timelines to help the PE stay focused and organized. Dillman et al. (2009) has suggested the following timelines for mailing out notifications related to a survey and mailing the survey itself. The prenotice letter is mailed a few days prior to the actual survey mailing. The thank you/reminder postcard is mailed a few days to one week after the survey was mailed. The replacement survey is mailed to nonrespondents within two weeks of the original survey mailing. Dillman et al. suggest a final contact be made with nonrespondents using a different delivery method within two to four weeks of the replacement survey mailing. Consideration should be given to the time of year as surveys mailed during a holiday season may get lost in holiday mail or not be answered due to holiday activities. Other timelines to consider include the date the surveys are to be mailed and the desired completion date as these dates will influence the mailing and study completion timelines. Goals for data entry and analysis should also be created. This timeline will help to keep the research focused.

**Measures**

To increase contact with more consumers, it would be ideal to use multiple data collection methods (e.g., mail and Internet) to broaden the backgrounds of the consumers being surveyed, since not all consumers have Internet access, particularly individuals with disabilities (Suarez-Balcazar et al., 2009). When surveys are administered via a variety of modes, it is important to consider how questions are written to facilitate understanding by the
The greatest number of people from varying age groups, regardless of the data collection mode. The 2010 U.S. Decennial Census discusses:

Universal Presentation: all respondents should be presented with the same question and response categories, regardless of mode. That is, the meaning and intent of the question and response options must be consistent. The goal is that instruments collect equivalent information regardless of mode. By equivalent, we mean that the same respondent would give the same substantive answer to a question regardless of the mode of administration. (Martin et al., 2007, p. 2)

During survey creation, confirm that duplicate or similarly worded questions within the instruments and demographic survey are removed. The order of the survey questions should be considered because the order may impact a consumer’s desire to begin and continue the survey. For example, the first question should be easy to read, understand, and answer, and be relevant to most respondents. An exception is when the first question asked is to determine if a respondent meets eligibility requirements. These initial questions can be followed by survey questions requiring more thought. Dillman et al. (2009) further suggests keeping related questions grouped together (e.g., personal characteristics). Questions should be worded logically with potentially sensitive or objectionable questions placed near the end of the instrument (Dillman et al., 2009).

Having people with various academic backgrounds review the survey packet, complete the surveys, and give feedback on the ordering of survey questions and demographic data can facilitate the correct ordering of the survey packets. Pilot testing of the survey will help determine challenging questions or different interpretations by consumers from what the PE intended (Dillman et al., 2009; Krosnick, 1999). One might incorrectly assume that an instrument that has been used in multiple studies would be written in such a way that most consumers can understand the questions, otherwise the instrument would have been revised; however, this is not always the case and a good reason for piloting the survey. An incorrect placement of survey questions or the incorrect ordering of multiple assessment instruments can potentially decrease the PE’s response rate or the number of consumers completing all of the assessment instruments even if everything else is done correctly. For example, if the first question in the study is not clear to consumers, it may result in telephone calls from consumers asking for clarification and consumers not completing this instrument. Surveys should also be kept brief, whether on the Internet or by mail (Suarez-Balcazar et al., 2009).

Instrumentation

Many PEs may use specific instruments such as interest inventories and quality of life measures in survey research. Two examples of quality of life measures that could be used in program evaluation are the World Health Organization Quality of Life-BREF (Bonomi & Patrick, 1997) and the Sense of Well-being Inventory (Rubin, Chan, Bishop, & Miller, 2003; see Chapin & Holbert, 2010, 2011). Instrument selection is important because the instruments selected...
need to measure the desired concept, be reliable and valid, and be written at a level understandable to the consumer. Program evaluators need to know if the instrument is currently used in research and if it is in the process of being updated. The PE should consider the consumer population and the ease with which the consumers will be able to complete the instrument. Suarez-Balcazar et al. (2009) suggest writing the survey at a language level that can easily be understood by the population at large because lack of understanding may influence instrument and survey completion. Additionally, if critical thinking is required to answer the question, the response rate may decrease or the instrument may frustrate consumers. The PE should consider the least educated consumer who will complete the survey and select instruments accordingly as failing to do this could result in the receipt of incomplete survey data, which may make the results unusable.

