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Holland's Theory and Career Assessment

Robert C. Reardon and Janet G. Lenz

The Florida State University

This article explores how the career assessment activities in the Self-Directed Search (Holland, 1994), along with the secondary constructs in Holland's theory (e.g., congruence, identity, coherence, consistency, differentiation, commonness), can be used to increase understanding of an individual's Personal Career Theory (PCT). The quality of a PCT provides information regarding a person's readiness for career decision making and the intensity and duration of career interventions that might be effective in solving career problems. Implications for research, counselor training, and service delivery with theory-based career assessment using Holland's theory are discussed.

In responding to the editor's invitation to write about Holland's theory and career assessment, we confronted a daunting task. Holland has been working on assessment matters for over 40 years and we had 12 pages to devote to this work. We decided to focus on the use of the Self-Directed Search (SDS; Holland, 1994) in career assessment, recognizing that this topic is central to Holland's contributions and a focal part of this celebratory issue of the journal.

As we have talked with hundreds of workshop participants over the years about making more effective use of the SDS, we have frequently encountered resistance to spending time learning about RIASEC theory. Practitioners sometimes view theory as the antithesis of good practice. At the end of the workshop, however, participants often express appreciation for the time spent on Holland's theory because it has high utility in practice. The SDS is the principal embodiment of Holland's theory with respect to career assessment.

We write as practitioners, having used the SDS Form R in our career services since 1972. Many of our views are discussed more fully in *The Self-Directed Search and other Holland-based career materials: A practitioner's guide* (Reardon & Lenz, 1998). More detailed information about the science undergirding the ideas discussed in this paper can be found in the two manuals for the SDS, *Professional User's Guide* (Holland, Powell, & Fritzsche, 1994), *Technical*

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Address reprint requests to Robert C. Reardon, Center for the Study of Technology in Counseling and Career Development, Florida State University, University Center, Suite A4100, Tallahassee, FL 32306-2490.

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Manual (Holland, Fritzsche, & Powell, 1994); and the most recent, complete statement about RIASEC Theory, *Making Vocational Choices* (Holland, 1997). Recent case study material related to the SDS is presented in articles by Reardon and Wright (1999) and Rayman (1998), and a chapter by Spokane (1996).

Unless otherwise noted, we will always be referring to the SDS Form R paper–pencil or computer versions. This is an important point, because other forms of the SDS (Forms CP, E, and Career Explorer) have different features, which lead to differences in the assessment options available to counselors or clients. Moreover, the mail-in scoring service and Internet versions of Form R also differ from the paper-pencil and computer versions and provide more limited assessment options at present.

ASSESSING PERSONAL CAREER THEORY

Holland (1997) recently suggested that most persons have a "personal career theory" (PCT) about careers or work, which can range from weak and invalid to strong and valid. A PCT is the collection of beliefs, ideas, assumptions, and knowledge that guides individuals as they choose occupations or fields of study, explains why they persist in them, and is used by people as they go about making careers decisions. Holland noted that career choice problems may stem from any one or more of three components of the PCT: (1) personal characteristics, (2) occupational knowledge, or (3) translation units. For example, persons having a PCT with a weak translation unit (i.e., poor decision-making skills) or pervasive weaknesses (many negative career thoughts or low vocational identity) require more intensive career assistance.

We believe that counselors can use a client's PCT to gain ideas about how to provide career assistance, and more specifically how to assess a client's career situation. From Holland's perspective, the PCT is fundamentally a matching system, probably developed informally over a lifetime. For example, parents and elementary school teachers might say to a bright student, "You'd make a good doctor," or "You should go into science." However, when this rudimentary matching system stalls or fails (e.g., uncertainty or unhappiness and dissatisfaction with outcomes of career decisions), individuals may seek outside career assistance, and a successful career intervention helps them revise or implement their PCT (Holland, 1997). Holland views most PCTs as having elements of the RIASEC typology, e.g., personal characteristics related to occupational structures, as well as beliefs and strategies for achieving work and non-work aspirations that flow from a special life history (Holland, 1997).

