A Comprehensive Guide to Career Assessment

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Career Assessment in Research and Program Evaluation

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Many of the issues related to career assessments are focused on their use in individual counseling and career advising, group, workshop, class-based, and related career interventions. Another perspective on this topic relates to career assessments in research and program evaluation. In this chapter, we seek to provide a broad overview of the topic, including distinctions among terms, design and implementation considerations in using career assessments in research and program evaluation, as well as a list of "ten tips" related to this topic. In addition, we identify references and resources that readers can explore in pursuing additional information concerning career assessment in research and program evaluation.

Distinguishing Among Terms

We have highlighted definitions for key terms in this section because confusion can occur when using terms such as assessment, research, and evaluation, interchangeably. According to Whiston (2017), the term *assessment* is commonly associated with systematically measuring a sample of behavior (e.g., verbal aptitude) or a specific construct (e.g., anxiety). Within the context of career counseling and career interventions, career assessments include both quantitative and qualitative measures, and these tools can be "used to assess individual differences and the career development process" (Whiston, 2017, p. 215). Best, Kahn and Jha (2017) suggested, "assessment is a fact finding activity that describes conditions that exist at a particular time" (p. 22), and there is no attempt to test hypotheses or describe relationships between and among variables. In contrast, Suskie (2009) defined assessment as:

The ongoing process of establishing clear, measurable expected outcomes of student learning, ensuring that students have sufficient opportunities to achieve those outcomes, systematically gathering, analyzing, and interpreting evidence to determine how well student learning matches our expectations, [and] using the resulting information to understand and improve student learning. (p. 4)

Makela and Rooney (2012) described assessment as having to do with assessing programs, interventions, and services to document their effectiveness in meeting a stated goal or purpose. These definitions can be related to the use of career assessments in both research and evaluation.

The term *research* is commonly associated with obtaining generalizable information or information used to validate a theoretical construct or explain a phenomenon. Best et al. (2017) described research as "the systematic and objective analysis and recording of controlled observations that may lead to the development of generalizations, principles, or theories, resulting in prediction and possibly control of events" (p. 25). Beyond this basic definition, research might be descriptive, applied, qualitative, experimental, or some combination of these (Best et al., 2017). Often, research that examines career phenomena makes use of career assessments to achieve the aims stated above. For example, research might support the idea that modeling information-seeking behavior results in significantly higher levels of career exploration by high school youth. Career specialists might use career assessment (e.g., the Occupational Alternatives Questionnaire; Slaney, 1980) to show that high school students increased the number of occupational alternatives they were considering after they were exposed to the intervention, in contrast to students in a control group. D. Brown (2015) suggested that program evaluation and research might share a similar goal sometimes, which is to "produce evidence that a technique, intervention, or program has the desired outcome…" (p. 350).

Sampson (2008) described *evaluation* as an ongoing process that provides an opportunity to justify funding as well as enhance a program. Makela and Rooney (2012) defined evaluation as an opportunity "to judge the quality or value of a specific career intervention" (p. 2). In contrast to research, evaluation is not concerned with making generalizations to other settings or populations (Best et al., 2017). Program evaluators might use career assessments in the program evaluation process to document program outcomes. For example, an employment support program, designed to reduce negative thinking in unemployed adults, might use a career assessment (e.g., Career Thoughts Inventory; Sampson, Peterson, Lenz, Reardon, & Saunders, 1996) to evaluate the program's effectiveness in achieving this goal. In most cases, program evaluations are conducted under less stringent guidelines and procedures than those that govern research.

The purpose of this chapter is to focus specifically on the research and evaluation components described above and explain the connection of career assessments to these processes.

