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An Exploration of the Relationship between Social Intelligence and Students' Fields of Study

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AN EXPLORATION OF THE RELATIONSHIP BETWEEN SOCIAL

INTELLIGENCE & STUDENTS' FIELDS OF STUDY

by

Richard Crawford Reardon

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VITA

Richard Crawford Reardon was born on June 1, 1947, in Oak Park, Illinois.

He was graduated from St. Viator High School, Arlington Heights, Illinois, in June of 1965. He attended St. Mary's College, Winona, Minnesota and graduated with a B. A. in psychology, summa cum laude, in May 1969. While in college he was elected to Delta Epsilon Sigma, the national Catholic honor society, to Who's Who among Students in American Universities and Colleges, and to Psi Chi. He entered the graduate program in clinical psychology at Loyola University of Chicago in September, 1969.

During 1970 and 1971 he spent 1,000 hours as a trainee in clinical psychology at the Veterans Administration Hospital, Hines, Illinois. He was an assistant on several research projects in the Department of Psychiatry at Children's Memorial Hospital, Chicago, Illinois from 1972 to 1974. In September, 1974 he began a 2,000 hour internship at the Veterans Administration Hospital, Pittsburgh, Pennsylvania.

TABLE OF CONTENTS

CONTENTS FOR APPENDICES

CHAPTER I

INTRODUCTION

That man is a "social animal" is hardly a revolutionary concept
in the social sciences. The progress of human history records in-
creasingly complex transactions among individuals, tribes, cities, and
nations. Evolutionists are fond of pointing out the increase of com-
plexity and specialization which occurs among living forms in response
to environmental pressures. In the modern world where geographic dis-
tances are quickly becoming irrelevant dimensions to human relation-
ships, it is apparent that we are called upon to make concessions
(adjustments) to differing life styles. We are called upon to under-
stand and accommodate to persons whom in earlier periods we would have
known only from the exotic tales of explorers.

Since social living is an inescapable fact of our existence,
there is a great premium placed on harmonious interactions with others.
Human society has always accorded great prestige to statesmen, recon-
ciliators, arbitrators, and others adept at promoting harmony. On a
smaller scale, it is apparent that the ability to get along with others
is integral to human happiness. It is equally apparent that people
vary in this ability. Some are well-liked and popular, others are not.
Some seem to have a knack for saying or doing the right thing at just
the right time; in short, they have the "personal touch." Such persons
are said to have "empathy."

1

This ability has been known and studied under many rubrics including social intelligence, interpersonal communication or effectiveness, person perception, and other related terms having to do with understanding other persons and using this understanding effectively in interpersonal relations.

The present study is concerned with the relationship between social intelligence and occupational choice as this choice is reflected in students' fields of academic concentration. The assumption is made that when a student selects an academic major, particularly at the graduate level, he has made a rather serious commitment to pursue this line of endeavor occupationally, beyond the educational period. Higher education is commonly regarded as a preparation for a life's work and as an important avenue of social mobility. Hence, much energy is expended by students and academic advisors to match the student's abilities and interests with a compatible educational program; it is hoped that the outcome of this process is that the student will find a challenging and rewarding occupational experience. It is not fortuitous that a particular student is found in a particular field of study; indeed, quite a bit of prior selection has typically occurred. Unsuited students are "weeded out" of a program while others are drawn into the field through a combination of ability and interest.

This research is undertaken to determine whether social intelligence is an ability related to vocational selection. Specifically, it would seem desirable that people who will enter "person-oriented" professions possess a high degree of social intelligence. For those entering fields with less person orientation, social intelligence may

be an irrelevant skill. If such a situation obtains, social intelligence may follow a triangular bivariate distribution across the person-orientation hierarchy of occupations. In other words, individuals in low person-oriented fields may range from high to low on social intelligence while those in high person-oriented fields would possess consistently high levels of this skill. Although much research effort has been expended on investigating the relationships of various aptitudes and interests to vocational choice, the question under consideration here has received little attention. This neglect is no doubt due in part to the difficulty in devising valid and reliable measures of social intelligence.

CHAPTER II

REVIEW OF THE RELATED RESEARCH

As Walker and Foley (1973) have pointed out, the concept of social intelligence has been studied from several different approaches. The first, and by far the most extensively investigated, includes the plethora of person perception studies [for reviews see Brunner and Tagiuri (1954), Taft (1955), Westcott (1968), and Adinolfi (1972)] . But these, as Adinolfi (1972) notes, have tended to shift their focus away from the "objects" of perception (e.g., "patients" in the clinical situation) and have taken up studies of the inferential processes of the perceiver. That is, they have tended to concentrate on the process of impression formation. The other major research avenue has taken the individual differences approach where variations in skill among individuals or groups have been the issue. This approach, as Little (1967) argued, is more pertinent for applied work where selection and evaluation are of interest. It is the approach with which we will be concerned here.

Since E. L. Thorndike (1920) made the first explicit reference to social intelligence as such, researchers have had only limited success in isolating the ability psychometrically. Part of this difficulty may be due to the ambiguity of the concept of social intelligence itself, and in Thorndike's original formulation may be seen the crux of the problem. For him, social intelligence referred to the ability to

"understand and to manage men and women, boys and girls--to act wisely in human relations (p. 228)." Thus, Thorndike wedded two components, "understanding" and "managing" into a unitary ability when, for the sake of conceptual clarity, they might more profitably have been kept distinct. As will be seen, investigators have emphasized one facet or the other or have failed to distinguish between them. As Walker and Foley (1973) have commented, the distinction between the cognitive and the behavioral components of social intelligence has not been consistently appreciated. The result has been that much of the research in this area is difficult to interpret.

This confusion between the cognitive and behavioral elements of social intelligence is seen in the earliest attempt to devise a measure of the ability: Hunt's (1928) George Washington University Social Intelligence Test. His definition of social intelligence as the "ability to deal with people" identifies his interest in the latter dimension but his measure, a paper-and-pencil test (and void of any index of social effectiveness), could undoubtedly only tap the former. The six sections of his test were: (a) Judgement in Social Relations; (b) Memory for Names and Faces; (c) Recognition of Mental States from Facial Expression; (d) Observation of Human Behavior; (e) Social Information; and (f) Recognition of the Mental States behind Words. However, two subsequent factor analytic studies (Thorndike, 1936; Woodrow, 1939) found Hunt's test to be invalid as a measure of social intelligence since it loaded too highly on a verbal intelligence factor. Neither investigator was able to isolate a factor which could be identified as social intelligence.

Another early attempt to measure an ability which might broadly
be thought of as social intelligence was Chapin's (1942) Social Insight
Scale. Social insight as he defined it included the ability to (a)
"Recognize the existence and operation of specific substitute responses
such as projection, rationalization, regression, sublimation, trans-
ference, etc., and (b) to recognize the need of some specific stimulus
to adjust group conflicts or tensions, such as a humorous remark to
relax a dangerous intensity, a suggested compromise to attain a tem-
porary agreement, a face-saving remark to avoid embarrassment and to
preserve status, etc. (p. 214)." More recently, Gough (1965) has con-
tributed additional validational evidence for the Social Insight Scale,
but as Hogan (1969) noted, this test "seems more closely tied to the
realm of social and interpersonal effectiveness than to the dimension
of empathy per se, although overlap certainly exists (p. 308)."