Two challenges in using instruments created by others is acquiring permission to get the instrument and actually getting a copy of the instrument. For example, the PE may be interested in using an instrument published in a book. However, when the author of the instrument is contacted with a request to use their inventory, the author may indicate that a different version needs to be used. This updated version of the instrument may be more difficult for consumers to complete due to the wording of the questions, resulting in a lower response rate, or may be a version of the instrument that is no longer used, thus making the results unusable. Consumers have then wasted their time completing these instruments and the response rate may be affected since the survey length would have been significantly reduced if these instruments had not been included.

Some authors of instruments may have additional restrictions. The instrument author may limit the number of instruments that can be mailed out, which can impact sample size. If this limitation exists, the PE may want to consider mailing out instruments to new consumers as surveys are returned for incorrect addresses. This helps the PE to achieve as large a sample size as possible, while staying within the requirements of the instrument’s author. Other instrument authors may want the results from the study as part of their database. If this is the case, consumers need to be made aware of this in the consent form.

Once permission is obtained to use an instrument, confirm there are no typographical errors in the instrument and make adjustments in instructions based on changes in how the instrument is being administered. For example, if the instrument is normally administered on the Internet, but now will be mailed to consumers, instructions to consumers should not say “when completing your response online,” but instead “when completing your response below.”

**Expense of Program Evaluation**

Consider the cost of survey research, which may include instruments, printing, mailings, and incentives for completing the research. First, permission must be obtained from the authors of the survey instruments who often want to know the purpose of the research. Some instrument authors offer reduced rates or waive the cost for students, so it is beneficial to indicate if you are a student. There are also many reliable
instruments available free. Two examples include the Center for Epidemiologic Studies Depression Scale (Radloff, 1977), which can be obtained from the National Institute of Mental Health and the Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985), which can be obtained from [http://internal.psychology.illinois.edu/~ediener/SWLS.html](http://internal.psychology.illinois.edu/~ediener/SWLS.html). The PE needs to consider the cost of printing surveys if a mail survey is to be used or the fee for the online survey. Although there are a number of free online surveys, such as SurveyMonkey®, these online surveys may limit the number of questions that can be asked and the number of people who can respond to the survey (SurveyMonkey®, 2011). If surveys are to be printed, the PE decides if a printing company will assemble the surveys, which will increase cost. If the PE decides to assemble the surveys, consideration of the time to assemble and the manpower needed for this task are important components of research. For example, five hundred copies of a 10-page survey can take more than 4 hours to print, not including the office printer collating and stapling the documents. The printed documents then need to be placed inside the mailing envelope with a stamped self-addressed return envelope, the correct personalized letter, and a mailing label attached. This assembly process can take up to eight hours for a total of 12 hours spent printing and assembling the survey packets. Additionally, care must be taken in the assembly process so that the letter to the consumer does not get placed in the wrong envelope or with the wrong address label.

When planning for the research, the PE should consider expenses for supplies. Supplies can include letterhead, regular size envelopes, manila envelopes, prepaid postage, postcards, mailing labels, return address labels, and consumer number labels for surveys. There is also the expense of photocopying the instruments and collating the survey packets. If following the approach of Dillman et al. (2009) to mailing surveys, postage expenses include the prenotice letter, survey, thank you/reminder postcard, and resending of the survey. The cost of the prenotice letter, survey, and thank you/reminder postcard would be $1995 for 500 surveys. If a self-addressed stamped return envelope is included in each survey packet, there is an additional $1635 expense for postage for a grand total of $3630. There may also be a cost to the final contact using a different mode of delivery. Self-addressed stamped envelopes are used to increase response rates (Dillman et al., 2009), but there is a higher cost to self-addressed stamped envelopes than to postage paid envelopes.

Postal paid envelopes can help to decrease cost as the postage is paid only when the envelope is returned and the postage is based on the weight of the envelope. If prepaid envelopes are printed, there may be a specific address format. Adding in a mail stop number or other identifying information and placing the PE’s name on the outside of all envelopes is essential so surveys delivered to the wrong addresses can be forwarded unopened to the PE. If surveys are returned to the wrong department, valuable research data is lost. These problems do not exist when the Internet is used.

To increase participation rates, Dillman et al. (2009) suggest sending all research consumers incentives from $1 to $5, which
can be costly when 500 or more surveys are mailed to potential consumers. If incentives are mailed, plans should be in place to account for the cash incentives returned due to undeliverable mail. Noncash incentives (e.g., cash cards, pens, chocolate) can be used, but have not been shown to be as effective as cash incentives, while electronic gift certificates via email only modestly increase response rate over no incentive. If Internet surveys are used, Dillman et al. suggest, when possible, using another means of contact to provide the cash incentives, as postal contact has proven to be more effective than email contact since email is at risk of being treated as spam. The mail can be used to invite consumers to respond to the Internet-based survey. Although prize drawings and lotteries do not result in as good a response rate as token incentives (Dillman et al., 2009), if they are used, the PE should be very careful in the wording of who will receive the incentive. Consumers can misunderstand their eligibility for the incentive in spite of clear language.