Career Assessment in Research

Various authors have provided reviews of career research (Brown, S., 2015; Whiston & James, 2013) and issues associated with the use of career assessments in research. Sometimes, the focus is on the efficacy of career interventions in promoting various outcomes, including measurement of those outcomes. Other authors (Sampson et al., 2017) have examined career research in terms of how it relates to theory and practice and have concluded that the findings from this research, in many if not most cases, do not appear to have had a measurable influence on practice (Sampson et al., 2017). Furthermore, in our experience, the use of career assessments that are grounded in theories (Reardon & Lenz, 2015) is not always a primary consideration for researchers and practitioners. Becker (2017), in discussing meta-analyses in career intervention research, noted that "beginning with a theoretical model enables the reviewer to assess not only what is well studied, but also what issues or effects are in need of further research" (p. 95). Proceedings from a recent vocational psychology conference (Sampson, Bullock-Yowell, Dozier, Osborn, & Lenz, 2017) highlighted important considerations in using theory and research to improve evidence-based practice in the career development and vocational psychology fields.

The next section highlights, briefly, some basic issues in using career assessments in research, including research design considerations, measure and sample selection, ethical considerations, and some challenges associated with career assessment research.

Designing and Implementing Career Assessment Research

A variety of texts discuss designing and conducting research in the social and behavioral sciences (e.g., Sheperis, Young, & Daniels, 2017; Trochim, Donnelly, & Arora, 2015). A common focus in research design is on what we want to know or learn (i.e., what are the research questions). In career research, a proposed study includes, among other things, a delineation of the variables under consideration (e.g., independent, dependent, mediator, etc.). For example, what is the relationship between mindfulness and negative career thoughts? Or, does career decision-making style predict a person's career confidence level? Typically, previous research informs these research questions, as does gaps in prior literature (i.e., what do we still need to know). Along with research questions, potential hypotheses, based

on theory or previous findings, are stated or the research is exploratory and no hypotheses are needed. For example, previous career assessment research might suggest a strong positive relationship between high vocational identity levels and low levels of negative career thoughts. Sufficient studies have confirmed this relationship, which provides a level of confidence around the following hypothesis: individuals who report high levels of vocational identity will score lower on a measure of negative career thoughts. Future career assessment research in this area might involve testing this hypothesis with a different sample to determine whether another researcher can replicate the findings.

The next step involves what type of research design and statistical analysis will most likely answer the questions of interest or be useful in evaluating the proposed hypotheses (Trochim et al., 2015). Another consideration might include whether the researcher will utilize a qualitative, quantitative, or a mixed methods approach. Whiston (2017) contrasted these methods of research design in terms of what type of information the researcher is seeking. Beyond looking at relationships between specific variables, a common activity related to career assessment research is the use of pre-and posttest measures and outcome assessment. Often, this type of research examines change over time after some type of intervention, such as career counseling, a career class (Freeman, Lenz, & Reardon, 2017), group activity, or other type of career program. Whiston and Rose (2015) provided a helpful review of current findings related to the assessment of outcomes across various career interventions. Similarly, D. Brown (2015) offered a helpful critique of research involving career assessments and their use in measuring career intervention efficacy. We discuss the topic of selecting measures in the next section.

Selecting Measures

As readers will note from this publication's content, there are countless measures career specialists and researchers can use in career assessment research. They can use these measures to assess various constructs, such as commitment anxiety, decision-making difficulties, career confidence, negative career thoughts, career self-efficacy, and vocational identity. We advise individuals considering various measures for research purposes to review additional sources for evaluating and selecting measures, including the *Mental Measurements Yearbook* and *Tests in Print* (http://buros.org/test-reviews-information), as well as journals, such as the *Journal of Career Assessment* (http://journals.sagepub.com/home/jca). In addition, the Buros Center for Testing includes an "Assessment Literacy" section on its web site (http://buros.org/assessment) that helps individuals "select, develop, and use tests and assessments in accordance with relevant standards and guidelines for responsible test use" (Buros, n.d., para. 1).

Some considerations in selecting career assessment measures for research include:

- Do the selected measures assess the constructs of interest accurately?
- Do the chosen measures possess adequate psychometric properties (e.g., reliability, validity [content, construct])?
- Can the measure(s) be used with the sample being utilized in the research?
- Are the chosen assessments grounded in one or more theoretical perspectives?
- Are there professional manuals that guide the instruments' administration and interpretation?