Dymond (1950) devised Rating Test B as a measure of empathy. By
empathy she meant "the imaginative transposing of oneself into the
thinking, feeling, and acting of another (p. 343)." Although her em-
phasis is clearly on the cognitive component of social intelligence,
she aptly noted that such awareness is essential for interpersonal
communication and understanding. Her test requires that subject A rate
himself on a 1- to 5-point scale on each of the following dimensions:
(a) superior-inferior; (b) friendly-unfriendly; (c) leader-follower;
(d) shy-self-assured; (e) sympathetic-unsympathetic; and (f) secure-
insecure. Subject A is then asked to rate another person (subject B)
on the same traits, then to predict how the other person would rate
him, and finally to predict how subject B will rate himself. Thus it

can be determined how well the subject is able to see things from the other's point of view. Hogan (1969) noted that this test has great intuitive appeal as a measure of empathy but that the scoring process is cumbersome. A more serious limitation would seem to be that the test does not lend itself to interindividual comparisons of empathic ability. As Bruner and Tagiuri (1954) pointed out, people vary in the ease with which they are judged: one person for instance might be judging a very expressive subject and another person judging a very unexpressive one. It follows then that even though two subjects might receive an identical score on Dymond's test, they may not be equally empathic if one person were judging a difficult subject and the other an easy one. Due to this lack of control over stimulus variables, it appears that Rating Test B has very limited usefulness as an easily administered and interpreted instrument.

The Empathy Test devised by Kerr and Speroff (1947) has received severe criticism on several points, not the least of which being the authors' definition of empathy. The test calls for the prediction of certain characteristics of the "generalized other" and not of specific other persons, the usual meaning of empathy. No less damaging is the failure of most researchers not associated with the authors to find any validity in the test.

Bottrill (1967) reported the results of research on his Social Intelligence Test, another paper-and-pencil test. Its validity too is highly suspect since scores on the test correlated highly with WAIS verbal IQ ($\underline{r}$ = .61, $\underline{p}$ < .01) in samples of college students.

A more promising test of empathy was constructed by Hogan (1969)

using items from the MMPI and the California Psychological Inventory.
As he viewed it, empathy involves the capacity to "take the moral point
of view (p. 307)," and is a skill which is essential for moral conduct.
He constructed his empathy scale to predict empathy ratings from
Q-sorts and found a correlation of .62 between his scale and such
ratings in one sample; in another sample of medical students, the cor-
relation was .39. Reliability estimates, adjusted by the Spearman-
Brown formula, averaged .80. Interestingly, he found high, statis-
tically significant correlations between his scale and two of the
scales of the Meyer-Briggs Type Indicator: intraversion (r = -.61,
$p < .01$) and extraversion (r = .63, $p < .01$). In other words, people with
high empathy scores (the cognitive component of social intelligence)
tended to be more out-going and interested in involvements with other
people (the behavioral component of social intelligence). Because
of this finding, the Maudsley Personality Inventory will be adminis-
tered in the present study to determine whether introversion and extra-
version bear a similar relationship to social intelligence as measured
by the Guilford tests.

Q'Sullivan, Guilford, and DeMille (1965) reported the results of
their development of six Tests of Social Intelligence. These are fac-
tor analytically derived tests based on Guilford's structure of intel-
lect model (Guilford, 1967). In this model intelligence is conceived
in terms of three dimensions: operations (cognitions, memory, diver-
gent production, convergent production, and evaluation); content
(figural, symbolic, semantic, and behavioral); and products (units,
classes, relations, systems, transformations, and implications).

Social intelligence in Guilford's model falls in the domain of behavioral cognition. The tests developed for assessing this ability are as follows: (a) Expression Grouping loaded .59 on the factor of cognition of behavioral classes (CBC); (b) Missing Pictures is a measure of cognition of behavioral systems (CBS) with a loading of .58 and it has no significant loadings on other factors; (c) Missing Cartoons is not a univocal measure but loads on three factors, cognition of behavioral units (CBU) .41, cognition of behavioral systems (CBS) .52, and .35 on cognition of behavioral implications (CBI); (d) Picture Exchange is a univocal measure of cognition of behavioral transformations (CBT) with a loading of .51; (e) Social Translations, in combination with Picture Exchange, gives a stronger and more univocal measure of cognition of behavioral transformations than using this test alone; (f) Cartoon Predictions has a loading of .55 on the cognition of behavioral implications (CBI) and no other appreciable loadings.

Normative data on the tests are available only for tenth grade students. In the present study, only the four most reliable tests were administered: Cartoon Predictions, Expression Grouping, Missing Cartoons, and Social Translations. Their reliabilities and factor loadings are presented in Table 1.

To date, only limited research has been undertaken with the Tests of Social Intelligence. Hoepfner and O'Sullivan (1968), investigating their relationship with verbal IQ, found correlations ranging between .17 and .42 with a mean correlation of .40 (after correcting for attenuation for the reliabilities of the social intelligence tests) in their sample of 229 high school juniors. Scatter plots of social intelligence

Table 1

Reliabilities and Factor Loadings for Cartoon Predictions,

Expression Grouping, Missing Cartoons,

and Social Translations (from O'Sullivan & Guilford, 1966)

Test	Reliability:	1st*	2nd*	Loading	Factor
Cartoon Predictions		.70	.68	.55	CBI
Expression Grouping		.58	.61	.59	CBC
Missing Cartoons		.75	.82	.52	CBS
Social Translations		.84	.85	.51	CBT

*Split-half

scores against IQ revealed triangular bivariate distributions for the tests; that is, low IQ subjects ranged from high to low on social intelligence while high IQ subjects tended to achieve high social intelligence scores. The investigators speculated that the greater verbal facility of the high IQ subjects enabled them to mediate the behavioral material semantically. They cautioned that such a situation could limit the usefulness of the social intelligence tests among verbally gifted persons.

Shanley, Walker, and Foley (1972) found that scores on the six Tests of Social Intelligence show developmental increases with age in their sample of sixth, ninth, and twelfth grade subjects. In addition, the progression of scores complemented the normative data reported by O'Sullivan and Guilford (1966) for tenth graders. They also found, however, that girls achieved higher scores than boys on two of the six individual social intelligence tests and on all of the composite scores; they suggested that separate norms, at least for some of the tests, may be required. They advised that sex differences be explored in subsequent normative studies. With regard to the correlation of the social intelligence tests with verbal intelligence, the authors reported coefficients as large as .67 for the ninth graders and this led them to question the independence of the tests from measures of verbal IQ.

Clark and Neuringer (1971) found no differences between college samples of repressors and sensitizers on the social intelligence tests (Expression Grouping, Social Translations, Missing Cartoons, or Cartoon Predictions) after they equated the groups for verbal and general

12

aptitude.

The relationships between abstract intelligence and the O'Sullivan and Guilford tests cited above suggested to Walker and Foley (1973) that the abstract intelligence-social intelligence relation remains unclear. They noted that "the importance of definitive research in this area is apparent (pp. 853-854)." In the study reported here, the relationship of the tests of social intelligence with verbal intelligence as measured by the Concept Mastery Test (Terman, 1956) was investigated to determine the nature of the correlation.

Feffer and Suchotliff (1966) designed a password game as a measure of the behavioral component of social intelligence. They suggested that password called upon skill in decentering, or the ability to take the other's point of view. The task required that one person (the donor) communicate a "mystery" word to another person (the recipient) by means of one-word clues. They pointed out that success on the task requires that the donor be able to anticipate the recipient's responses and modify his clues in the light of previous responses. The task has been used by Delaney (1973) and Duncan (1973) in studies of the communication skills in mother-child pairs and a modified form has been developed by Kowatsch (1974). Her adaptation consisted in the development of standardized lists of clue words. This method has the advantage of partialling out the effect of the donor's decentering skills and lends itself to more facile interindividual comparisons of recipient ability. These lists designed by Kowatsch were used in the present study.

O'Connor (1945) reported on the development of a word association

test, the Personality Worksample 35, form AE. It consists of 100

stimulus words, presented one at a time, from which he was able to

isolate 56 "significant" responses. He found that a high number of

significant responses characterized what he called "objective person-

ality types." Low numbers of significant responses were given by

"subjective personalities." Subjective personalities were found to

have difficulty seeing other's points of view, while objective persons

functioned well in supervisory and management capacities and in situa-

tions which called upon skills in interpersonal relations. His instru-

ment appears to be an indirect measure of the behavioral component of

social intelligence.