**Use of the Internet in Survey Research**

According to the 2009 Current Population Survey (CPS), 70.5% of Whites, 54.5% of Blacks, 80.5% of Asians, and 52.8% of Hispanics in United States households had access to the Internet in their homes (U.S. Census Bureau, CPS, 2010). There are several advantages to using the Internet in program evaluation and research. The Internet offers the ability to attain a large sample size throughout the world within a short period of time. Surveys can be completed at a faster rate of speed since mailing of surveys is often eliminated. This eliminates the eight to 12 hours previously mentioned to assemble and prepare 500 survey packets for mailing, the $3630 cost, and the time needed to mail and receive the returned survey. Data entry is faster since it occurs as the survey is completed. Since lab or office space is not needed for completion of the study, costs are reduced in addition to the costs of printing flyers. There are also advantages to consumers. The consumer can complete the survey from home, which eliminates the need for travel. This convenience may decrease the need to compensate the consumers for participating in the research study (Denissen, Neumann, & van Zalk, 2010). Survey consumers often interpret survey items without the aid of a PE, which can be advantageous since the respondent is interpreting the question on his or her own.

A major challenge to using the Internet in survey research is the lack of accessibility to some population groups. For example, people who may not be easily reached through Internet survey research are people from diverse cultures including recent immigrants, people with disabilities, people with limited income or less education, people not literate in English, and older adults (Suarez-Balcazar et al., 2009). Thus, if the Internet is used, funding should be directed toward increasing access for populations who have less access to the Internet and providing access by telephone to answer questions about using the Internet (Suarez-Balcazar et al., 2009). Another way to address these limitations, in addition to paper and pencil surveys, is to have agency staff inform consumers about the survey research and provide access to computers for survey completion. This will not address access to people who are unfamiliar with using a computer, who find technology
daunting, or when surveys and instruments are not culturally appropriate or translated accurately, which should be done (Naglieri et al., 2004).

Visual displays can also be considered for people with limited English proficiency that are less literate, unfamiliar with the Internet, or have vision impairments (Suarez-Balcazar et al., 2009). Additionally, the PE needs to verify that JAWS Screen Reader software can read the boxes (Suarez-Balcazar et al., 2009) or drop down menus in the online survey. Readers for people with visual impairments or reading disabilities could also be provided (Naglieri et al., 2004). Further, consideration should be made to the accessibility of the website for people with disabilities (Naglieri et al., 2004). Program evaluators may want to review the Internet development guidelines of the World Wide Web Consortium (W3C; http://www.w3.org) The W3C has a Web Accessibility Initiative (http://www.w3.org/WAI/) that provides guidelines on designing an inclusive website.

Confidentiality can be a concern in Internet research. When survey consumers using the Internet are given compensation for participating in research, there will be a loss of confidentiality that could deter some consumers from completing the research. Additionally, the Internet Protocol (IP) address can connect research results with the research consumer even though this information would not be easy for most PEs to access (Suarez-Balcazar et al., 2009).

### Implementing the Survey

#### Mailing

Dillman et al. (2009) suggest multiple mailings to increase response rate. The goal of the first mailing is to notify consumers of the upcoming survey and to obtain incorrect addresses. However, it can take months for incorrect address notices to be received from the first mailings. Additionally, thank you/reminder postcards may be returned stating an incorrect address but the survey may not be returned. These surveys have to be counted as a non response since there is no guarantee the consumer did not receive the original survey. Errors in mailing can accidentally occur such as mailing the thank you/reminder postcards without addresses. These are not issues with Internet research. However, as previously mentioned, emails may be interpreted as spam and not reach the intended recipient (Dillman et al., 2009).