A number of the guidelines discussed by Falk, Eshelman, and Rottinghaus (2019) related to test administration for individuals are also important to consider when selecting career assessments for research.

Career Assessments in Research: Costs and Quality Consideration

There is a healthy debate in the career development and vocational psychology fields related to the costs associated with career assessment measures. Some argue for making career assessments widely and freely available to encourage research and use in clinical practice. Although there are a number of free measures widely available both online and in print form, these vary greatly in terms of psychometric quality. Sites such as Vocopher (http://www.vocopher.com/) provide access to a variety of free resources, including assessments that researchers can use. The University of Minnesota's Vocational Psychology Research web site also makes available various assessments that can be used for "research or clinical work free of charge and without written consent" (Vocational Psychology Research, n.d. para. 3). Florida State University's Center for the Study of Technology in Counseling and Career Development web site (www.career.fsu.edu/Tech-Center) includes assessments associated with cognitive information processing (CIP) theory, such as the Career State Inventory (Leierer, Peterson, Reardon, & Osborn, 2017) and the Decision Space Worksheet (Peterson, Lenz, & Osborn, 2016). Gati and colleagues include a variety of free measures related to career decision making and exploring career options on their website (http://kivunim.huji.ac.il/cddq/index.htm).

Though the posting of career assessments online has made a variety of measures more accessible for both researcher and practitioner use, in some cases, these measures appear to have been developed with little or no concern with

test development standards. These measures might lack professional manuals or user guides, which could provide data on the measures' reliability, validity, norm groups, and related topics that can be used in evaluating an instruments' appropriateness for a research study. As this publication makes clear, practitioners and researchers, who seek to engage in best practice when using career assessments in research, must weigh a variety of factors associated with cost, quality, and the field's professional guidelines and ethical standards. These factors are closely related to challenges concerning the use of career assessments in research, which we highlight in the section that follows.

Challenges in Career Assessment Research

Many have praised the career development and vocational psychology fields often for their long-standing research history (Fouad & Jackson, 2013). Despite this fact, a variety of authors has provided suggestions that are relevant to the topic of career assessment in research. S. Brown (2015) noted that one issue is research that consists of "one-shot studies of seemingly new interventions with no subsequent replications by the original or independent investigators" (p. 61). Another common theme raised by several authors is the need for research that incorporates more diverse samples (S. Brown, 2015; Rottinghaus, 2017; Whiston & James, 2013). Researchers are making progress in extending career assessment research to more diverse populations, including persons of color and adults (including populations such as the unemployed, homeless, veterans, migrants). Another issue that might arise in career assessment research is the lack of measures that target new and emerging constructs in the field specifically. For example, trends in work and unemployment might point to a need for new measures to capture variables and constructs of interest to career practitioners and researchers.

One of the ongoing challenges in this area is the frequent disconnect between researchers and practitioners (Rottinghaus, 2017; Sampson et al. 2017). Practitioners might access and use a variety of career assessments in their work, without considering the extent to which a measure is grounded in theory and research. The reasons for this vary, but often have to do with level of training, costs of measures, or type of clientele served. The costs of some career assessments are prohibitive, which can limit their use in both practice and research in various settings, both in the United States and around the globe. The lack of federal, state, or foundation grants funding for career assessment research is a persistent issue (Reardon, Lenz, Sampson, & Peterson, 2011).

Designing and Implementing Career Assessment in Program Evaluation

As noted above, program evaluation occurs, typically, over an extended period and can be accomplished using minimal to maximal approaches (Hoover, Lenz, & Garis, 2013). Career assessment, within the context of program evaluation, is but one-step in the often lengthy process of career program design and implementation. Niles and Harris-Bowlsbey (2016) and Sampson (2008) highlighted two examples of different processes for designing and implementing career development programs, resources, or services, including how program evaluation is embedded within those processes. These examples can provide busy career practitioners a place to begin when designing and implementing program evaluation(s).