Counselors can become informed about a client's PCT by using less structured interventions such as card sorts (Peterson, 1998), by listening to the client's career history, and by understanding the client's narrative about a present career situation. Further exploration of the client's PCT can be done using more formal and structured assessment tools such as the SDS. The client's beliefs and attitudes (career thoughts) about career decision making can be measured with other instruments, e.g., My Vocational Situation (Holland, Daiger, & Power,

1980) and/or Career Thoughts Inventory (Sampson, Peterson, Lenz, Reardon, & Saunders, 1996). Holland speculated that one reason for the popularity of RIASEC theory is that it helps clients improve the usefulness of their PCT. The results of the SDS, including the secondary constructs of RIASEC theory, can also provide practitioners with information about various aspects of a client's PCT. We elaborate on these ideas in this paper.

CAREER ASSESSMENT WITH THE SDS

The SDS provides a variety of assessment opportunities. First and foremost, the Daydreams Section at the beginning of the Assessment Booklet provides a measure of "expressed" vocational interests, in contrast to the "measured" vocational interests provided by the Summary Score of the five sections of the SDS. We begin by focusing on the Daydreams Section of the SDS and the role of clients' expressed interests in providing a window into their PCT.

Measuring Expressed Interests

From the beginning, Holland has urged counselors to pay close attention to what clients say about the occupations they are considering. This is important, because we have observed a tendency among some career counselors to ignore or downplay clients' expressed aspirations. For example, they don't encourage clients to complete this section, or they believe it gets in the way of the SDS-assessed results, the three-letter summary code. When reporting SDS results for research or professional purposes, the Daydreams Section is often ignored. Such practice regarding this component of the SDS is unfortunate, because it negates one of the most powerful, useful aspects of the instrument and the general assessment of the client's PCT.

In contrast, Holland (1996) continues to argue for the practical and theoretical importance of occupational aspirations as a measure of *expressed* interests. Vocational inventory results, e.g., Strong, Kuder, are considered measures of *assessed* interests. Psychologists have known for over 40 years (Dolliver, 1969; Gottfredson & Lapan, 1997; Holland, 1996; Holland & Gottfredson, 1975; Holland & Lutz, 1968) that occupational aspirations are powerful predictors of future occupational activity. In their review of several studies, Holland and Gottfredson (1975) noted that in nearly every instance where aspirations were compared to interest inventories, the aspirations were "at least as efficient as the interest inventory scales and were often substantially more efficient" (p. 358). In other words, clients expressed interests were just as predictive of future occupational activity as their assessed interests.

An important innovation in the measurement of aspirations in the SDS Daydreams Section was the coding of aspirations using the RIASEC typology. This procedure enabled a counselor to examine not only the occupation named, but also its RIASEC code. When the first two or three aspirations belong in the same RIASEC category, the predictive power of the first aspiration equals or exceeds the efficiency of an interest inventory (Holland, 1996). This idea refers to the

coherence of aspirations, a concept that will be examined more fully in a later section of this paper. Rayman (1998) and Reardon and Lenz (1998) described a simple procedure for determining an aspirations summary code for the Daydreams Section.

In summary, the results of the Daydreams Section may be used in several ways. The Daydreams summary code may be used as an alternative to (or in conjunction with) the SDS summary code. On the one hand, if a user is unhappy with his or her summary code and the related occupations, it may be helpful to use the code of the first aspiration or the aspirations summary code to promote career exploration and learning. On the other hand, the results of the Daydreams section can be compared with the results of the SDS interest inventory or assessed interests. If the codes of the expressed and assessed interests are similar or congruent, this diagnostic indicator provides powerful reassurance for both users and counselors that the SDS represents a true assessment of interests.

Measuring Assessed Interests

In describing the SDS as a career planning simulation, we are adopting a point of view promoted by Holland since the introduction of the SDS. Simulations are useful because they provide an opportunity to observe an event under controlled conditions that might occur in real life. In this case, the SDS Assessment Booklet provides a way for a counselor to observe how clients may be using their PCT in educational and career decision making.

