

## THE CONCURRENT VALIDITY OF THE CANADIAN OCCUPATIONAL INTEREST INVENTORY AND THE SELF DIRECTED SEARCH

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### Abstract

This study investigated: (a) the ability of the Canadian Occupational Interest Inventory (COII) and the Self Directed Search (SDS) to discriminate among Grade 12 students in 8 different subject areas; (b) the inter-scale correlations of the COII and the SDS; and (c) the relationship between the student groups' COII and SDS interest patterns and external reference points.

In general, the findings indicate that the COII and the SDS scales tend to effectively discriminate among the subject areas. The correlation coefficients of similar scales for the two inventories were found to be significant. In sum, the results of the study lend some support to the concurrent validity of the COII and the SDS for high school students.

### Résumé

Cette étude s'adresse à trois domaines:

- (1) à savoir si le Canadian Occupational Interest Inventory (COII) et le Self Directed Search (SDS) peuvent discriminer des élèves de 12e année dans huit cours différents;
- (2) le degré de corrélation parmi les différentes échelles du COII et du SDS;
- (3) le rapport entre ces groupements d'intérêt révélés par le COII et le SDS et des points de référence externes.

En général, la recherche démontre que le COII et le SDS opèrent une discrimination efficace parmi les cours. La corrélation des coefficients des échelles semblables pour les deux inventaires est significative. Les résultats de cette étude appuient donc jusqu'à un certain point la validité concurrente du COII et du SDS pour les élèves du niveau secondaire.

The Canadian Occupational Interest Inventory and the Self Directed Search are two interest inventories which are now being utilized in Alberta high schools. The SDS is based on Holland's (1973) theory which proposes that vocational interests represent the expression of personality in work, school subjects, and preferences. There are some studies that indicate the SDS can successfully discriminate effectively among student and worker groups consistent with Holland's theory. Most of the studies related to the SDS and Holland's work have been based in the United States.

Lacey (1971) reported that the SDS tends to discriminate among students and adults who aspire to or are employed in different occupations. Fishburne and Walsh (1976) found that the SDS tends to discriminate effectively

both among non-college-degreed workers and among college-degreed workers. O'Brien and Walsh (1976) found that the SDS does measure similar personality types.

The Canada Department of Employment and Immigration began the development of the COII in 1973. The reason for this development was to create an accurate Canadian-based measure of interests which would help bridge the gap between the individual's interests and a Canadian occupational data base. The COII describes interests according to the five bipolar factors described by Cottle (1950). The issue of whether or not the COII does what it is supposed to do is one of the central concerns of this study.

To this date, there have been very few empirical studies to assess the validity of the COII. Farrell (1977) reported that the COII does

significantly differentiate among six specified occupational groups. Begin (1977) has demonstrated that with minor modifications the hexagonal model proposed by Holland can be applied to the COII.

In general, the limited evidence presented above lends some support to the validity of the SDS and the COII for the working population. However, the above research lends little support to the validity of the COII and the SDS for high school students in specified subject areas. In this context the current study has two major purposes: (a) to study the concurrent validity of the COII and the SDS for students in specified subject areas; and (b) to study the relationships among the similarly defined scales of the two inventories.

## METHOD

### *Subjects*

The subjects were made up of 200 students enrolled in eight different Grade 12 level courses which included the following:

- Physical Education 30 (both Male and Female)
- Building Construction 32
- Mathematics 31
- Office Procedures 30
- Electricity 32
- Drama 30
- French 31

Physical Education 30 is a course emphasizing individual and dual sports activities. Leadership training, coaching, officiating, and the organization and administration of intramural sports are also covered. The graduates of this program plan to enter many different occupational fields.

Building Construction 32 stresses advanced roof construction and the use of up-to-date building materials. Mixing, testing, and reinforcing concrete under varying weather and atmospheric conditions, as well as interior and exterior finishing, are introduced. If time permits, a full scale portable building, such as a cabin or portable classroom, may be completed. The majority of students in this program plan to become carpenters.