Some key components to designing and implementing program evaluation include: (1) defining the target population for which services are provided; (2) writing measurable outcome objectives or integrating improved program(s); (3) training staff and determining how to deliver program(s); (4) promoting program(s) and conducting ongoing evaluation; and (5) revising the program(s) as needed. D. Brown (2015) offered a useful overview of both qualitative and quantitative designs that practitioners and researchers can use in program evaluation. Beyond these steps, there are also considerations related to the extent to which the planned program will incorporate theory (Lenz, Reardon, Peterson, & Sampson, 2001) and how specific career assessments might be incorporated into the design and evaluation process.

The National Association for Colleges and Employers (NACE) provides publications and webinars on how to assess and evaluate career programs effectively to meet accountability requirements that continue to be part of the career services landscape (Ratcliffe, 2008). Makela and Rooney (2012) outlined a step-by-step process that focuses on learning outcomes assessment. Assessment of learning outcomes is a more specific component of program evaluation, but it is a key aspect of evidence-based career services practice, especially in meeting accountability requirements in some settings. Makela and Rooney (2012) highlighted additional examples that can help practitioners and researchers design and implement evaluation plans useful in assessing specific learning outcomes. Gysbers and Henderson (2012) discussed strategies for evaluating school guidance and counseling programs and interventions. The School Counseling Outcome Research and Evaluation Center at the University of Massachusetts, Amherst (https://www.umass.edu/schoolcounseling/about-us.php) provides examples of surveys that practitioners and researchers can use for program evaluation and review. The types of career assessments used in program evaluation might range from formal measures (e.g., using a career decision-making self-efficacy measure

pre- and posttest to assess one aspect of a high school career guidance program focused on increasing career readiness) to more informal measures developed in-house to assess a program's influence on students' career confidence after meeting with a career advisor (Osborn, Hayden, Peterson, & Sampson, 2016).

When incorporating career assessments into designing and implementing program evaluation, practitioners can draw from a variety of models and step-by-step guides that will provide structure, identify key aspects to consider, and help ensure that the program evaluation process is executed successfully, and in the end, produces information essential to the program's refinement. Despite the guidelines and resources available for use in program evaluation, there are important challenges to consider when undertaking this activity.

Challenges in Program Evaluation

As noted in the introduction, the term assessment can refer to both assessing program outcomes and to using specific career assessments as part of the program evaluation process. For busy career practitioners and educators in any type of setting, program evaluation might seem like a daunting task. First and foremost, career practitioners and educators are committed to providing services to clients and students, and often, this goal takes first priority. Beyond one-on-one services, career professionals might be teaching classes, conducting workshops, leading groups, and dealing with a wide variety of administrative tasks and related responsibilities. Depending on the setting, there might be limited staff, resources (including sufficient quantities of career assessments), time, and energy to devote to program evaluation activities. In career services settings, from colleges and universities to private practice, schools, workforce centers, and businesses, the mandate for program evaluation might vary from essential to non-existent, depending on the organization's policies, funding sources, and accountability requirements.

Makela and Rooney (2014) noted that the data demanded for evaluation and accountability purposes has increased over time. Groups, such as Georgetown's Center on Education and the Workforce (https://cew.georgetown.edu/), focus, particularly, on providing data to federal, state, and local policymakers related to the connection between higher education and training programs and labor market demand and qualifications. Demands for this type of program evaluation data often influence the work of college and university career services practitioners because of the requirement to provide information on employment and salary outcomes for graduates, often referred to as *first-destination data*. Makela and Rooney (2014) reported that "career professionals have been drawn into first-destination data collection conversations due to the unique role that they play connecting students and employers" (p. 73). Space in this chapter does not permit

a full treatment of this topic; however, readers can find additional information in the reference list, on the NACE website (http://www.naceweb.org/), and with related professional associations (e.g., NASPA [https://www.naspa.org/constituent-groups/kcs/assessment-evaluation-and-research]).

