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UNIVERSITY MAJOR COURSE AND EXPRESSED VOCATIONAL CHOICE
AS MEASURES OF PERSONALITY TYPE: A TEST OF CON-
SISTENCY IN HOLLAND'S THEORY

By

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In an effort to test for consistency of some constructs in Holland's theory of vocational choice, University major course of study and expressed vocational choice were used as measures of personality type. The Vocational Preference Inventory (VPI) and a demographic questionnaire were administered to a sample of 146 students from Psychology and Business Administration representing Holland's Investigative and Enterprising personality type respectively. This study tested the hypothesis that vocational choices of students majoring in these two areas are not inconsistent with their personality stereotypes as described in Holland's theoretical models. The theory received support with the male groups of both samples, but did not show any consistency for the female groups, who showed preference toward Social and Artistic occupations. The secondary hypotheses about students' self-ratings as a predictor of their personality types and the influence of financial considerations on choice of major discipline and vocations did not receive support. The implications of these results were discussed.

INTRODUCTION:

Holland's theory of vocational choice (1959, 1966) or theory of careers (1973) has as its basic assumption that vocational interests are one facet of personality and that vocational choices are, in fact, expressions of personality. Holland assumes that it is useful to assess people in terms of six personality types: the Realistic, Investigative, Artistic, Social, Enterprising and Conventional. These personality types are not pure because a person might resemble the Realistic type and still show traces of the other types in a descending order of magnitude. Thus, a person's total resemblance to each of the six types form a pattern of similarity and dissimilarity, or culminating in what Holland terms the person's personality pattern.

Corresponding to these types are six characteristic work environments: Realistic (Technical, mechanical and agricultural occupations); Artistic (literary and musical occupations); Social (educational and social welfare occupations); Enterprising (business, sales and managerial occupations); and Conventional (office and clerical occupations). In the occupational classification, each occupation is designated by an ordered arrangement of three letters. These letters indicate the components, in order of importance, which describe the people in that occupation. For example, a psychologist is designated as ISA, that is, Psychologists resemble people in the Investigative occupations most of all, resemble people in the Social occupations somewhat less and people

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in the Artistic occupations still less. In addition to suggesting general behavioural styles of life, Holland's theory permits prediction about the kind of careers or college majors that people in the various categories may elect. A person's performances, such as in vocational achievement, are assumed to depend upon the congruity of his personality type and his work environment.

Previous Research:

In a study designed to test Holland's assertion of a relationship between personality characteristics and vocational choices, Osipow, Ashby & Wall (1966), investigated the relationship between occupational choices and self-ratings based on the descriptions of Holland's stereotypes. Their results reveal that although large proportions of the students made their choices in a manner consistent with Holland's theory, many did not. In particular, they found that the Investigative and Conventional groups did not rate the description in any systematic manner. For the Conventional personality type, most of their occupational choices fell into the Realistic and Investigative categories, a result clearly inconsistent with theoretical considerations. Gross and Gaier, Kre (1974), in a replication of the study by Osipow et al (1966), used college seniors instead of freshmen on the assumption that their academic commitment was likely to be higher. Their results indicate that students with the Realistic, Conventional, Enterprising and Artistic occupational choices selected the predicted stereotypes in significant numbers.

Holland & Lutz (1968), examined the predictive validity of students' choice of vocation using the Vocational Preference Inventory (VPI) and students' expressed choice of vocation. Students' vocational choices were categorized according to the six-category classification scheme developed earlier by Holland. The relationship between initial and final vocational choices, and between VPI high point codes and final vocational choices were examined over 3 and 12 month intervals. Their results indicate that the predictive value of a student's expressed vocational choice was clearly and substantially superior to the VPI. These results suggest that interest inventories should be used with more discrimination and that researchers and counsellors should make greater use of a person's expressed vocational choice. Holland and Nichols (1964) in their third longitudinal study of change in major field of study, were concerned with determining if changes in college major were related to personality types as measured by the Vocational Preference Inventory. They hypothesized that students will remain in a field of study if they resemble the typical student in that field in terms of aptitudes, achievements, and personality. Their results largely supported their contention that students staying in their elected major field resembled typical (that is, VPI typical) students in that field, while students changing their majors were dissimilar to typical students in that field. Thus, their results lend support to the general hypothesis that students tend to sort themselves into fields which are congruent with their personal traits, interests, aptitudes and achievements.