Licht (1947) related the number of significant responses on this

test of word association to various occupational groups. She found

that significant responses were given most frequently by executives,

salesmen, teachers, and politicians. Scientists, artists, musicians,

engineers, and writers tended to give fewer such responses. These re-

sults were seen as consistent with those of O'Connor (1945) in that more

significant responses were given by persons in supervisory capacities.

Hypotheses

As this review has pointed out, while interest in the area of

social intelligence has waxed and waned for over 50 years, it has

currently rekindled (Walker & Foley, 1973). This is no doubt due in

part to the development of the Tests of Social Intelligence (O'Sullivan

& Guilford, 1965) since these tests open up research avenues for those

interested in individual differences. In a review of the tests, how-

ever, Jackson (1972) noted that, as with all factor analytically

derived tests, too little is known of the real-life correlates of O'Sullivan and Guilford's tests. It was with this in mind that the present research was undertaken. Specifically, interest was directed toward the relationship of social intelligence test scores to occupational choice as reflected in graduate students' choice of academic speciality. Since the Tests of Social Intelligence tap behavioral cognition skills it was also of interest to examine the relationship of these tests with measures of socially intelligent behavior, namely: extraversion, word association, and password ability. Also, because of questions raised by previous researchers, sex differences and the relationship of social intelligence with verbal intelligence were examined.

The specific hypotheses were as follows:

(1) Students in areas of graduate study rated high, intermediate, and low for person orientation show a comparable ordering (high, medium, and low) on the Tests of Social Intelligence;

(2) There is a significant positive correlation between social intelligence scores and extraversion scores;

(3) There is a significant positive correlation between social intelligence scores and scores on the word association test;

(4) There is a significant positive correlation between social intelligence scores and password test scores; and

(5) Social intelligence scores do not differ significantly

between the sexes.

In addition, the relationship between social intelligence and verbal intelligence was examined although no particular hypothesis was made.

CHAPTER III

METHOD

Subjects

Ten male and 10 female graduate student volunteers from each of
three occupational areas were tested. These occupational groups were
determined by 11 judges, all PhDs in psychology, who were asked to rate
32 occupations or types of jobs on a 5-point scale for their degree of
person orientation with low rank indicating low person orientation.
The instructions to the judges as well as the list of occupations are
given in Appendix A. The results of these ratings are presented in
Table 2, where the mean for each occupation determined its position in
the hierarchy. The standard deviation for each mean is presented as
well. In order to obtain the widest "spread" possible on the person-
orientation dimension, the students solicited for inclusion in this
study came from the following person-orientation clusters: Group I
(lowest person orientation), 1.00 through 1.49; Group II (intermediate
person orientation), 2.50 through 3.49; and Group III (highest person
orientation), 4.50 through 5.00. The clusters 1.50 through 2.49 and
3.50 through 4.49 were dropped from further consideration. No attempt
was made to match subjects for age, verbal intelligence, socio-
economic status, or years of graduate school training, but data on
each of these variables were collected. The composition of the exper-
imental groups with respect to their person-orientation ratings is

16

Table 2

Means, Standard Deviations, and a Hierarchy of Occupations based on

the Rankings of Eleven Judges for their Degree of Person Orientation

	Occupation	$\underline{M}$ Rank[a]	$\underline{SD}$
	1.00 thru 1.49		
1.	Mathmetician	1.09	.30
2.	Microbiologist	1.09	.30
3.	Chemist	1.18	.41
4.	Physicist	1.27	.47
5.	Accountant	1.45	.69
6.	Biochemist	1.45	.52
7.	Biologist	1.45	.52
	1.50 thru 2.49		
8.	Physiologist	1.55	.69
9.	Engineer	1.64	.81
10.	Anatomist	1.82	.79
11.	Finance	2.00	.78
12.	Pharmacology	2.00	1.00
13.	Economist	2.27	.65
14.	Librarian	2.36	.51
	2.50 thru 3.49		
15.	Architect	2.64	1.12
16.	Banker	2.73	.79
17.	Experimental Psychologist	2.73	1.01
18.	Marketing	2.91	1.04
19.	Actor	3.45	1.21
	3.50 thru 4.49		
20.	Sociologist	3.64	.68
21.	Advertising	3.72	.79
22.	Journalist	3.73	.65
23.	Dentist	3.82	1.08
24.	Lawyer	3.91	.70
25.	Physician	4.27	.90
26.	Salesman	4.27	.65
	4.50 thru 5.00		
27.	Personnel Director	4.55	.69
28.	Teacher	4.64	.51
29.	Minister	4.73	.47
30.	Social Worker	4.91	.30
31.	Counselling Psychologist	5.00	.00
32.	Clinical Psychologist	5.00	.00

[a] 1 indicates low rating on People Orientation, 5 is high.

given in Table 3.

The academic fields represented by the students were as follows: Group I males, Accounting (N=2), Microbiology (N=2), Biochemistry (N=1), Biology (N=3), and Chemistry (N=1); Group I females, Microbiology (N=3), Biology (N=5), Biochemistry (N=1), and Chemistry (N=1); Group II males, Experimental Psychology (N=7), Marketing (N=2), and Banking (N=1); Group II females, Experimental Psychology (N=9) and Banking (N=1); Group III males, Clinical Psychology (N=7) and Counselling Psychology (N=3); Group III females, Clinical Psychology (N=5), Counselling Psychology (N=4), and Teaching (N=1). In all, nine universities are represented among the sample of students.

Test materials

Each subject supplied scores on the Analogies section of the Terman Concept Mastery Test (Terman, 1958); the Word Association Test (O'Connor, 1944); the Maudsley Personality Inventory (Eysenck, 1962); four of the Tests of Social Intelligence (O'Sullivan & Guilford, 1966): Cartoon Predictions (CP), Expression Grouping (EG), Missing Cartoons (MC), and Social Translations (ST); a password test (Kowatsch, 1974); and a personal information questionnaire.

The Terman Concept Mastery Test, Analogies section, requires that the subject select from among three alternatives the response that correctly completes the analogy. This test is used as the abstract intelligence measure. It was developed by Terman and his group during the 1930s for use in their follow-up program with intellectually gifted subjects. It was designed to differentiate among persons who function at high levels of intellectual ability.

Table 3

Means and Standard Deviations of the Person

Orientation Rankings of the Experimental Groups

	M Person-Orientation Ranking	SD
Group I		
Men[a]	1.31	.18
Women[a]	1.31	.18
Total[b]	1.31	.18
Group II		
Men[a]	2.78	.08
Women[a]	2.73	.00
Total[b]	2.75	.08
Group III		
Men[a]	5.00	.00
Women[a]	4.96	.11
Total[b]	4.98	.08
All Men[c]	3.03	1.54
All Women[c]	3.00	1.53

[a] $\underline{N}$ = 10

[b] $\underline{N}$ = 20

[c] $\underline{N}$ = 30

The word association test (O'Connor, 1944) consists of 100 stimulus words. Subjects are simply told to give the first word that occurs to them. Three scores may be derived: (a) the number of significant responses (there are a maximum of 56 possible for the 100 stimulus words, for 44 there are no significant responses); (b) the number of common responses (at least one common response is possible for each stimulus word); and (c) total common and significant responses (obtained by adding the total number of significant and common responses). O'Connor (1945) found that the number of significant responses followed a bimodal distribution and separated what he called "subjective" and "objective" personality types with the objective type characterized by a higher number of significant responses. Objective types, as contrasted with subjective personalities, were found to perform better in managerial positions where leadership and interpersonal skills were required.

