

Vocational Assessment of Learning Disabled Students Using the SDS-E

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Junior and senior high school students (N=25) in classes for the learning disabled in a Southwestern rural school district completed Holland's Self-Directed Search—Form E (SDS-E) with individual assistance as requested. SDS-E results are presented for the sample in terms of scale scores and personality type and as associated with students' reading level and measured intelligence. Implications for the use of the SDS-E in vocational guidance programs for learning disabled students in rural schools are discussed.

The Self-Directed Search (SDS; Holland [2]) is a commonly-used vocational assessment and guidance instrument which has commanded great attention in the professional literature. The SDS is used in a variety of settings, but its emphasis on self-direction makes it especially useful in settings in which professionally-trained personnel are few in number and where vocational guidance services may need to proceed with limited professional resources.

Holland [3] devised an alternative form of the SDS, the SDS-Form E (SDS-E), which he intended to be used with children or adults who had difficulty reading. Very little data pertaining to the SDS-E appear in the professional literature. Winer et al. [7] reported upon the SDS-E as used with a sample of high school remedial reading students. The investigation reported here provides descriptive data pertaining to the use of the SDS-E with another pertinent sample, junior and senior high school learning disabled students in a rural school district. Although the district was able to provide adequate professional services for intellectual and academic assessment of students with special needs, professional resources for vocational guidance were limited. An instrument which the students administered to themselves with the help of non-specialized personnel would be useful in this setting, which depended to a significant degree upon part-time graduate students from a relatively distant university to provide guidance services. The purposes of the investigation were (a) to determine if self-administration with informal help was feasible with this sample and (b) to determine if the results of the SDS-E assessment on this sample were comparable to those found on the remedial reading sample. If the SDS-E were found to be a feasible method of providing a valid assessment, then the rural school district would be

able to improve its services to students in the absence of additional personnel.

METHOD

Sample

Students (N=25; mean age=15.0, *SD*=1.9, range=12-19; average school attainment=8.6 years, *SD*=1.6, range=7-12) in a rural public junior-senior high school in the Southwestern United States were selected by their special education counselors to participate in a vocational guidance experience. Selection was based on the students' perceived need for vocational guidance and their judged capacity to respond to an English-language paper-and-pencil instrument. Of the 25 students, 21 were classified as learning disabled (LD), and 4 were classified as having multiple handicaps (2 as LD and emotionally disturbed, 1 as LD and speech handicapped, and 1 as LD and visually handicapped but not blind). The sample included both genders (15 male and 10 female) and three ethnic groups (13 white non-Hispanic, 11 Mexican-American, and 1 black). The students differed in their relative command of English as compared to Spanish. English was the primary written language of 20 students; 3 students were equally literate in English and in Spanish; and 2 students were primarily literate in Spanish. English was the primary language of understanding of 17 students; 7 students showed equal understanding of English and Spanish; and 1 student showed greater understanding of Spanish than of English. English was the primary language used in the homes of 15 students, and Spanish was the primary language in the homes of 10 students. On average, the students spent 1.7 hours per day (*SD*=0.7, range=1-3) in resource classes. Their average reading level as assessed

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by the Wide Range Achievement Test was 5.9 years ($SD=1.6$, range=1.4-8.6). As assessed by the Wechsler Intelligence Scales for Children-Revised or the Wechsler Adult Intelligence Scale (depending upon the age of the student), average full-scale IQ was 84.0 ($SD=9.3$, range=65-103), average verbal IQ was 80.0 ($SD=11.0$, range=54-100), and average performance IQ was 90.8 ($SD=11.6$, range=66-114).

Instrument

The SDS-E derives from the Holland [5] model of vocational behavior and its associated occupational classification system [1]. In brief, the Holland model proposes that there are 6 occupational environments and 6 corresponding personality types in mainstream United States culture. The types (and examples of associated occupational titles) are Realistic (*e.g.*, machine stonecutter), Investigative (*e.g.*, medical laboratory assistant), Artistic (*e.g.*, dancer), Social (*e.g.*, homemaker), Enterprising (*e.g.*, sightseeing guide), and Conventional (*e.g.*, file clerk). Each occupational environment makes characteristic demands upon the individual, and each individual may be characterized by interests, abilities, and experiences which correspond to the environmental characterizations. For example, an occupational environment which is characterized by the use of machines, tools, or materials to accomplish concrete and practical tasks is termed Realistic. Correspondingly, those individuals who are most likely to be successful and satisfied in such an environment are those whose skills, interests, and experiences are Realistic, as well.