Mathematics 31 is an advanced math course which deals with the following: slopes, tangents, maxima, and minima; distance, velocity, and acceleration; derivatives of functions; applications; vectors; systems of linear equations; and matrices. The majority of students in this program plan to become engineers.

Office Procedure 30 is a continuation of the skills contained in Business Procedures 20. The emphasis is on getting the student ready for the work world. Standards set are demanding and exacting. Considerable emphasis is placed on the

more complicated filing systems, the attributes and work of the receptionist and secretary, applying for and holding a job, and office paper flow. The majority of students in this program plan to become clerical secretaries.

Electricity 32 stresses the practical application of the principles studied in Electronics 22. Receiver, transmission, instrument theory and the principles of television and digital instruments conclude the topics in the course. The majority of students in this program plan to become electricians.

Drama 30 is designed for those students who have developed a serious interest in the theatre arts and are willing to undertake individual projects. Students have the opportunity to participate in the production of a play for public production. The majority of students plan to do full-time or part-time acting in the future.

French 31 is the final public school level French language course for those students in their sixth year of public school French. The focus is on oral communication, although written skills (including grammar) and reading comprehension form a significant part of the course. The graduates of this program plan to enter many different occupational fields.

### *Instruments*

The COII is a 70-item forced-choice instrument, designed to measure the five bipolar interest factors identified by Cottle (1950). Each item consists of pairs of triads representing the respective poles of the interest factor. In this way, 420 activities were required to establish the 70 items which relate to their respective scale.

The COII measures vocational interests in 10 general categories: (1) Things, (2) Business Contact, (3) Routine, (4) Social, (5) Prestige, (6) People, (7) Scientific, (8) Abstract/Creative, (9) Solitary, and (10) Production. The COII questions are constructed such that two categories oppose each other, giving five pairings of the 10 categories. Categories 1 and 6 are opposed to create a Things vs People pairing. Categories 2 and 7 are opposed to create a Business Contact vs Scientific pairing. Categories 3 and 8 are opposed to create a Routine vs Abstract/Creative pairing. Categories 4 and 9 are opposed to create a Social vs Solitary pairing. Categories 5 and 10 are opposed to create a Prestige vs Production pairing.

The SDS is designed to be self-administered, self-scored and within limits, self-interpreted. The individual responds to separate sections for Activities, Competencies, Occupations, and Self-Ratings, which are combined in the Summary section to indicate the person's resemblance to each of the personality types.

The SDS assesses the six personality types derived from Holland's theory (Holland, 1973) and provides, through the use of the accompanying Occupations Finder (Holland, 1977) a means of relating personality types to occupational alternatives. The inventory shows evidence of reliability and validity according to Holland (1972).

*Procedure*

The COII and the SDS were administered to a group of 200 students enrolled in Grade 12 courses in an Edmonton high school. The tests were administered during regularly scheduled classes.

A one-way analysis of variance and a Scheffe procedure were applied to COII and SDS means to measure the degree to which the COII and SDS scales distinguished among the specified subject areas.

The inter-scale correlations of the COII and the SDS for the 200 students were determined by means of a Pearson Product Moment Correlations.

The comparison between a specified subject area and an external reference point was determined only when the majority of students in a specified subject area could arrive at a specific occupation they wished to pursue after graduation.

Five of the eight groups chose an occupation which was considered a common goal. For example, the majority of students in Electricity 32 planned to become electricians. The specified group mean patterns on the COII and the SDS for the five groups were compared to the related

occupational interest patterns of the Canadian Classification and Dictionary of Occupations (CCDO) (1973) and the SDS Occupations Finder, (Holland, 1977) respectively.