#### Responses

Responses may be received without the consent form attached or with an unsigned consent form attached and the survey completed. The respondent is then contacted in order to receive a consent form before the data can be used. If the PE has offered to help consumers complete the surveys, the consent forms are required before survey completion occurs. Upon receipt of the consent form, the PE schedules an appointment with the consumer to complete the survey. If the consumer becomes fatigued, several appointments may be required to fully complete the survey. However, consumers may schedule appointments with the PE, yet the consumer is not available at the scheduled appointment time.
In a series of studies measuring personality and emotion of university students via the Internet, Hoerger (2010) found a 10% dropout rate after reading the consent form or completing a few survey items, with an additional 2% dropout rate for every 100 survey items. There were no differences based on age or gender.

Database

The PE needs to create a decision file early in the process to serve as a record of decisions made to the data set since these decisions can be difficult to recall at a later date. For example, if age is being calculated from date of birth, the decision file would state that age was calculated based on the date of birth during the year of survey completion. Statistical software programs such as SPSS allow the user to save syntax or information regarding the analyses completed on the data set for use at a later date. The syntax can also be added to the decision file.

When creating the demographic survey, consider how the data will be entered and what program (e.g., SPSS) will be used for data entry. Setting the database up before receipt of completed surveys will expedite data entry. Changes in data entry may be needed as survey responses are received based on consumer response or when data analysis occurs.

Data entry brings a new set of challenges to the PE with paper and pencil surveys. Consideration regarding whether data will be entered as it is received or all at once is required. The researcher must decide how to enter data when no response is given or when more than one response is given to a question. Some instruments provide directions for handling these challenges. The instrument’s author may suggest taking the average score of all responses to the domain or if insufficient data is available the item cannot be scored (University of Washington, 2005). All data entered should be reviewed for accuracy.

Analysis and Report Completion

When it is time for data analysis, some data may need to be recoded to make it easier to analyze. Careful thought to data entry will reduce the number of questions that may arise in data analysis. Statistical software programs generate data, output, and syntax files (e.g., SPSS). Careful labeling of these files is essential to avoid confusion when accessing the files. When using a new or less familiar statistical procedure, the PE may want to write down what was done or create a syntax file so the analysis can be duplicated at a later date.

When using statistical software programs, label the printouts to clearly indicate which printouts were used in your program evaluation.

When preparing to write the program evaluation results, consider using large expanding Pendaflex® files to hold all of the resources used. The Pendaflex® files can include printed copies of the research results and articles referenced. This will make it easier to locate references and address questions that reviewers of the results may ask. Additionally, a primary folder on the PE’s computer can be created with subfolders for the survey, results, and copies of articles. If the PE is working with a colleague from another institution, cloud computing (e.g., Dropbox) allows for collaboration on the same evaluation report via the Internet (Buyya, Yeo, & Venugopal, 2008, p. 2), although confidential.
information should not be stored on a cloud computing site without first checking the security of the site.

**Conclusion**

Preparing to initiate a research study requires the development of a research proposal and gaining access to the sample population, if the sample population is not the PE’s own constituents. The PE then determines the areas to be measured, collects and analyzes the data regarding these areas of interest, and reports the results (36th IRI, 2011). This article has introduced some examples of challenges (e.g., archival data, measures used, mail versus Internet surveys, the database, analysis, and reporting results) a PE or other researcher may experience when pursuing survey research for program evaluation. This is not an exhaustive list, but provides some suggestions to improve the effectiveness of survey research used for program evaluation in an effort to improve response rates and facilitate effective completion of the program evaluation. This article evolved from issues and challenges this researcher experienced. Program evaluators and researchers could benefit from sharing their positive and negative research experiences to enhance program evaluations and research methods and results.

**References**


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Vocational Evaluation and Career Assessment Professionals Test Review

Test Review: Raven’s Standard Progressive Matrices
Reviewer: C. Matthew Cox
Institutional Affiliation: East Carolina University

Author(s): John C. Raven


Cost: Raven’s SPM Kit-$206
Raven SPM Classic Easy Score Answer Sheet (10)-$30.50
Raven SPM Classic Test Booklet-$54.75
Raven SPM Ans Doc (50)-$56
Raven SPM Answer Key-$28.50
Each Manual Section-Sold Individually (General Overview-1998, Updated 2003)-$75

Psychometric Properties

Purpose: Raven’s Standard Progressive Matrices (SPM) is an instrument that measures fluid intelligence (Funham & Moutafi, 2012) and is used to assess persons 5 years or older (Power, 2006). The test can determine a person’s present capacity for clear thinking and accurate intellectual work (Raven, Raven, & Court, 1998), which has uses in research, clinical, occupational, and educational settings. Within the clinical setting, the SPM is useful in flagging a number of disorders ranging from anxiety and depression to cerebral trauma (Raven, Raven, & Court, 1998). Although its intended uses do not include diagnosis, the SPM can alert clinicians to the possible presence of disorders. The usefulness of the SPM within occupational settings includes the capacity to assess clients’ ability to find new ways of thinking about and completing tasks and predicting their ability to attain and retain jobs that require a high level of work capacity (Raven, Raven, & Court, 1998).