Another challenge relates to what, when, and how to evaluate programs. For busy career practitioners, considering where to begin in undertaking program evaluation and how practitioners might incorporate career assessments into this process can be overwhelming. There are costs associated with regard to staff time and the use of career assessments in program evaluation. The reference and resource list at the end of this chapter provide helpful information sources that can guide practitioners through this process, whether they are initiating program evaluation or whether they are looking to improve program evaluation. Hoover, Lenz, and Garis (2013) described "minimal to maximal approaches that can be used in program evaluation" (p. 62). Though their monograph focuses on employer relations programs specifically, practitioners can apply many of the described activities to other aspects of career services program evaluation.

A related challenge associated with program evaluation has to do with staff who might contribute to this area. Some career services practitioners might have little to no formal training in program evaluation. Historically, program evaluation might have been just one part of many responsibilities given to a career services staff member, or program evaluation might have been an expectation for all staff in relation to their specific organizational role (e.g., the guidance supervisor evaluates career counseling services, and the internship coordinator evaluates experiential learning outcomes, etc.). However, recent years have seen a rise, particularly in higher education settings, in the number of full-time positions dedicated to the role of assessment, research, and evaluation. Sample titles include:

- Associate Director of Assessment & Strategic Initiatives, Colorado State University
- Program Director for Instruction, Research, & Evaluation, Florida State University
- Associate Director for Assessment & Research, University of Illinois-Urbana Champaign

Often, institution specific websites highlight the roles of these individuals (e.g., https://www.careercenter.illinois.edu/scholarship-and-innovation) and "facilitate conversations among career services professionals engaged in assessment" (see https://www.careercenter.illinois.edu/scholarship-and-innovation/arcs). These positions and related listservs highlight the importance of collaborative efforts in both program evaluation and career assessment research. We discuss this topic in the following section.

Collaborating for Career Assessment Research and Program Evaluation

Despite the challenges outlined above, career assessment-related research and program evaluation remains a cornerstone of the career services and vocational psychology fields. As noted previously, conducting research or designing and implementing program evaluation can seem daunting when undertaken by an individual. Table 1 provides ten tips that can help guide the process. We have benefitted from being in an institutional environment that provides a collaborative approach for research and evaluation activities. The case study below provides an example of that approach. In addition, our institution provides support through a unit based in student affairs entitled Division of Student Affairs Assessment & Research Team (DART). The DART group enables staff across the division to share ideas and best practices across campus settings and serves as a resource for engaging staff seeking to enhance their assessment, research, and program evaluation skills.

Table 1

Ten Tips for Career Assessment in Research & Program Evaluation

1. Think about what your goals are when incorporating career assessment into research or program evaluation - what questions are you trying to answer?
2. Brainstorm with colleagues and potential stakeholders a range of ideas, and then prioritize them
3. Become informed about literature and publications, not only prior research, but resource guides in this area (see resources list at the end of this chapter)
4. Consider creating a one-to-three-year plan for career assessment research and program evaluation activities
5. Check with key stakeholders – what support is there for research and program evaluation activities (not just financial, but a recognition that this is a valuable use of staff time)?
6. Start with small projects, especially if you are new to career research and program evaluation
7. Find individuals to partner with, whether they are on campus or in the community; seek those who can support the effort and/or provide expertise (e.g., statistical consulting)
8. For research that requires institutional or human subjects review, plan well in advance to accommodate approval deadlines
9. Check with career assessment publishers regarding discounts for research, especially if you are a graduate student
10. Share results with key stakeholders and colleagues in the field through publications, the Internet, and presentations

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Case Study:
Florida State University (FSU) Career Center & Center for the Study of Technology in Counseling and Career Development (The "Tech Center")

We are affiliated with a technology research center (http://www.career.fsu.edu/tech-center) that is based in a comprehensive career center and affiliated with a university educational psychology and counseling department in the College of Education. The Tech Center has provided a means for career practitioners and graduate students to partner with counseling faculty to conduct research on the effectiveness of career counseling and guidance services (Tressel, 2016). This successful collaboration has existed for more than 30 years and been supported by administrators in the college, the career center, and the university's division of student affairs. In addition, the career center has provided space for faculty within the center, as well as access to phones, copiers, and related office resources. As part of its mission statement, the career center embraced the focus on career development research. In addition, the FSU Career Center has a Research & Evaluation committee that plays a role in evaluating all aspects of the career center's program and services, as well as supporting and reviewing in-house research activities. Another example of a collaborative research endeavor at the institution involved the career center participating in a project associated with academic affairs and the university's quality enhancement plan. This initiative involved measuring critical thinking by administering a standardized critical thinking measure at the beginning and end of a career class-based intervention.