But the SDS is also a standardized assessment instrument. The items in the Assessment Booklet have desired psychometric properties and a connection to RIASEC theory. The Self-Directed Search has been subjected to rigorous test development standards, and the two SDS manuals (Holland, Fritzsche, & Powell, 1994; Holland, Powell, & Fritzsche, 1994) describe a complex, theory-based test development process begun in the 1960s, leading to four editions of the SDS.

Finally, the SDS Assessment Booklet includes interpretive information that can help a client interpret and use the summary scores and the three-letter code. In addition, the *Occupations Finder* and the *You and Your Career* booklet provide additional interpretive information to support the Assessment Booklet. Altogether, this trio of booklets encompasses a comprehensive career assessment and intervention program that many clients can use with minimal assistance to further their educational and career planning.

Activities section. Returning to our idea of the SDS as a simulated career counseling intervention, what happens after Daydreams? A counselor might ask a client to report on the hobbies and activities that are done just for fun; the client's leisure interests, as well as activities the client doesn't enjoy. This is the Activities Section of the Assessment Booklet. It includes six RIASEC scales of 11 items each, which are endorsed "like" or "dislike."

The Activities Section provides a counselor with a quick look at how clients might spend their leisure time. Inspection of the items in this section of the SDS reveals test items that are common in many interest inventories. They are

included in the SDS because they effectively measure interests in relation to RIASEC Theory. It is possible that there is an important "story" behind many of the items marked Like or Dislike by the client in this section of the SDS. For clients experiencing particular difficulty in career decision making, a counselor might find it useful to explore the narrative behind the client's responses to some of these items in building information about the PCT.

Competencies section. Building on the idea of the SDS as a simulation, a counselor would also typically ask clients to describe their skills, the kinds of things that they had learned to do in the past, as well as discuss the skills they might want to develop in the future. This kind of information is practically important, because it would be unreasonable for clients to ignore their personal history of skills and education or work-related accomplishments in career assessment. This list of competencies may also reflect a person's interests. People often develop skills through activities that are important or interesting to them. The Competencies Section of the Assessment Booklet also includes six RIASEC scales of 11 items each of self-rated skills or proficiencies, which are marked "yes" or "no."

This section of the SDS can be especially fruitful to explore in a follow-up session. For example, some clients may have worked in an office and developed many Conventional competencies, e.g., "I have held an office job," "I can enter information at a computer terminal." Sometimes, high scores in this section of the SDS Assessment Booklet will raise scores in the Conventional area. Some clients may view these competencies as skills they want to avoid in their next work situation. This might be an important element in the client's PCT.

Other fruitful areas to explore in this section of the SDS might be the Social and Enterprising Competencies items. Many career exploration and job hunting behaviors take place in human interactions, e.g., networking, information or job interviews. Clients who mark "No" to some or many of these items may need special assistance. In contrast, clients who have high competencies in the S and E areas may be able to use these strengths in career problem solving and decision making. As Holland (1997) noted: "The assumption is that Social and Enterprising types have more interpersonal skills for dealing with these problems" (p. 38).

Occupations section. The next section of the SDS simulated career counseling activity is Occupations. Longer than the previous two sections, it includes the six RIASEC scales with 14 items (occupational titles) each, which are endorsed "yes" or "no." Holland included this section because he wanted to make sure he obtained a good measure of the client's RIASEC typology and because he wanted to get a picture of the positive and negative feelings the client had for various occupational titles. This section of the SDS is actually a shortened form of the Vocational Preference Inventory (VPI; Holland, 1958, 1985), the assessment tool that Holland used to originally develop and evaluate the RIASEC typology and theory.

Self-estimates section. The final section of the SDS is Self-Estimates. It includes the six RIASEC scales, which are rated twice (from 1 to 7) with respect

to ability and skill. Clients are asked to rate themselves "as you really think you are when compared with other persons your own age." Given the current interest in topics such as self-efficacy (Betz, 1992; Hansen, 1997) and ability self-estimates, it seems that the inclusion of the Self-Estimates Section was a fortunate step in the creation of the SDS.