The Maudsley Personality Inventory is a 48-item paper-and-pencil questionnaire on which subjects are asked to respond "yes," "no," or "can't decide" to questions about how they feel, think, or act. The instrument yields scores on two dimensions: intraversion-extraversion and neuroticism. There is no time limit and subjects are encouraged to give their first reaction to each question. Higher scores indicate greater extraversion.

The format for the Tests of Social Intelligence (O'Sullivan and Guilford, 1966) employs multiple-choice items. A brief description of the four tests used in this study follows: (a) Cartoon Predictions. This test consists of 29 items in which the subject is asked to choose

one of three alternatives which shows what will follow a given interpersonal situation. Both the interaction and the alternatives are in the form of cartoons; (b) Expression Grouping. This is a 30-item test which presents facial expressions, hand positions, and bodily postures in drawing form. The task requires that the subject select one of the four alternatives that matches the pictured expression. (c) Missing Cartoons. This 30-item task requires that the subject choose one of four cartoons that best fills the blank in an otherwise complete social sequence; and (d) Social Translations. On this test the 24 items and the alternatives consist of printed words. The subject is asked to select a pair of persons between whom a given statement would have a different meaning.

The password test (Kowatsch, 1974) consists of 20 "mystery words" that the subject is supposed to guess. Clues for each mystery word are given one at a time until the mystery word is guessed or until the 90-second time limit has expired. The clues were read by the experimenter in a predetermined sequence. The instructions read to each subject as well as the lists of mystery words and their clues are given in Appendix B. Feffer and Suchotliff (1966) suggested that the password task called upon skill in decentering or the ability to take another's point of view, thus providing a measure of empathy or social intelligence. The standardized version of this task developed by Kowatsch (1974) provides control over stimulus variables in so far as the list of clue words is identical for each subject. That is, the decentering skill of the sender of the clue words is partialled out of the task. The subject's score consists of the number of mystery words

correctly guessed.

In addition to the above tests, each subject was asked to complete a personal information questionnaire which requested the following information: name, age, sex, academic major, university, number of years of graduate school education, the occupation of the major breadwinner of their family of origin, and address.

The Coleman Index (Coleman, 1959) was used to assign a socio-economic rating to each subject based on the occupation of the major breadwinner in his family of origin. This index was modified so that 7 indicated the highest class and 1 the lowest.

Procedure

The tests were given to each subject individually in one session. The testing sessions usually lasted about 2 hours. The tests were administered in the following order: the personal information questionnaire, Cartoon Predictions, Expression Grouping, Missing Cartoons, Social Translations, the word association test, the Maudsley Personality Inventory, the password test, and the Concept Mastery Test (Analogies only). All tests were administered according to the procedures specified in their respective manuals. For password, the clues were presented one at a time in the predetermined sequences given in Appendix B. Subjects were given 90 seconds within which to guess each of the 20 mystery words.

Each subject was assured that his test results would remain confidential and was briefed about the purpose of the research at the end of the testing session. To each subject who expressed his interest, a summary of the results of the study was mailed upon its completion.

CHAPTER IV

RESULTS

Age, Intelligence, Education, and Socio-economic Status

Although it was not feasible to match the experimental groups on these variables, data on each of them were collected; means and standard deviations for each group, sexes separate and combined, and for the total sample are presented on Table 4. For the total sample, the mean number of years of graduate school education was 2.3 with a range of from .5 to 6 years. With respect to socio-economic class, none of the subjects came from either of the two lowest classes or from the very highest. The mean class level for the entire sample was 4.6 which is the lower middle class on the Coleman Index. The subjects ranged in age from 19 to 33 with the overall mean for the sample of 25.2 years. Concept Mastery Test scores (Analogies section only) ranged from 42.0 to 70.3 with a grand mean of 56.8. The present sample is comparable to the subjects of the Stanford Gifted study who achieved a mean score of 54.4 on the Analogies (Terman, 1956).

Analyses of variance were performed for the variables age, verbal intelligence, and years of graduate school to determine what differences, if any, existed among the groups. Summaries of these analyses are given in Table 5. The only significant F obtained was for the main effect for group membership for age ($p < .005$). The means were 24.0, 24.4, and 27.1 for Groups I, II, and III respectively. It is

23

Table 4

Means and Standard Deviations for the Variables Years of Graduate School,

Socio-economic Status, Age, and Concept Mastery Test Scores

	Years of Graduate School		Socio-economic Class		Age		Concept Mastery Test	
	M	SD	M	SD	M	SD	M	SD
Group I								
Men[a]	2.5	1.27	4.3	1.06	24.8	2.50	55.4	8.42
Women[a]	1.8	1.38	4.8	.92	23.1	2.13	57.0	7.81
Total[b]	2.2	1.34	4.5	1.00	24.0	2.42	56.2	7.95
Group II								
Men[a]	2.1	1.18	4.6	1.17	24.4	1.65	54.4	3.56
Women[a]	1.7	1.11	4.6	1.17	24.5	2.17	58.6	5.37
Total[b]	1.9	1.14	4.6	1.14	24.4	1.88	56.5	4.94
Group III								
Men[a]	2.4	1.60	4.4	1.07	26.1	2.47	59.5	6.35
Women[a]	2.3	1.09	5.1	1.10	28.1	3.60	55.8	5.65
Total[b]	2.3	1.33	4.7	1.12	27.1	3.18	57.7	6.15
All Men[c]	2.3	1.32	4.4	1.07	25.1	2.28	56.4	6.60
All Women[c]	1.9	1.19	4.8	1.05	25.2	3.40	57.1	6.26
Total[d]	2.3	1.26	4.6	1.07	25.2	2.87	56.8	6.39

[a] N = 10.

[b] N = 20.

[c] N = 30.

[d] N = 60.

Table 5

Analyses of Variance for Age, Verbal Intelligence,

and Years of Graduate School Training

| Source | df | Age | | Verbal Intelligence | | Years of Graduate School | |
		MS	F	MS	F	MS	F
Sex	1	.27	.04	7.58	.18	2.40	1.49
Group	2	57.32	8.69*	12.02	.28	.80	.50
Interaction	2	17.11	2.76	81.64	1.99	.54	.33
Residual	54	6.21		40.96		1.64	
Error	56	6.60		42.41		1.60	

*p<.005

interesting to note that even though the subjects in Group III were the oldest, they did not have significantly more years of graduate school training.

A 3 x 4 Chi-square analysis for the socio-economic status variable was also nonsignificant ($\chi^2 = 1.70$, $\underline{df} = 6$, $\underline{p} < .95$). Table 6, the contingency table, presents the observed and expected cell frequencies.

Because of the significant main effect for age, all succeeding $\underline{F}$s were derived from analyses of covariance using age as the covariate.

The Tests of Social Intelligence

The means and standard deviations for each of the tests of social intelligence are given in Table 7. With the exception of the scores for the Missing Cartoons test, the means for each of the tests including the Social Intelligence Composite score fell in the predicted direction with Groups III, II, and I ranging from high to low. The main hypotheses, that social intelligence varies among groups of students according to the person-orientation rating of the occupation for which they are preparing, were investigated by analyses of covariance for the Social Translations, Cartoon Prediction, Missing Cartoons, Expression Grouping, and Social Intelligence Composite scores. These results are presented in Tables 8 and 9.

The 3 x 2 analyses of covariance shown on Tables 8 and 9 reveal two significant main effects for group membership: one for the Cartoon Prediction scores ($\underline{p} < .05$) and the other for the Social Intelligence Composite scores ($\underline{p} < .005$). The means for the Cartoon Prediction scores were 23.0, 25.1, and 25.3 for Groups I, II, and III respectively

Table 6

Contingency Table and Chi-Square Analysis for

Socio-economic Status[a]

	Socio-economic Class				
Group	3	4	5	6	Row Totals
I	3(3)	7(6)	6(5)	4(6)	20(20)
II	4(3)	6(6)	4(5)	6(6)	20(20)
III	3(3)	6(6)	4(5)	7(6)	20(20)
Column Totals	10(9)	19(18)	14(15)	17(18)	60(60)

[a]First cell entry = observed frequency; parenthetical entry = expected frequency.