The SDS-E provides a scale score for each of the 6 personality types. The highest scale score (or the 2 or 3 highest, in order) is used to classify the individual by personality type and to match that type with occupations of similar type. In the present investigation, both the type scale scores and the classifications by type were used in the data analysis.

The SDS-E has much in common with its parent instrument, the SDS, which is described by Holland [4] as "... a self-administered, self-scored, and self-interpreted vocational counseling tool" (p. 1). Since the SDS-E was developed for individuals, both children and adults, who have difficulty reading, the differences between the SDS and SDS-E reflect an effort to make the instrument easier to read. The SDS-E uses a vocabulary of lower level than the SDS. Holland [4] claimed that 80% to 100% of American 4th graders know the vocabulary used in the SDS-E instructions. Since individuals' occupational vocabulary may be more limited than their general vocabulary, the occupational titles which are used as items in one of the SDS scales are accompanied in the SDS-E by simple definitions. The SDS-E has 203 items; the SDS has 228. The scale names are also simpler in the SDS-E. An aspiration scale entitled "Occupational Daydreams" in the SDS is entitled "Possible Jobs" in the SDS-E; the "Activities" scale of the SDS is called "Likes" in the SDS-E; the "Occupations" scale of the SDS is called the "Jobs" scale of the SDS-E; and the "Self-

Estimates" scale of the SDS is called "Rating Your Abilities" in the SDS-E. The occupational list which accompanies the assessment booklet is called the "Occupations Finder" in the SDS and the "Jobs Finder" in the SDS-E. Wirtenberg (cited in Holland [4]) found reliabilities of .56 to .92 for the SDS-E subscales for a sample of 115 male and 121 female 7th graders.

Procedure

The SDS-E was only partially self-administered in that students were given the opportunity to read and respond by themselves but were allowed to seek individual assistance if they were confused by the instructions or unfamiliar with the vocabulary.

RESULTS

Statistical Results

Means, standard deviations, and ranges of each SDS-E scale score are presented in Table 1 along with the number and percent of the sample which scored most highly on that scale. The modal type was Realistic. Sample achievement characteristics (reading level and full-scale, verbal, and performance IQ) as associated with SDS-E type scale scores are summarized in the correlational data presented in Table 2. Investigative scale scores were found to be significantly and positively correlated with reading level and full-scale and verbal IQ. Significant positive correlations with one or more of the achievement variables were found for the Artistic, Social, and Conventional scales. The Realistic and

TABLE 1
SDS-E Scale Scores and Incidence of Highest Scale

Scale	M	SD	Range	N	%
Realistic	16.9	9.8	0-34	12	48.0
Investigative	11.6	8.0	2-36	1	4.0
Artistic	15.7	8.7	0-36	3	12.0
Social	18.8	8.7	7-35	5	20.0
Enterprising	15.6	8.2	3-38	1	4.0
Conventional	15.7	10.4	0-37	3	12.0

TABLE 2
Achievement Characteristics and SDS-E Scale Scores:
Pearson Correlation Coefficients

Scale	Reading	IQ-F	IQ-V	IQ-P
Realistic	.18	.03	.21	-.21
Investigative	.46*	.37*	.40*	.21
Artistic	.41*	.44*	.40*	.33
Social	.32	.42*	.32	.39*
Enterprising	.33	.14	.25	-.01
Conventional	.48*	.27	.24	.26

* $p \leq .05$

Enterprising scales were found not to correlate to a statistically significant degree with any of the achievement characteristics.

Observations

Those who provided help to the students as they completed the SDS-E observed two areas of particular difficulty. First, in almost all cases, the students asked for assistance in using the "Jobs Finder" (*e.g.*, finding one's occupational aspiration in the occupational classification list and copying the Holland code from the classification booklet to the assessment booklet). The inclusion in the "Jobs Finder" of code numbers from the U.S. Department of Labor's [6] *Dictionary of Occupational Titles* (DOT) appeared to be a source of confusion to some students who asked what the long numbers meant or whether they should copy these numbers as well as the letters which represent the Holland code. Second, in all cases, those providing help counted the number of "like" or "yes" responses on each page and copied and summed these numbers to obtain the type-scale scores which are used to determine the summary code. Other observations of student requests for assistance fell into two categories: (a) questions about test-taking procedure, such as whether to fill in the answer squares entirely or simply put a check mark in each one, and (b) questions about the meaning of particular words or phrases.