Now that we have examined assessment activities related to expressed and assessed measures in the SDS, we shift to an examination of other factors related to the quality of a client's "personal career theory." More specifically, we examine the nature and quality of the matching provided with the RIASEC typology by looking at the secondary constructs of the theory, as well as other guidelines for effective assessment using the SDS.

ASSESSING CAREER DECISION-MAKING READINESS

A counselor's assessment of a client's readiness to move forward in exploring or trying out options generated by the RIASEC typology may be tempered by several factors. In this section, we examine eight of these factors and how they might affect the career decision-making process. We also specify how each of these factors are assessed and analyzed for practical purposes. The order of the presentation of these ideas is generally related to the quality of the empirical support for the idea (Holland, 1997). The first two basic interpretive ideas that practitioners can use to begin to understand a client's career situation are congruence and the personality characteristics reflected in the client's three-letter RIASEC code.

Congruence

Congruence between expressed and assessed interest measures can often provide the most useful information in understanding a client's PCT. If the code of the first daydream occupation is closely related to or congruent with the SDS Summary Code, this may indicate that the client is thinking in a stable, systematic way about his or her interests and possibilities. Holland et al. (1994) indicated that when first-letter codes of the current aspiration and the SDS are the same, a person is likely to maintain that aspiration over time. Further, when measured interests and aspirations differ, the predictive validity of aspirations exceeds that of the former. A three-year study of Australian youth reported by Funder, Taylor, and Kelso (1986) of expressed and inventoried career choices revealed that expressed choices were usually, and increasingly over time, the better predictor of future career behavior. In research on the validity of aspirations and interest inventories, Holland, Gottfredson, and Baker (1990) found that one aspiration is as good as an interest inventory, and two or three aspirations in the same RIASEC category (high coherence of aspirations) are more efficient than an interest inventory in predicting future occupational behavior.

Personality Characteristics

A second basic assessment idea follows directly from the client's high point code. As we mentioned before, the tendency of most clients, and many practitioners, is to focus only on the three-letter code and the occupations associated with the combinations of that code.

However, in interpreting the SDS, counselors should consider the personality characteristics of the client, particularly the client's PCT, and how these may help or hinder them in the career problem-solving and decision-making process. It is a powerful exercise to think about what can be learned from clients when one considers the interests, traits, and other qualities implied by their SDS code, particularly the first letter. How will the characteristics associated with having a high point code of "S" or "I" impact the client's ability to negotiate the tasks associated with making career decisions? By addressing these questions, the counselor can use RIASEC theory as a theory of personality to learn more about the client and to enrich the interpretation of the SDS.

Some research has examined the relation between career interventions and clients' Holland type (Lenz, Reardon, & Sampson, 1993; Mahalik, 1996; Kivlighan, & Shapiro, 1987). Other articles on this topic tend more toward anecdotal or as one person noted "untested speculation" (G. Gottfredson, personal communication, 1996). In his book *Making Vocational Choices* (1985, 1997), Holland suggested that different types were better equipped to cope with career changes. He listed the types in the following order: SEIACR. What qualities about "R" types or "C" types might make career problem solving and decision making more difficult? Rosenberg and Smith (1985) described an approach to this matter in their article discussing strategies for career counseling based on Holland types. For example, with Investigative types, the counselor might approach this as a "researchable problem," and encourage these individuals to use interventions such as computer-based guidance systems and workbooks as part of their career problem solving and decision making.

Thus far we have examined the two most powerful, robust ideas that can provide insight into the client's PCT and enrich the interpretation of SDS results. In the following paragraphs, we will examine six additional ideas that can further elaborate the client's PCT.

Vocational Identity

Vocational identity is taken from the Identity Scale of the My Vocational Situation (MVS; Holland, Daiger, & Power, 1980). This concept grew out of an effort to study what being undecided about an occupation or career meant to a person (Holland, Gottfredson, & Power, 1980). Identity, in Holland's theory, refers to both the clarity and stability of a person's goals and self-perceptions (as well as the clarity or explicitness of an environment's goals or expectations).