$x^2 = 1.70$, $\underline{df} = 6$, $\underline{p} < .95$.

Table 7

Means and Standard Deviations for Social Translations, Cartoon Prediction, Missing Cartoons,

Expression Grouping, and Social Intelligence Composite Scores

Group I	Social Translations		Cartoon Predictions		Missing Cartoons		Expression Grouping		Social Intelligence Composite	
	M	SD	M	SD	M	SD	M	SD	M	SD
Men[a]	18.7	1.59	23.6	4.25	20.8	4.12	18.6	3.13	81.6	9.34
Women[a]	18.8	2.20	22.4	3.42	22.3	3.99	21.8	2.35	85.3	4.22
Total[b]	18.7	1.87	23.0	3.80	21.6	4.02	20.2	3.18	83.4	7.30
Group II										
Men[a]	18.6	2.11	25.2	2.03	24.4	1.80	21.3	3.20	89.5	5.58
Women[a]	20.2	2.24	25.0	2.93	23.0	2.40	21.5	2.23	89.7	6.00
Total[b]	19.4	2.28	25.1	2.45	23.7	2.20	21.4	2.69	89.6	5.64
Group III										
Men[a]	19.3	2.49	25.7	1.77	23.3	2.63	22.4	2.60	90.6	4.88
Women[a]	20.9	1.32	25.0	1.55	23.1	2.86	23.0	2.83	91.9	5.85
Total[b]	20.1	2.11	25.3	1.66	23.2	2.67	22.7	2.66	91.3	5.28
All Men[c]	18.8	2.05	24.8	2.94	22.9	3.28	20.7	3.32	87.3	7.79
All Women[c]	20.0	2.09	24.1	2.93	22.8	3.06	22.1	2.48	89.0	5.92
Total[d]	19.4	2.13	24.5	2.93	22.8	3.15	21.4	2.98	88.1	6.92

[a] $\underline{N} = 10.$ [c] $\underline{N} = 30.$

[b] $\underline{N} = 20.$ [d] $\underline{N} = 60.$

Table 8

Analyses of Covariance for Social Translations,

Cartoon Predictions, and Missing Cartoons

Source	df	Social Translations		Cartoon Predictions		Missing Cartoons	
		MS	F	MS	F	MS	F
Sex	1	18.99	4.52[a]	7.54	.93	.19	.02
Group	2	8.20	1.95	26.48	3.26[a]	20.26	2.28
Interaction	2	3.78	.90	1.01	.12	17.41	1.96
Error	53	4.20		8.11		8.88	

[a] $p < .05$

29

Table 9

Analyses of Covariance for Expression Grouping

and the Social Intelligence Composite Scores

Source	df	Expression Grouping		Social Intelligence Composite	
		MS	F	MS	F
Sex	1	27.27	3.56	40.88	1.08
Group	2	19.91	2.60	221.84	5.88[a]
Interaction	2	14.78	1.93	27.95	.74
Error	53	7.66		37.72	

[a] $\underline{p} < .005$

and lie in the direction predicted by the hypothesis. Neither the main effect for sex nor the Sex x Group interaction was significant. For the Social Intelligence Composite scores the group means also fall in the predicted direction. The Means for Groups I, II, and III respectively were: 83.4, 89.6, and 91.3. As with the Cartoon Prediction scores, the main effect for sex and the Sex x Group interaction were not significant.

For both the Cartoon Prediction and the Social Intelligence Composite scores, Duncan's New Multiple Range Test established the following: both Groups II and III differed significantly from Group I ($p < .05$) while the difference between Groups II and III did not attain significance.

Trend analysis using orthogonal polynomials established a significant linear trend for the Cartoon Prediction scores. The linear F-ratio equalled 5.44 and exceeded the critical value of F for 1 and 53 df ($p < .05$). The following statistics pertain to this linear trend: linear correlation coefficient = .30; regression equation = predicted value of K = 1.05X + 22.38; standard error of the estimate = 1.69. A significant linear trend was also established for the Social Intelligence Composite scores. The linear F-ratio exceeded the critical value of F (4.00) for 1 and 53 df ($p < .005$). The quadratic, cubic, quartic, and quintic Fs were all nonsignificant. The following statistics relate to this linear trend: linear correlation coefficient = .40; regression equation = predicted value of K = 3.17X + 81.79; standard error of estimate = 4.77.

The prediction that social intelligence was not related to sex

was confirmed for Missing Cartoons, Cartoon Predictions, Expression Grouping and the Social Intelligence composite. For each of these measures there was no significant main effect for sex membership as revealed by the $\underline{F}$s on Tables 8 and 9. On the Social Translations test, however, women obtained significantly higher scores ($\underline{p} < .05$). The mean score on this test for women was 20.0 and for men 18.8 as is shown on Table 7.

Social Intelligence and Extraversion

Table 10 presents the matrix of Pearson product-moment correlation coefficients for all variables. As can be seen, the hypothesis that a significant positive correlation would be found between extraversion and the tests of social intelligence was not substantiated. The $\underline{r}$s ranged between -.15 and .20 and none of them was significant at the .05 level.

The means for the extraversion scores are presented in Table 11 and were ordered as predicted by the hypothesis, i.e., they were 23.9, 29.4, and 29.8 for Groups I, II, and III respectively. However, the group differences did not attain statistical significance as is revealed by the analysis of covariance reported in Table 12. Neither of the main effects nor the Sex x Group interaction was significant.

Social Intelligence and Word Association

It was predicted that the social intelligence scores would be positively correlated with the number of responses on the Personality Worksample 35 Form AE, the word association test. As mentioned earlier, three scores were derived from this measure: the number of common responses, the number of significant responses and the total of

Table 10

Pearson Product-Moment Correlation Coefficients[1]

Variable[2]	1	2	3	4	5	6	7	8	9	10	11	12
1. Age												
2. Education	.44[a]											
3. ST	.14	.06										
4. CP	.17	.11	.04									
5. MC	.26[d]	.32[c]	.08	.23								
6. EG	.16	.21	.09	.11	.37[b]							
7. SI Composite	.30[c]	.30[c]	.40[a]	.59[a]	.74[a]	.68[a]						
8. TCMT	.16	.21	-.03	.17	.27[d]	.20	.27[d]					
9. PSW	.17	.23	-.04	.27[d]	.21	.26[d]	.31[c]	.58[a]				
10. Ex	.12	.12	-.15	.11	.20	-.02	.08	-.05	.04			
11. W-Sig	-.27[d]	.05	-.24	-.07	.01	-.08	-.13	.02	-.07	.09		
12. W-Com	-.31[c]	-.34[b]	-.26[d]	-.05	-.36[b]	-.03	-.28[d]	-.19	-.06	-.15	.15	
13. W-Tot	-.38[b]	-.17	-.33[c]	-.08	-.21	-.08	-.26[d]	-.10	-.09	-.04	.79[a]	.72[a]

[1]Superscript indicates significance level: a = .001, b = .01, c = .025, and d = .05.

[2]The variables are: (1) Age, (2) Years of Graduate School, (3) Social Translations, (4) Cartoon Predictions, (5) Missing Cartoons, (6) Expression Grouping, (7) Social Intelligence Composite, (8) Concept Mastery Test, (9) Password scores, (10) Extraversion scores, (11) Significant Word Association scores, (12) Common Word Association scores, and (13) Total Word Association scores.