DISCUSSION

The learning disabled students referred by their counselors for the vocational guidance experience provided by this investigation had relatively high academic skills, as demonstrated by their intelligence and reading levels. Compared to high school normative data presented by Holland [4] on corresponding scales of the SDS, the SDS-E scale scores achieved by the present sample were generally lower. Since higher scale scores are obtained by endorsing more items (*e.g.*, indicating liking for or competence in an activity) and by rating oneself more highly in the self-evaluation tasks, the generally lower scores of the learning disabled students would seem to reflect a more restricted range of life experiences and fewer opportunities to develop interests and skills.

Winer et al. [7] reported the incidence of highest scale score within a sample of high school remedial reading students as 25.6% Realistic, 9.3% Investigative, 9.3% Artistic, 37.2% Social, 9.3% Enterprising, and 9.3% Conventional. The learning disabled students were almost twice as likely as the remedial reading students to achieve their highest scale score on Realistic, a type characterized by an involvement with things and concrete tasks rather than people, data, or ideas. These results suggest that the increasing difficulty with school tasks that leads to a student's assignment to a remedial reading or learning disabled category is associated with a restriction of life experiences that is associated, in turn, with a restricted set of occupational interests and aspirations.

The relationship of the Investigative scale score with achievement variables would be expected by its item content, which emphasizes interest in and experience with solving abstract problems and using verbal and quantitative skills. Winer et al. [7] reported that among remedial reading students, no relationship was found between reading level and Holland-type scale scores. The greater range of reading levels represented in the present sample undoubtedly contributed to the contrary finding here. At the lowest extreme, the SDS-E was completed with some degree of self-direction by students of tested reading level of grade 1.4, of measured full-scale IQ as low as 65, and of predominantly Spanish language skills. The resulting group profile was low but not abnormal: scores for each scale covered most of the possible range. The most common resulting highest scale scores were Realistic and Social. These personality types are congruent with occupational environments which can accommodate individuals with severe academic difficulties more readily than other environments. For example, the greatest proportion of general agricultural, forestry, and fishery occupations fall within the Realistic environment, and the Social environment includes non-technical service occupations.

The confusion some learning disabled students experienced with the DOT code numbers in the SDS-E's "Jobs Finder" may be unique to this sample or population. In the experience of the investigators with mainstream high school students and college students, the DOT code numbers in the SDS's "Occupations Finder" tend not to be a salient feature and are seemingly ignored unless the student is unusually interested in pursuing occupational information. In noticing the DOT numbers and asking for help in dealing with them, the learning disabled students may have revealed that the "Jobs Finder" was to them simply a mass of words, letters, and numbers, and not a meaningful source of information. Perhaps many learning disabled students are best served by leaving dealings with the "Jobs Finder" to the teacher or counselor.

In the experience of the investigators, the questions about test-taking posed by the learning disabled students were essentially the same as those posed by mainstream high school and college students. It would appear that this sample understands general test-taking procedures and experiences no particular problem with the SDS-E.

In the experience of the investigators, the comprehension difficulties of this learning disabled sample were more severe than those of the typical sample. For example, "mechanical drawing" and "debate" were noted as unfamiliar words. This sort of item difficulty may be attributable to reading difficulties (*i.e.*, limited vocabulary) or to limited life experience. As an example of the latter, a student who asked, "What does 'plan school or church social affairs' mean?" seemed to understand the meaning of the words in that item but seemed unfamiliar with the experience of being involved in planning.

The SDS-E, modified in procedure to permit individual assistance to students who needed help with instructions or vocabulary, appeared to be a workable assessment

approach for these junior and senior high school learning disabled students. In the rural school district in which this investigation was undertaken, the SDS-E permitted students to receive a vocational guidance experience which otherwise would have been unavailable to them and to receive such guidance without the involvement of specialized personnel who were unavailable to the school. Further, the guidance received from the SDS-E was based upon Holland's occupational typology, which is widely used in the general student population. Thus, the use of the SDS-E was in the spirit of mainstreaming of the learning disabled student into the general work-world.

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