Whitney (1969), in a review of the predictive validity of expressed vocational choice gathered from large sample longitudinal studies found that, in general, a person's expressed vocational choice predicts his future employment about as well as interest inventories or combinations

of personality and background characteristics. Subsequently, Borgen & Selig (1978) reported the superior predictive validity of expressed choices to the Strong Vocational Interest Blank inventories interests. Folsom (1969), in an effort to determine the accuracy of the personal characteristics which Holland ascribes to each personality type, found that the largest number of males in his sample came under the Realistic and Investigative categories. Also, the largest number of females chose majors which placed them under the Social type, with Investigative and Artistic dispositions following respectively.

Walsh & Russel (1969), were concerned with the relationship between students' reported personal adjustment and congruence between their VPI personality type and their choices of college (i.e., University) course majors. From their results, students who made congruent choices of college majors reported significantly fewer personal adjustment problems on the check list than did students who had made incongruent choices. These findings were interpreted as supporting Holland's contention that congruent choices of majors are associated with personal stability while incongruent choices are associated with instability.

While many of these studies indicate that students usually select courses consistent with their type and that types tend to have many of the personality traits attributed to them, there is still evidence of some inconsistency (Hughes, 1972; Lacey, 1971; Osipow, 1970) although, one must observe that these studies did not use college samples. From the studies of Osipow et al (1966), Folsom (1969) and Gross & Gaier (1974), the Investigative and Enterprising types have received either relatively little support or have shown some overlap with one of the other types. Interestingly, from Holland's hexagonal model (Holland et al, 1969), the Investigative - Enterprising class is one of the three pairs of diametrically opposed types (i.e. most dissimilar). From Holland's (1973) revision of his theory, Psychologists were classified as the Investigative personality type, with the ISA (i.e. Investigative-Social-Artistic) personality pattern. Also Bankers and Market Analysts were classified as Enterprising type and coded ECI (Enterprising-Conventional-Investigative) personality pattern.

Using students from Psychology and Business Administration (Marketing and Banking majors) as typical samples of these opposites, this study seeks to determine whether students' choice of college majors and expressed vocational choices from these two categories are consistent with their personality types as described in Holland's theoretical models. In previous work, Holland has used two methods of measuring personality: the Vocational Preference Inventory, and asking students to state their preferred vocational choices which then categorizes them, on the basis of the normative data, into one of the six personality types. These methods were used in this study.

Holland defines a consistent person as one whose two highest personality types are complementary, i.e. its related elements have common characteristics. For example, a pattern such as Realistic-Investigative is consistent because they have many traits in common, while a pattern such as Conventional-Artistic is inconsistent because it entails such oppositions as conformity and originality, control and expressiveness, and business and art (Holland, 1973, pp. 21-22). Holland has shown that the consistency of a student's personality pattern (according to the Vocational Preference Inventory) is positively related to the stability

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of his vocational choice or choice of major field over one to four-year intervals (Holland, 1963, 1968). This study may therefore help to predict the types of students that may drop out of these programmes since personality patterns that are inconsistent are assumed to forecast instability of vocational choice and achievement.

The following hypotheses were tested in this study:

- [a] Vocational choices of students majoring in Psychology and Marketing and Banking are not inconsistent with their personality types as described in Holland's theoretical models.
- [b] Students' description of themselves, using Holland's (1973) Adjective Checklist, would not be predictive of their personality types.
- [c] For the typical student (i.e. VPI typical), students' choices of college majors and vocations are not likely to be influenced by considerations of financing costs and/or financial rewards.

M E T H O D O L O G Y:

Sample:

For the Investigative type, the sample was drawn from Psychology majors in a Nigerian university. Of the total of 98 male and female undergraduates originally selected randomly for this work, 66, (32 males and 34 females) were finally selected because they returned properly completed forms. For the Enterprising type, 115 male and female undergraduates were randomly selected from students majoring in either Marketing or Business Administration from the same university. Of this total of 115, 80 (60 males and 20 females) returned properly completed questionnaires which were used. The students ranged in age from 17 to 35 years, with a median of 21.46 years.