33
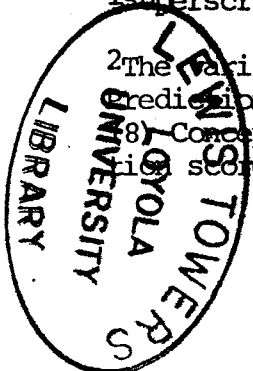
Table 11

Means and Standard Deviations for Extraversion, Common Word Association,

Significant Word Association, Total Word Association, and Password Scores

	Extraversion		Common Word Association		Significant Word Association		Total Word Association		Password	
	M	SD	M	SD	M	SD	M	SD	M	SD
Group I										
Men[a]	24.5	9.41	29.5	6.29	22.7	7.53	52.2	9.55	13.2	3.65
Women[a]	23.3	9.33	29.5	7.17	19.1	7.82	48.6	12.55	15.2	3.22
Total[b]	23.9	9.14	29.5	6.57	20.9	7.70	50.4	11.01	14.2	3.50
Group II										
Men[a]	30.4	8.11	26.8	4.21	23.2	3.97	50.0	6.29	13.3	2.45
Women[a]	28.4	9.98	27.1	5.55	21.6	6.98	48.7	9.52	15.1	1.97
Total[b]	29.4	8.91	26.9	4.80	22.4	5.59	49.4	7.88	14.2	2.35
Group III										
Men[a]	32.9	6.90	24.6	7.06	21.2	4.66	45.8	8.57	15.2	2.20
Women[a]	26.6	7.31	25.4	6.27	13.5	7.12	38.9	9.68	14.4	3.41
Total[b]	29.8	7.64	25.6	6.51	17.4	7.06	42.4	9.58	14.8	2.82
All Men[c]	29.3	8.69	27.0	6.11	22.4	5.47	49.3	8.41	13.9	2.89
All Women[c]	26.1	8.90	27.3	6.38	18.1	7.86	45.4	11.31	14.9	2.86
Total[d]	27.7	8.86	27.1	6.20	20.2	7.05	47.4	10.08	14.4	2.89

[a]N = 10.   [c]N = 30.

[b]N = 20.   [d]N = 60.

34

Table 12

Analyses of Covariance for the Significant, Common,

and Total Word Association Scores

		Significant		Common		Total	
Source	df	MS	F	MS	F	MS	F
Sex	1	270.95	6.38[a]	2.97	.08	217.14	2.49
Group	2	69.30	1.63	35.22	.96	113.94	1.30
Interaction	2	35.70	.84	10.15	.28	25.44	.29
Error	53	42.44		36.62		87.02	

[a] $p < .025$

35

common plus significant responses. Inspection of Table 10 reveals
that modest but negative correlations were obtained between the Social
Intelligence Composite score and common responses (r = -.28, p <.05)
and total responses (r = -.26, p <.05). Among the separate social
intelligence tests, Social Translations correlated -.26 (p <.05) and
-.33 (p <.025) with word association common and total scores respec-
tively. Missing Cartoons correlated -.36 (p <.01) with the number of
common responses. No significant correlations were obtained between
Cartoon Predictions or Expression Grouping and any of the word associa-
tion scores.

In addition, the analyses of covariance summarized in Table 12
show that a significant main effect for group membership was not ob-
tained for the common, significant, or total word association scores.
A significant main effect for sex was found, however, for the word
association significant scores (p <.025). Table 11 shows that the men
achieved the higher scores with a mean of 22.4 while the average score
for the women was 18.1. No other significant main effects and no sig-
nificant Sex x Group interactions were found.

Social Intelligence and Password Skill

It was hypothesized that social intelligence and password skill
would be positively correlated. As Table 10 shows, significant pos-
itive rs were found between password scores and Cartoon Prediction
scores (r = .27, p <.05), Expression Grouping scores (r = .26, p <.05),
and Social Intelligence Composite scores (r = .31, p <.025). No sig-
nificant correlation was found between password and either Social
Translations or Missing Cartoon scores. The means for the password

scores, reported in Table 11, were 14.2, 14.2, and 14.8, for Groups I, II, and III respectively. The analysis of covariance for these scores, Table 13, shows that none of the $\underline{F}$s was significant.

Social Intelligence and Verbal Intelligence

Although no specific hypotheses were entertained with regard to the relationship between social intelligence and verbal intelligence scores, these data are of interest and bear directly on the question of the independence of the O'Sullivan and Guilford measures. As shown on Table 10, a significant positive correlation was found between the Social Intelligence Composite and the Concept Mastery Test scores ($\underline{r}$ = .27, $\underline{p}$ < .05). Only one of the individual social intelligence tests, Missing Cartoons, correlated significantly with the verbal intelligence measure ($\underline{r}$ = .27, $\underline{p}$ < .05). The remaining correlations with the Concept Mastery Test, although positive, were not significant. As mentioned earlier, and as reported on Table 4, there was no significant main effect for sex or group and there was no Sex x Group interaction for the verbal intelligence scores as revealed by the 3 x 2 analysis of covariance.

Table 13

Analyses of Covariance for Extraversion and Password Scores

		Extraversion		Password	
Source	df	MS	F	MS	F
Sex	1	153.70	2.06	14.03	1.73
Group	2	164.88	2.21	.13	.02
Interaction	2	47.19	.63	17.99	2.22
Error	53	74.62		8.11	

CHAPTER V

DISCUSSION

The prediction that social intelligence is related to occupa-
tional choice was confirmed for one of the individual tests, Cartoon
Predictions, and most importantly, for the Social Intelligence Com-
posite. In addition, a linear trend was established for these scores
in the predicted direction; that is, the level of skill in behavioral
cognition of students was found to increase with the person-orientation
level of the field for which they are in training. The subjects in
Group III (clinical psychology, counselling psychology, and teaching
students) scored higher than Group II subjects (experimental psychol-
ogy, banking, and marketing students) who in turn scored higher than the
subjects of Group I (the natural science and accounting students).
While both Group III and Group II subjects scored significantly higher
than the subjects in Group I, the differences between Groups III and
II did not attain statistical significance. The reason for this result
is not clear. However, as Table 2 shows, the standard deviations of the
judges' ratings for person orientation are smaller at the extreme ends
of the hierarchy. For Group III they ranged from .00 (indicating
unanimous agreement) to .69; for Group I the range was .30 to .69. In
contrast, the standard deviations for the rankings of Group II ranged
from .79 to 1.21. This indicates that the ratings for the intermediate
fields were more variable. Perhaps, then, the fields experimental

39

psychology, banking, and marketing do not represent "true" inter-
mediate fields on the person orientation hierarchy. Alternatively,
since the mean scores for Group II did in fact fall between Groups I
and III for both the Cartoon Prediction and Social Intelligence Com-
posite scores, perhaps a larger sample size would have revealed sig-
nificant differences. Medvene (1970) did find significant differences
between graduate clinical psychology students (high person orientation)
and nonclinical psychology graduate students (low person orientation)
on several measures of family relations. Consequently, since dif-
ferences between these groups do exist on some variables, and since
the differences reported here were in the predicted direction (albeit
the differences were not significant) then perhaps significant dif-
ferences would have emerged if a larger sample size had been employed.

As O'Sullivan and Guilford (1966) noted, the prediction of
complex performance, as vocational choice must assuredly be, is prob-
ably best made using the composite score. Hence, the importance of the
significant main effect for group membership here. For the Social
Translations and the Expression Grouping scores, although the group
means lie in the predicted direction, (that is, Group III> Group II>
Group I) and although it is interesting to speculate whether such dif-
ferences would be obtained with a larger sample size, it must be con-
cluded that group differences did not exist and the null hypothesis
cannot be rejected for these measures. The same must be said of the
results for the scores on Missing Cartoons, although here Group II
attained the highest scores followed by Groups III and I.