The SPM is composed of 60 visual patterns, each consisting of 4 squares inside
a box, with one blank or missing piece. Below each pattern is a set of four smaller, although similar, patterns from which the client can choose. Only one pattern is the correct fit to the corresponding above pattern and the other three are distracters. The SPM is a power test.

**Reliability and Validity:** Burke (1985) stated that a correlation coefficient of .96 was found when a split-half test was conducted with 2,998 individuals referred for vocational counseling and psychiatric services. In a study of 256 cases in which the SPM was administered concurrently with other intelligence tests, there were substantial correlations. When compared to the Wechsler Adult Intelligence Scale-Full Scale (WAIS-FS), there was a correlation of .66, other correlations included the WAIS-V (.61), WAIS-P (.63), and Shipley (.69; Burke, 1985). Construct validity was demonstrated in a study by Rushton, Skuy, and Bons (2004). Item difficulty was measured and compared for Africans, East Indians, Whites, and others with a correlation of .90. Power (2006) states that the SPM “Measures the ability to perceive and use relationships between nonverbal materials” (p. 176). There is a clear association between test items and the correct answer that further demonstrates content validity of the SPM. Pind, Gunnarsdottir, and Johannesson (2003) compared scores from the SPM to national examination scores of 665 Icelandic 4th and 7th graders and found correlations of .5 and .75 for each group, respectively. They concluded the SPM is a good test of general ability that demonstrates concurrent validity.

**Standardization:** The raw scores of the data retrieved from Raven’s SPM are compared to standardized percentages. This standardization is based on the studies conducted to gather norms for young people and older adults, geographical and cultural variance, and different time periods. Dr. Raven first standardized the SPM in England in 1938 and 1952 with both studies yielding similar results (Raven, 2000). In England during the mid 1940s, Raven used 3,665 adults aged 20-30 to standardize the SPM. Raven recruited fathers of the previously tested children and civilians and recruits from the British armed forces (Raven, 2000). These studies, those of the children in particular, confirmed the assumption of a general increase in scores since the originally published children’s norms (Raven, 1990). Within the United States, Des Moines, Iowa was selected for a standardization site because it was reported to be one of the four areas within the United States that had a demographic composition closely approximating the U.S. as a whole. The group consisted of 625 schoolchildren, aged 6 to 16 with an equal representation of males and females. The racial makeup included 8% black, 87% white, and the majority of the remaining participants identifying themselves as of Hispanic or Asian decent (Raven, 1990).

**Practical Evaluation**

**Administration:** Raven’s SPM is an untimed assessment that can be administered individually or to groups. Although the SPM can be self-administered (Raven, Raven, & Court, 1998), the evaluator must provide supervision to ensure understanding and monitor for errors that could potentially
affect scoring: incorrect coding of answers could greatly affect the results. To begin, the evaluator opens the test booklet and directs the client’s attention to the first example. The evaluator then begins to explain the format of the test, how the questions should be answered, and how an answer is deemed correct within the parameters of the test. The evaluator then provides an explanation as to why an answer is either correct or incorrect. After confirmation of understanding from the client, the evaluator holds up the book or places it in a position so that both can see the booklet. Each item is then administered. When administered individually the client points to the selection he or she believes to be correct, the evaluator then asks the client for confirmation, and records the response on the answer sheet. The evaluator then tallies the correct responses after all questions have been answered. When self-administered, the client records his or her own answers. The resulting number or raw score is then compared to the average score for the client’s age and a corresponding percentile can be used to determine the Grade Score, which ranges from one (equivalent to >95th percentile) or five (<5th percentile; Raven, 2000). Part of the supervision is to ensure the client’s self-scoring is correct.

Both the total and individual scores need to be considered in the interpretation of the test results. The normal or average score for each section is standardized based on age and should be subtracted from the actual tallied score of that section. The resulting values should be no more than two, either positive or negative. Instances in which there are scores greater than plus or minus two indicate lack of face value for the total score and an inappropriate match between the test and client (Raven, Raven, & Court, 2000). In other words, the test and results would not be useful. However, the evaluator must also consider whether the instructions were not explained completely or clearly to the client.