Instruments:

Holland's Vocational Preference Inventory (VPI) (7th revision, 1974) was used. The VPI is a personality and interest inventory which is composed of 160 occupational titles. To respond, a student indicates which occupations he or she likes or dislikes. The inventory yields 11 scores: Realistic, Investigative, Social, Conventional, Enterprising, Artistic, Self-control, Masculinity, Status, Infrequency, and Acquiescence. Reliability coefficients (Kuder-Richardson 20) (Cronbach, 1970) range from .57 to .89 for males and from .50 to .89 for females (Holland, 1970). The inventory shows evidence of construct and predictive validity. For this study, only scales one through six (the personal orientations) were used for the assessment of personality types.

A demographic questionnaire titled "Vocational Interest Questionnaire" was prepared by this author to explore the influence of other factors on students' choices. From Holland's theory, (Holland, 1973, pp. 14-17), thirteen behavioural adjectives descriptive of the Investigative, Artistic and Enterprising personality types were extracted for each category. Students were requested to check as many of these personality characteristics as they consider best describes them. The thirteen adjectives for the Artistic type were included as an intervening variable.

Procedure:

Subjects were first given Holland's Vocational Preference Inventory (VPI) which took 20 to 30 minutes to complete and then given the Demographic Questionnaire, to fill out. Total test period for most subjects was about forty minutes. The researcher made some clarifications on the VPI, such as ensuring that subjects understood the meaning of the various kinds of work listed, before the administration began. There were no difficulties expressed by this sample of University students in terms of understanding the questionnaires.

R E S U L T S:

The means and standard deviations of the VPI scores for the two groups of 146 subjects are given in Table 1. For the Enterprising personality type, the pattern, FCI, for males is consistent with expectations, but not for females. Also, for the Investigative type, the pattern, ISA, is consistent for males, but not for the females. In the Investigative type, females scored highest in Social, followed by Investigative and Artistic, i.e. their two highest scores were reversed. For this group, their personality pattern was SIA instead of ISA as expected. For both the Enterprising and Investigative types sampled, therefore, the expectations were consistent for males, but differed for females.

Table 1: SUMMARY OF VPI SCORES

<u>SCALES</u>	<u>MARKETING & BANKING SAMPLE</u> [Enterprising type]				<u>PSYCHOLOGY SAMPLE</u> [Investigative type]			
	<u>MALES</u> (N=60)		<u>FEMALES</u> (N=20)		<u>MALES</u> (N=32)		<u>FEMALES</u> (N=34)	
	\bar{x}	SD	\bar{x}	SD	\bar{x}	SD	\bar{x}	SD
Realistic	2.3	2.9	2.2	2.6	3.5	3.2	1.4	1.8
Investigative	4.1	3.7	3.5	3.1	6.9	4.3	6.5	4.4
Social	2.5	2.7	3.6	3.4	5.9	4.4	6.6	4.0
Conventional	4.5	3.0	4.8	4.8	2.9	1.2	0.8	1.4
Enterprising	5.9	3.1	6.2	4.2	5.4	3.9	2.0	2.1
Artistic	2.6	2.9	6.1	4.1	5.8	4.3	5.7	3.9
Self-control	9.0	4.3	10.3	2.8	9.3	4.4	10.5	3.9
Masculinity	7.1	2.9	6.9	2.4	7.9	2.7	6.3	2.8
Status	8.0	3.1	8.1	3.3	9.5	2.7	9.4	1.4
Infrequency	5.9	2.4	6.0	1.6	5.8	2.4	5.5	2.5
Acquiescence	9.3	4.3	10.3	3.2	12.0	4.6	10.2	3.6

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For hypothesis (b) , tables 2 and 3 below summarize the stepwise regression analysis.