The failure of three of the Tests of Social Intelligence to

differentiate among the three groups of students may be due to limita-
tions in the ceilings of these measures. The scatter of the scores,
both within and between the groups tended to be small. As shown on
Table 7, the standard deviations for the individual tests ranged from
a high of 4.25 to a low of 1.32. In contrast, the standard deviations
for the Social Intelligence Composite ranged from 4.22 to 9.34, thus
providing for greater variability of scores. This suggests that when
testing intellectually gifted subjects as was the case in this study,
perhaps only the Social Intelligence Composite provides a sufficiently
high ceiling.

The fact that groups of students vary in their behavioral cog-
nition skills and that this variation is related to the dimension of
the person orientation of their vocational fields is established for
groups on the extreme ends of the hierarchy. The question of whether
persons with superior behavioral cognition seek out high person-
oriented fields or whether training programs somehow increase or
decrease this skill remains unanswered. Such a determination must
await further investigation and calls for a longitudinal analysis.
The question, however, would seem to have considerable import to
occupations that require the highest levels of interpersonal sensitiv-
ity, such as clinical or counselling psychology. A related and as yet
unanswered question concerns the relation of behavioral cognition with
criteria of success in high person-oriented fields. If such a rela-
tionship should be established, it would seem incumbent upon those who
design training programs for these fields to evaluate and select program
requirements most conducive to the development of this skill. In the

meantime, this study represents a step in the direction called for by Jackson (1972) in relating the Tests of Social Intelligence to real-life correlates. Further research will undoubtedly determine the suitability of these tests for use in counselling situations as, for instance, in helping students decide whether to pursue person-oriented or non-person-oriented fields.

The correlations of the Tests of Social Intelligence and the Social Intelligence Composite with the Concept Mastery Test, the verbal intelligence measure, ranged from -.03 to .27 with a mean correlation of .18. Two of the correlations, those for Missing Cartoons and the Social Intelligence Composite were significant ($p < .05$). These correlations are smaller than those reported by other investigators (Hoepfner & O'Sullivan, 1968; Shanley et al., 1972) and are probably due in this case to the relatively restricted range of IQs sampled, since the subjects were all graduate students. In addition, the two significant correlations are not really meaningful since they account for less than 8% of the variance in social intelligence scores (McNemar, 1962). As O'Sullivan and Guilford (1966) contend, the social intelligence tests measure abilities other than those measured by verbal IQ tests, at least within restricted ranges of verbal intelligence. While Hoepfner and O'Sullivan (1968) warned that the Tests of Social Intelligence may not be useful among verbally gifted persons, the present research suggests that this caution may be unwarranted. The Social Intelligence Composite and the Cartoon Predictions test were able to distinguish among the present groups of graduate students with a minimal contribution from verbal intelligence.

The prediction that no sex differences would be found was confirmed for the Social Intelligence Composite and for three of the four separate tests. On Social Translations, women achieved significantly higher scores. Whereas O'Sullivan and Guilford (1966) combined the norms for the sexes, the present finding, which is consistent with the results obtained by Shanley et al. (1972), suggests that separate sex norms may be required at least for some of the social intelligence tests at some age levels. This accords with the findings of Bronfenbrenner, Harding, and Gallwey (1958) that women score somewhat higher than men in tasks of this sort. The question warrants further research and subsequent studies should examine sex differences.

It is not clear why social intelligence scores in this study were not related to extraversion as measured by the Maudsley Personality Inventory. Hogan (1969) demonstrated a strong relationship (r = .61) between his measure of empathy and extraversion scores as measured by the Meyer-Briggs Type Indicator. Perhaps his empathy test and the O'Sullivan and Guilford tests are not tapping the same skill or possibly the differences are peculiar to the samples. In any case, behavioral cognition and extraversion would seem to be unrelated to one another. One can be socially intelligent and either introverted or extraverted. Perhaps the inconsistent results of some of the earlier studies are in some cases due to their employment of indices like fraternity and club memberships, frequency of dates and the like as indicating social intelligence when in fact social intelligence may be independent of extraversion.

Also difficult to account for are the negative correlations between

word association skill and social intelligence scores. While the
magnitude of the correlations was quite modest and although they
accounted for negligible amounts of variance in social intelligence
scores, they were in the reverse direction predicted by the hypothesis.
Impressionistic evidence suggested that the subjects in the high
person-orientation group (consisting mainly of clinical and counselling
psychology students), the group that achieved the highest social intel-
ligence scores, were "leery" of the word association measure. These
test-wise subjects knew that their responses could be revealing and
many of them seemed to think that it was a test of creativity. They
tended to take great delight in giving unusual responses which, by
definition, lowered their scores. As Walker (1971) warned, experienced
subjects may unwittingly or otherwise subvert experimental hypotheses.
In this case, his "concerned" or his "second-guess" subjects are the
suspected culprits.

The prediction of a significant positive correlation between
password skill and social intelligence scores was confirmed for one of
the individual tests, Cartoon Predictions, and for the Social Intel-
ligence Composite. The magnitude of the correlations, however, was
such that they accounted for less than 8% of the variance in social
intelligence scores. While there is some tendency for skill on these
measures to "go together" the extent of the relationship is quite
modest.

SUMMARY

The purpose of this study was to assess the relationship between social intelligence and students' fields of academic speciality. It was assumed that choice of an academic field at the graduate level represents a serious commitment to pursue this line of endeavor occupationally, beyond the educational period. The measures of social intelligence were four of the Tests of Social Intelligence (Cartoon Predictions, Social Translations, Expression Grouping, and Missing Cartoons), a password test, and a word association test. An extraversion measure and a test of verbal intelligence were also given to assure equality of groups on these variables and to examine their relationship with social intelligence.

Judges were asked to rate a list of occupations for the amount of person orientation they entail. On the basis of these ratings three groups of fields were selected: one high, one intermediate, and one low on the person-orientation dimension. Graduate students in fields subsumed under these three groups were tested. It was predicted that students in high person-oriented fields would score higher on the various measures of social intelligence than those from fields intermediate on this dimension who in turn would score higher than students from low person-oriented fields. In addition it was predicted that scores on the Tests of Social Intelligence would be positively correlated with scores on extraversion, the password test, and the word association measure. It was also predicted that social intelligence scores would be unrelated to sex membership and verbal intelligence.

45

It was found that Cartoon Predictions and Social Intelligence Composite scores differentiated between the low person-oriented group and the intermediate and high groups. The intermediate and high groups did not differ significantly from one another. For Social Translations, Missing Cartoons, and Expression Grouping scores, the groups were not significantly different. Women scored higher than men on only one of the four tests of social intelligence, Social Translations. There was no difference between the sexes on the composite score. Small, yet in some cases statistically significant, correlations were found between the social intelligence tests and the verbal intelligence, password, and extraversion measures. However, even where the correlations were significant, only small amounts of variance in social intelligence scores were accounted for. Contrary to predictions, social intelligence and word association scores were negatively correlated; again, however, only negligible amounts of variance in social intelligence were accounted for by the correlations.

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APPENDIX A

Rating Scale: Occupation and Person Orientation

Listed below is a group of occupations. I would like you to rate each

occupation or type of job for the amount of "person orientation" which

it entails. By "person orientation" I mean a characteristic concerned

with "dealing about or with people". Reserve a rating of 5 for those

occupations with the most person orientation; a 1 for those occupations

with the least. Intermediate occupations will merit a rating somewhere

in between (3 representing a moderate amount of person orientation).

Please circle the number on the scale following each job title to

indicate your rating. Thank you.