RESULTS

The means, standard deviations, and one-way analysis of variance for the COII and the SDS scales are shown in Table 1. The *F*-ratio and therefore the significance level of the differences among groups is high for each pair of COII scales; the highest *F*-ratio is for Social (4) and Solitary (9) and the lowest *F*-ratio is for Routine (3) and Abstract-Creative (8). With all the *F*-ratio values above the minimum cutoff 3.47, significance is at the 0.001 level. Because of the construction of the COII, bipolar scales share the same *F*-ratio value.

The *F*-ratio is high for all of the SDS scales except for Enterprising. The Enterprising scale does not show significance at the .001 level. The highest *F*-ratio is the Realistic scale with the Conventional and Artistic scales second and third.

The homogeneity of the subject group subsets for each pair of bipolar COII scales and SDS scales is shown in Table 2. To provide an alternate way of determining mean differences among groups, a Scheffe procedure was used. Correspondence between subsets is illustrated by the following interpretation of the subset groupings for scales Things (1) and People (6) at the .01 level of significance: in (a), groups 4, 8, 6 and 7 are different from groups 3, 1, 5 and 2; in (b), groups 4 and 8 are different from groups 6, 7, 3, 1, 5 and 2; and in (c), groups 4, 8, 6, 7 and 3 are different from groups 1, 5 and 2.

TABLE 1  
Means, Standard Deviations, and One-Way Analysis of Variance for COII and SDS Scales

	1		2		3		4		5		6		7		8		F RA110
	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	$\bar{x}$	SD	
Things (1), People (6)	10.64	2.46	11.56	2.16	8.68	3.71	3.48	3.40	11.08	2.63	5.00	3.57	5.56	2.95	4.08	3.50	27.36**
Business Contact (2) Scientific (7)	3.96	3.10	4.32	2.75	2.24	3.28	9.68	2.95	2.60	2.78	7.32	3.51	5.48	4.73	6.84	4.50	12.97**
Routine (3) Abstract/Creative (8)	8.96	2.46	8.60	1.83	8.08	3.00	7.36	2.68	7.88	3.33	4.56	2.58	7.68	3.33	6.12	2.62	6.70**
Social (4) Solitary (9)	4.36 <sup>†</sup>	3.60	2.52	2.47	4.40	4.04	11.24	2.80	1.96	1.97	8.88	3.52	9.00	4.15	9.72	3.74	28.41**
Prestige (5) Production (10)	7.24 <sup>†</sup>	2.31	3.76	2.05	6.68	3.12	7.32	3.15	4.88	2.70	8.84	3.02	6.56	3.23	8.84	3.05	9.53**
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Realistic	11.20	3.63	12.08	3.22	9.12	4.58	0.92	1.08	12.80	2.00	3.04	3.98	2.84	3.65	3.40	3.10	56.00**
Investigative	7.52	3.72	5.08	2.83	11.24	3.17	1.88	1.64	7.84	4.34	3.56	1.92	9.32	5.00	5.36	4.10	19.24**
Artistic	2.68	1.77	2.84	2.85	1.56	2.26	5.04	3.30	3.12	2.71	11.28	3.06	5.40	4.05	5.28	4.05	23.86**
Social	6.84	3.06	6.44	3.10	5.08	2.74	8.96	2.30	4.72	2.42	9.92	2.33	8.28	4.30	11.08	3.41	14.19**
Enterprising	4.92	3.20	4.76	3.03	3.28	2.98	4.20	2.90	3.24	2.39	4.68	3.05	2.88	2.87	4.48	3.69	1.74
Conventional	1.80	2.33	1.56	2.06	3.24	3.36	12.04	2.96	1.92	2.18	1.32	1.25	5.40	5.06	4.80	5.20	29.05**

\* 1 = Physical Education 30 (Male); 2 = Building Construction 32; 3 = Mathematics 31; 4 = Office Procedures 30; 5 = Electricity 32; 6 = Drama 30; 7 = French 31; 8 = Physical Education 30 (Female)

\*\* p < .001