A high vocational identity score on the MVS would indicate relatively untroubled decision making and confidence in one's ability to make good decisions

in the face of some inevitable environmental ambiguities. If the vocational identity score is low, clients may need more follow-up after the SDS, and they may not be able to move forward with the self and occupational knowledge gained from completing the SDS. The typology may not work very efficiently with clients who have low identity scores. The client's interests are potentially unstable and may not be very helpful in generating useful options. This is an important element in understanding the client's PCT.

The MVS is a popular measure in career research and has been reported in over 50 published studies (Holland, Johnston, & Asama, 1993). "In short, the evidence about the Identity scale implies that it is a general measure of psychological health, although it was developed to assess only vocational decision-making difficulties and related problems. The present data provide more evidence that vocational variables are interwoven with other personal variables" (Holland, Johnston, & Asama, 1993, p. 8). Ironically, this simple vocational assessment tool is a sensitive measure of many aspects of psychological well being. Holland (1997) now says that "the evidence for the validity of the VI [vocational identity] scale is substantial and relatively unambiguous" (p. 150).

Coherence of Aspirations

The coherence of aspirations is defined as the degree to which codes of a person's set of vocational aspirations or occupational daydreams belong in the same RIASEC category. Holland (1997) has recently described coherence of aspirations as one type of consistency. Scores of high, average, or low are determined from an analysis of the first three occupational aspirations listed in the Daydreams Section of the SDS. For example, high coherence is indicated when the first letter of the first occupation is the same as the first letter of the second and third occupation. High coherence may indicate future persistence in occupations with the same first letter code as those of the first aspiration (Holland, Gottfredson, & Baker, 1990; Holland & Gottfredson, 1975). Practical experience in using the SDS suggests to us that when a client has very dissimilar occupational aspirations listed in the Daydreams Section, the client may have a confused picture of the occupational world, of his or her interests, or how these are related. This is another important element of the PCT.

Consistency

Consistency is measured by examining the relationship between the first two letters of the Summary Code. A personality pattern or interest profile is consistent in terms of RIASEC theory if the ideal types most resembled are closely related or adjacent according to the hexagon (e.g., IA, SE). High consistency is a positive sign and typically correlates with more stability in work history and direction of career choice. Holland (1997) recently added two additional measures of consistency to the notion of profile consistency discussed above. These include coherence of aspirations (discussed earlier) and coherence in work history. By approaching the level of consistency in a client's SDS code in these ways, the

client and counselor may jointly focus on clarifying the nature of the client's PCT.

Differentiation

Differentiation refers to the level of definition or distinctness of a personality or occupational profile. A person who resembles one type and no other type is highly differentiated, whereas a person who resembles all six RIASEC types to an equal degree is undifferentiated. A client with a highly differentiated code will most likely have all of the personality characteristics associated with that code. A code that is differentiated can be more reliably used, other things being equal, i.e., congruence, coherence, identity, than a code low in differentiation. Holland (1997) observed that there is debate in the professional literature about varying ways to calculate differentiation and the value of differentiation as a construct. It has received less research support and is viewed as a "weak" indicator compared to some of the theory's other assumptions. Despite this fact, differentiation has value in terms of "practical significance" because it helps both counselors and clients quickly see why making a career choice might be difficult when everything or nothing seems of interest.

Commonness

This concept refers to the frequency with which a given code is observed. Holland, Powell, and Fritzsche (1994) reported the occurrence of various codes in samples of high school students, college students, and adults. Some code combinations (AC, CA) are rare. Some persons have unusual code combinations, combinations that are not often found in their peer group, and combinations that link to only a few occupational alternatives. Possession of a "rare code" as measured by the SDS may call for further inquiry about the development of the interest pattern and understanding its unusual nature.