		LOW				HIGH
1.	Accountant	1	2	3	4	5
2.	Actor	1	2	3	4	5
3.	Advertising	1	2	3	4	5
4.	Anatomist	1	2	3	4	5
5.	Architect	1	2	3	4	5
6.	Banker	1	2	3	4	5
7.	Biochemist	1	2	3	4	5
8.	Biologist	1	2	3	4	5
9.	Chemist	1	2	3	4	5
10.	Clinical Psychologist	1	2	3	4	5
11.	Counselling Psychologist	1	2	3	4	5
12.	Dentist	1	2	3	4	5
13.	Economist	1	2	3	4	5
14.	Engineer	1	2	3	4	5

		LOW				HIGH
15.	Experimental Psychologist	1	2	3	4	5
16.	Finance	1	2	3	4	5
17.	Journalist	1	2	3	4	5
18.	Lawyer	1	2	3	4	5
19.	Librarian	1	2	3	4	5
20.	Marketing	1	2	3	4	5
21.	Mathmetician	1	2	3	4	5
22.	Microbiologist	1	2	3	4	5
23.	Minister	1	2	3	4	5
24.	Personnel Director	1	2	3	4	5
25.	Pharmacology	1	2	3	4	5
26.	Physician	1	2	3	4	5
27.	Physicist	1	2	3	4	5
28.	Physiologist	1	2	3	4	5
29.	Salesman	1	2	3	4	5
30.	Social Worker	1	2	3	4	5
31.	Sociologist	1	2	3	4	5
32.	Teacher	1	2	3	4	5

APPENDIX B

APPENDIX B
I. PASSWORD INSTRUCTIONS

Today we are going to play a game similar to password. You may
have watched it on T.V. or played it yourself. The object of the game
is for you to correctly guess the word I am trying to communicate to
you. I will attempt to do this by giving you one word clues. For
example, if the mystery word were "chair", I might give the clue "table".
If you guessed "dinner", I might then give the clue "sit". Then you
might guess that the word is "chair". After I give you a clue, I will
wait until you give a one word response before giving the next clue.
Only one guess is permitted for each clue. In order to guess again,
you must wait until I give another clue word. If you cannot think of
a response, say "pass". This will allow me to give you another clue
word. We will continue until you have guessed the mystery word or
until you run out of time. You will have 90 seconds to guess each
mystery word. The exact form of the word must be gotten. For example,
"mud" for "muddy" is not correct. Play will continue until "muddy"
is gotten. I will, however, say "different form" when you are in this
position to let you know that you have the basic word. Any questions?

II. LIST OF PASSWORD STIMULUS WORDS AND THEIR CLUES

CHEESE	THIRSTY	HARDLY	DIAGNOSIS
milk	dry	barely	interpret
yellow	parched	scarcely	doctor
cow	water	infrequently	disease
cheddar	drink	rarity	explain
mouse	hungry	seldom	solve
cottage	need	sparseness	sickness
cream	desert	littleness	recognize
curd	saliva	scant	discover
blue	wet	uncommon	analyze
dairy	throat	sporadically	medicine
holey	unquenched	smallness	test
sliced	dehydrated	insignificantly	answer
food	arid	merely	examine
grilled	quench	almost	cure
moldy	crave	few	prognosis
aged	lemonade	trifle	prescription
crackers	cup	minimally	illness
swiss	sweaty	some	patient
roquefort	hot	maybe	solution
appetizer	beverage	slightly	determine
sharp	salty	bit	discriminate
fondue	desire	paucity	conclusion
mozarella	whistle	partially	render
moon	sun	nearly	define
sandwich	sand	softly	unearth

WORKING	REQUIRE	HEAVY	NORMALLY
laboring	need	obese	regularly
toiling	demand	huge	usually
job	necessary	weight	customarily
drudgery	want	ponderous	average
employing	prerequisite	fat	frequently
operating	claim	light	typically
producing	compel	load	commonly
performing	request	large	conventionally
doing	indispensable	cumbersome	conforming
exerting	desire	hefty	ordinarily
occupation	lack	big	standard
business	essential	scale	habitually
straining	necessity	lift	methodically
busy	must	ton	same
achieving	command	massive	naturally
slaving	insist	burdensome	often
effort	urgent	pressing	generally
plodding	mandate	pounds	rule
task	oblige	dense	orderly
manual	imperative	bulky	uniformity
physical	ask	plump	routinely
construction	implore	sluggish	recurrently
executing	behave	overweight	basically
striving	inclination	gloomy	familiar
effecting	draft	pregnant	everyday
	force		sane
			mean
			median

REHEARSAL	DEEP	RIDICULOUSLY	COMFORT
practice	down	absurdly	sooth
stage	hole	foolishly	console
play	low	stupidly	relieve
performance	wide	silly	ease
preliminary	shallow	nonsense	soften
preview	obscure	preposterously	fondle
encore	bottomless	ludicrously	caress
review	profound	comically	passify
repeated	fathomless	assininely	delight
trial	great	strangely	cheer
duplication	steep	laughably	help
recurrence	vast	mockingly	calm
drill	sunken	ironically	restore
recapitulate	ocean	satirically	refresh
setting	abyss	oddly	appear
reiteration	submerged	funny	talk
lights	penetrating	queerly	encourage
players	canyon	crazily	invigorate
showing	intense	dumbly	cushion
script	dark	folly	assist
reproduction	chasm	antic	pleasure
costumes	engrossed	imbecility	refresh
dress	subterranean	moronically	recliner
before	wise	lunacy	cozy
nervous	pit	ignorant	chair
reappearance		bombastic	lounger
		peculiarly	

MAKE	ABDOMINAL	ESSENTIALLY	MASTERPIECE
create	stomach	necessarily	artistic
form	belly	importantly	painting
construct	lower	needy	excellent
produce	pain	indispensable	great
do	body	basics	work
compel	intestinal	primary	creation
fabricate	paunch	key	perfection
prepare	ventral	fundamentally	superb
compose	guts	requirement	best
build	midriff	crucially	famous
constitute	pelvis	urgently	faultless
mold	gastric	want	sculpture
complete	visceral	intrinsically	prize
manufacture	muscles	inherently	original
fashion	operation	prerequisite	genius
shape	tummy	vitally	museum
erect	bulge	really	valuable
earn	digestion	critically	incomparable
achieve	ulcer	valuable	extraordinary
establish	cramps	entity	paragon
enact	appendicitis	foremost	proficient
bake	pot	potentially	expertness
grow	digestive	substantially	musical
cast	duodenal	core	literary
structure	surgery	major	symphony
	girdle	philosophy	classic
		metaphysics	talent
			artifact

TENDERNESS	CONSIDER	TEMPERAMENTAL	RECKLESSLY
gentleness	ponder	moody	carelessly
affection	reflect	disposition	rashly
love	think	changing	thoughtlessly
soft	muse	irritable	heedlessly
admiration	meditate	spirited	foolhardy
devotion	contemplate	nature	wildly
touching	deliberate	actress	driving
kind	speculate	touchy	impudence
benevolent	weigh	crabby	regardlessly
sympathetic	regard	bitchy	desparately
fondness	resolve	sensitive	defiantly
amorous	examine	emotional	boldly
sentimental	study	sad	rebelliously
sensuous	believe	fluctuating	inconsiderately
delicate	judge	inclination	impulsively
sensitive	reason	idiosyncratical	incautiously
carefully	brood	gloomy	indiscretely
soreness	observe	stormy	impetuously
fragile	discuss	feeling	foolishly
tough	entertain	difficult	forgetfully
meat	debate	headstrong	dangerously
steak	evaluate	highstrung	irrationally
baby	heed	sporadic	irresponsibly
tears	review ·	excitable	daring
warm	mull	childish	accident
mother	question		car
mildness			

APPROVAL SHEET

The thesis submitted by Richard C. Reardon has been read and approved by the following Committee:

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The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the thesis is now given final approval by the Committee with reference to content and form.

The thesis is therefore accepted in partial fulfillment of the requirements for the degree of Master of Arts.

May 19, 1975   _Jeanne M. Foley_
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