Table 2
CORRELATION MATRIX FOR BOTH GROUPS
[N = 146]

	Y	X ₁	X ₂	X ₃
Y	1.0000			
X ₁	0.11463	1.0000		
X ₂	0.29437	.48930	1.0000	
X ₃	0.07202	.37855	.50116	1.0000

Where Y = College major (Dependent variable)

X₁ = Self-ratings on Investigative - type personality characteristic

X₂ = Self-rating on Artistic - type personality characteristics

X₃ = Self-rating on Enterprising - type personality characteristics

(Independent variables)

Table 3
SUMMARY OF STEPWISE REGRESSION ANALYSIS
[N = 146]

<u>Independent Variables</u>	<u>R</u>	<u>R²</u>	<u>df</u>	<u>F</u>
X ₁	.30759	.09461	3,142	4.946
X ₂	.30703	.09427	2,143	7.441
X ₃	.07202	.00519	1,144	0.750

The above exercise was undertaken to determine whether students' self-ratings of themselves would be predictive of their personality type. All the above F values were statistically not significant [$>.05$]. The interpretation of the R² in a stepwise multiple regression with regard to "contribution to variance" is not quite clear (see Kerlinger & Pedhazur, 1973, p. 296). In an earlier study, Hughes (1972), using Cattell's Sixteen Personality Factor (16 PF), a self-rating personality scale, had found that self-ratings were not significantly related to types. His results show that only 6% of his sample of 400 men rated themselves in accordance with Holland's theory.

With regard to hypothesis (C), multiple regression was applied to question 6, coding the responses as categorical independent variables, with "preferred vocation," in question 5 serving as the dependent variable. Table 4 below summarizes the results.

Table 4
SUMMARY OF MULTIPLE REGRESSION ANALYSIS ON CHOICE OF
MOST PREFERRED VOCATION (N=146)

Dependent Variable Y = Most Preferred Vocation.

Independent Variables:

	R	R ²	df	F
X ₁ = Influence of college major.	.24032	.05775		ns
X ₂ = Influence of parents	.24096	.05806		ns
X ₃ = Influence of peers	.26264	.06898		ns
X ₄ = Influence of financial considerations	.30998	.09608		ns
X ₅ = Influence of employment market	.32013	.10249	5,140	3.197

The above results indicate that 'Employment market' had relatively the greatest influence (10%) on students' choice of most preferred vocation, even though this influence is statistically not significant (P>.05).

With regard to considerations of financing costs on choice of college major, the chi-square was also not statistically significant (P>.05) as table 5 below indicates.

Table 5
SUMMARY OF X² ANALYSIS ON DEGREE OF INFLUENCE
OF FINANCING COSTS ON CHOICE OF COLLEGE
MAJOR (N=146)

<u>Degree of Influence</u>	<u>Enterprising Sample</u>	<u>Investigative Sample</u>	<u>Totals</u>
Much	31 (31.23)++	26 (25.77)++	57
Little	27 (31.23)	30 (25.77)	57
Not at all	22 (17.54)	10 (14.47)	32
	<u>80</u>	<u>66</u>	<u>146</u>

++ (Expected frequencies in parenthesis)

X² with df=2, is 3.78 (P>.05)

From the above results, we have no sufficient reason to believe that considerations of financing costs have any significant influence on students' choice of major fields of study.

DISCUSSION AND CONCLUSIONS:

The purpose of this study was to examine the consistency of university major course and expressed vocational choice as measures of personality type in Holland's theory of vocational choice. The VPI results shown in Table 1 indicate support for Holland's theory with respect to the male group, but did not show the same consistency for the female samples. This result supports Folsom's (1969) earlier findings in which he found that while the largest number of his male sample were classified under the Realistic and Investigative

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categories, the largest number of females placed themselves under the Social personality type.

The two highest scores for the female group of the Enterprising type in this sample is E-A instead of E-C. Their personality pattern is E-A-C (Enterprising-Artistic-Conventional) instead of E-C-I (Enterprising-Conventional-Investigative) as Holland hypothesized. Likewise, for the Investigative sample in this study, the female scores were in the direction of S-I instead of I-S. Their personality pattern is therefore S-I-A (Social-Investigative-Artistic) instead of I-S-A (Investigative-Social-Artistic) as hypothesized. Thus, females in both personality types tend to give preference to Social and Artistic occupations. Since the theory assumes that the consistency and homogeneity of a student's VPI pattern, or personality pattern, is indicative of the stability of his/her initial vocational choice, what we can deduce from this result is that vocational choices of females in both types in this sample are more likely to be unstable, or that the groups themselves were not entirely representative of Holland's theoretical formulation for those categories, or that Holland's formulation was initially deficient.