Professional Judgment

Holland (Holland, Powell, & Fritzsche, 1994) has consistently emphasized that counselors never lose sight of their own professional judgment and observations when interpreting clients' SDS results or in using related instruments. He has noted a number of sociological, biological, and economic factors that may complicate the interpretation of the SDS with a particular client. While such factors are outside the bounds of RIASEC theory, the interpretation of the SDS should nevertheless take these factors into consideration.

SUMMARY AND TRENDS

We have explored career assessment activity in career counseling using Holland's RIASEC theory and the SDS Form R instrument. We have shown how the theory and the SDS can help a counselor and a client improve understanding of the client's "personal career theory" (PCT). In particular, we noted that the RIASEC typology provides a simple heuristic for explaining the matching

process of persons and environments, and the secondary constructs in the theory help in understanding clients' readiness for applying their PCT to the process of career decision making. These secondary constructs and interpretive ideas include congruence, the client's code, the stability of vocational interests (vocational identity), coherence of aspirations, consistency, differentiation, and commonness of the three letter code.

What developments and trends might occur in the future? From the perspective of practitioners, we would identify several future activities that might improve the assessment function in career counseling relative to Holland's theory. First, there is a need for expanded research on the secondary constructs in the theory and their relationship to decision-making skills, personality characteristics, and mental health status. If secondary constructs such as differentiation, coherence, and consistency can be shown to be related more directly to readiness for career decision making and the likelihood of success, then counselors can make better use of these constructs in assessing readiness and formulating appropriate interventions.

Second, we see a need for improved training in the use of Holland's theory and the SDS, especially in the extended assessment applications that we have outlined in this article. Our experience indicates that few practitioners complete the counseling training program as outlined in the SDS *Professional User's Guide* (Holland, Powell, & Fritzsche, 1994). Too many practitioners simply obtain the three letter summary code from the completed SDS and conclude that that is the end of the assessment process. Unfortunately, little research has been conducted to determine the skill level needed by career counselors to fully use the interpretive and diagnostic potential of the SDS.

Third, we believe that practitioners using the SDS could benefit from the development of more complex service delivery models. For example, Sampson and Reardon (1998) suggested three levels of career intervention that might follow a brief assessment of readiness for career assistance. Their suggestions included (1) individual case-managed intervention (e.g., counseling by appointment), (2) brief staff-assisted intervention (e.g., workshops, career advising and consultation), and (3) self-help interventions (e.g., Internet, self-help materials). We believe Holland's theory and the SDS can be used in all three intervention formats, but detailed models of how these would be carried out have not been created.

Fourth, and related to the above, the advent of the Internet, computer-based guidance systems, and other self-help career interventions may find higher rates of success if assessment activities are incorporated into these interventions for use directly by clients or customers. This may mean taking the secondary constructs of Holland's theory and simplifying them for use by persons who do not have professional training in career counseling. What if clients themselves were able to learn how to use the full extent of Holland's theory to improve their PCT, to self-assess their readiness for career decision making, and to apply the theory fully in career problem solving? Ethical issues associated with "breaking

down" the theory and assessment for clients (or other lay persons) must be addressed by researchers and professional groups.

When the SDS was first introduced, some scoffed at it. "If there is one word that characterizes and summarizes the construction and development of the SDS it is "simplistic" (Crites, 1978, p. 1611). Despite such a shaky start, Holland's RIASEC Theory and the SDS have enjoyed considerable success. Borgen (1991), for example, was very positive. "By any standard, the eruption of Holland's influence is unmistakable in the last two decades of vocational psychology. Research on his theory is voluminous, and unabating. His theoretical insights are now at the center of any comprehensive review. . . The widespread use of his inventories is huge" (Borgen, 1991, pp. 275–276). Weinrach (1996) reported that Holland's SDS Summary Code was A/EI, with a Daydreams Code of SAE. Holland suggested it was AEI/R/S. To our way of thinking, Holland's "personal career theory," as represented by these codes, is the classic explanation of how and why he has been so successful for so long in pioneering a theory that has proven so useful in career assessment.

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