In a similar manner, career practitioners in government and community agencies, whether workforce centers, correctional facilities, and other settings, can reach out to campus partners and similar stakeholders to collaborate and consult around career assessment research and evaluation projects. For example, a university-based researcher seeking to conduct career assessment research with unemployed adults receiving services from a workforce center might offer free training for the workforce center staff on the connections between unemployment and mental health. A community career services practitioner might reach out to a faculty member who is teaching a counseling research methods class for help in designing a research study or evaluation plan. Solberg (2017) provided helpful examples of how researchers and practitioners can collaborate effectively to sustain a program of research that provides meaningful outcome data to improve career services and interventions. In conclusion, though there are wide varieties of resources that can inform program evaluation efforts, the activities highlighted above reinforce the idea that, often, program evaluation is accomplished best through collaborative efforts.

Summary

In this chapter, we reviewed some key topics related to career assessment in research and program evaluation. One important consideration was understanding the distinctions and overlaps across the concepts of assessment, research, and evaluation. Professional literature in the counseling, career counseling, and vocational psychology fields provides important guidelines to assist readers in undertaking these tasks. The chapter highlighted important themes related to designing and implementing career assessment research and evaluation, including formulating questions based upon what we still need to know, carefully selecting measures, attending to professional standards and guidelines, assessing costs of measures, and integrating career theory as appropriate to guide the process. Some challenges in career assessment research and program evaluation include the disconnect between research and practice, the need to recruit more diverse samples, and limited time and resources of busy researchers and practitioners. Our hope is that the topics discussed in this chapter and the resources provided can support career practitioners in their pursuit of best practices in this area.

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Resources Section

American School Counseling Association (ASCA)

Provides a national model for school counseling programs, which includes information related to program evaluation.

https://www.schoolcounselor.org/school-counselors-members/asca-national-model

Assessment and Research in Career Services (ARCS) Network

A network designed to facilitate conversation among career services professionals engaged in assessment in practice settings.

https://www.careercenter.illinois.edu/scholarship-and-innovation/arcs

National Career Development Association (NCDA) and Association for Assessment in Counseling and Education (AACE) - Career Counselor Assessment and Evaluation Competencies

Competencies used to provide a description of the knowledge and skills that career counselors must demonstrate in the areas of assessment and evaluation.

http://assessmentresources.pbworks.com/f/AACE
NCDA+Competencies+FINAL.pdf

Florida State University's Division of Student Affairs Strategic Planning and Assessment

Example of how a university student affairs unit provides support for assessment, evaluation, and research projects across the division units.

https://studentaffairs.fsu.edu/strategic-planning-and-assessment/

Florida State University Career Center's Assessment, Research, & Evaluation Site

A web site designed to highlight the variety of assessment, research, and evaluation activities implemented by the career center.

http://www.career.fsu.edu/about-us/Assessment_Research_Evaluation

University of Illinois Career Center's Scholarship and Innovation

Example of how one university career center embraces assessment and research. The site provides examples of assessment tools and strategies and research partnerships across campus.

http://www.careercenter.illinois.edu/scholarship-and-innovation

Center for the Study of Technology in Counseling and Career Development ("The Tech Center")

The Center assists practitioners, researchers, and policy makers in improving the cost effectiveness of career services, as well as providing information on improving the design and use of information technology in counseling and career development.

www.career.fsu.edu/Tech-Center

The Ronald H. Fredrickson Center for School Counseling Outcome Research and Evaluation

This site provides a variety of resources and research information. The center conducts and disseminates research findings related to career, social/emotional, and academic interventions, as well as data related to evidence-based practices and program evaluation.

https://www.umass.edu/schoolcounseling/surveys-for-program-evaluation-and-review.php