Reviewer Comments

Populations Served/Not Served:
The SPM is appropriate for use with many persons with disabilities including persons with learning disabilities, language disorders, mobility impairments, and cognitive disorders. The evaluator must consider the client’s unique functional limitations in order to determine what, if any, types of accommodations need to be provided. One of the primary groups is clients with cognitive limitations. The evaluator may choose to administer this test as a means to assess a client’s problem solving skills. In order to obtain useful results the evaluator needs to make sure that the individual has the capacity to understand the instructions and respond correctly.

For individuals with learning disabilities, additional time may be provided. Since the SPM is not a timed test, these clients from this population should be encouraged to take their time, which may not be afforded with other instruments. Also, prior to administering the test, ask clients what they have found to be their most effective test accommodation(s).

Clients with communication difficulties, especially those with language disorders, need to be capable of communicating understanding in a manner other than orally, for example with a sign language interpreter or a gestural system. The important factor to consider is whether or not a client will be
able to ask a question or indicate confusion so the evaluator can clarify the instructions and expectations.

For clients with mobility issues, the primary considerations are table height and building access. An alternate testing site may need to be provided. For example, if the individual cannot leave home, the evaluator needs to administer the test at the client’s home. Use of an alternative site also requires the evaluator to consider factors ordinarily controlled in an office environment. Visual distractions such as similar patterns on posters, rugs, etc, may affect the client’s ability to concentrate fully on the test items and answers. Others distractions may include: tactile (bed sores), audial (dogs barking or intercoms), and olfactory (aroma of food being cooked and the client is hungry, strong cologne or perfume to a person with asthma, or other odors). The anxiety caused by having the testing performed in the client’s home must also be considered. For clients with paralysis or impaired limb functioning, minimal challenge to administration should be presented. As long as the evaluator and the client agree on a method to respond and provide answers, no limb movement should be necessary.

The acuity of clients with visual impairments is an important determinant of accommodations. Clients with low vision may benefit from enlargement of test items. Other accommodations may be provided and include strategies such as offset test booklet placement to allow individuals with macular degeneration to utilize their peripheral vision or use of different types of lighting. This test is not appropriate for individuals who are totally blind or cannot access print.

In addition to the client’s primary disability, the evaluator must also consider other factors such as the severity of the disability and the presence of other disabling conditions in order to provide effective accommodations. After the accommodation is provided, the evaluator scores the test. During this process, the evaluator must consider the functional limitations of the disability as well as the accommodation. If there are variances in the normal and individual scores, then the evaluator must determine the usefulness of the results. In the case of inconsistencies in the results, the evaluator may consider re-administration of the test or portions of the test.

The SPM seems to be a culturally fair instrument, with culturally neutral test items. The visual patterns have no known relation to any culture and do not appear to be representative of any symbols or items related to culture. However, as with any test, the evaluator must be sensitive to factors related to client’s culture and ensure no offense is taken with the test or test taking process.

Summary Evaluation

The strengths of this test are ease of use for the evaluator and the client and efficiency (short completion time). The SPM administration instructions are clear and the format for administration ensures that clients understand what is expected of them. The SPM is less daunting than other tests that consist of number problems, true false questions, essays, etc. The SPM is user friendly because it seems more like an activity or puzzle than a test. Scoring and administration are relatively easy for the evaluator because scoring involves simple
math. The SPM can also be used with a variety of populations, including people with disabilities.

The test booklet is comparable in size and feel to a professional journal; more durable when compared to a magazine with pages that are thick enough so as not to fray or tear easily through standard use. The items in the test booklet are clear, concise, and large enough that clients with low vision can detect the difference in patterns. The answer choices are also sufficiently large to help the client differentiate between the separate possible answers, thereby reducing possible confusion. The test items are black and white, removing any distracters related to color, which could detract from the focus on patterns.

One significant problem with the SPM is that it is one dimensional as regards the construct being tested. A client’s intelligence comprises more than the ability to match patterns and the SPM should be used in tandem with other instruments to develop a holistic picture of functioning.

The relative ease of use for client and evaluator, the variety of populations with which the SPM can be used, and psychometric properties are all positive indicators in favor of adapting the SPM in the evaluator’s tool box. The caveat is to use the SPM, like any other test, in combination with other instruments to insure an accurate evaluation is completed.

References


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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
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
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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