Holland (1966) did suggest that both the Social and Artistic personality types were characteristically female. This characterization was supported in subsequent studies by Wakefield & Doughtie' (1973) through factor analysis of the Vocational Preference Inventory. In his Occupational Classification Holland (1973, pp. 111-117) did not give separate codes for males and females, but this would now seem desirable in view of his own observations and other research findings. In fact, in a subsequent paper, Holland (1974), in reply to criticisms about sex differences, admitted that "Men and women obtain different scores on interest inventory scales because they react differently to many items and these sex differences flow largely from the way society treats men and women" (pp. 8).

The tests for hypotheses (b) and (c) were not significant. This leads to the conclusion that vocational choice is a multifaceted variable which cannot be accounted for by any single combination of factors. The fact that considerations of financing costs or financial rewards have no significant influence on students' choice of major fields of study and vocations (even in these difficult times) reinforces the fact that vocational choice is a concrete expression of personality development and is, in part, an expression of the individual's method of adjusting to his environment.

In summary, the evidence reported in this study supports (for males only) the use of the first six scales of Holland's Vocational Preference Inventory as a measure of the six personality types in his theory. The evidence is inconsistent for females. In this connection, Roe's position in her review (Roe, 1964), is pertinent: "Because vocational life histories of women are characteristically different from those of men, and because even for women who follow an uninterrupted career line there are considerations not relevant to men, studies of occupational histories for men and women may require different concepts. It may well be that

occupational classifications, too, should be different for the two sexes" (p. 264). Perhaps Holland's (1966) notion that the vocational development, behaviour, personality and goals for women may differ from those of men, suggests a need for an independent theoretical formulation for each sex.

REFERENCES:

- Borgen, F.H. & Seling, M.J. (1978) Expressed and inventoried interests revisited: Perspicacity in the person. Journal of Counseling Psy. 25, 536-543.
- Cronbach, L.J. (1970) Essentials of Psychological Testing. N.Y. Harper and Row.
- Folsom, C.H. (1969) An investigation of Holland's Theory of Vocational Choice. Journal of Counseling Psychology, 16, No. 3, 260-266
- Gross, L.J. & Gaier, E.L. (1974) College major and career choice: A retest of Holland's theory. Journal of Vocational Behaviour, 5, 209-213.
- Holland, J.L. (1959) A theory of Vocational Choice. Journal of Counseling Psychology, 6, 35-45.
- Holland, J.L. (1963) Explorations of a theory of vocational choice and achievement: II. A four-year prediction study. Psych. Reports, 12, 547-594
- Holland, J.L. (1966) The Psychology of Vocational Choice. Waltham Mass., Blaisdell.
- Holland, J.L. (1968) Explorations of a theory of vocational choice: VI. A longitudinal study using a sample of typical college students. Journal of Applied Psychology Monograph Supplement, 52, No. 1, Part 2, 1-37.
- Holland, J.L. (1970) Manual for the Vocational Preference Inventory Palo Alto, California: Consulting Psychologists Press, Rev. ed.
- Holland, J.L. (1973) Making Vocational Choices: A Theory of Careers. Englewood Cliffs, N.J. Prentice-Hall, Inc.
- Holland, J.L. (1974) Sex differences, sex biases, and interest inventories. Paper delivered at the APGA Convention, New Orleans.
- Holland, J.L. & Nichols, R.C. (1964) Explorations of a theory of vocational choice. III. A longitudinal study of change in major field of study. Personnel and Guidance Journal, 43, 235-242.
- Holland, J.L. & Lutz, S.W. (1968) The predictive value of a student's choice of vocation. Personnel and Guidance Journal, 46, 428-436
- Holland, J.L., Cole, M.S. & Richards, J.M. Jr. (1969) An empirical occupational classification derived from a theory of personality and intended for practice and research ACT Research Report, No. 29 Iowa City: The American College Testing Program.

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- Hughes, H.M. (1972) Vocational choice level, and consistency: an investigation of Holland's Theory on an employed sample. Journal of Vocational Behaviour, 2, 377-388.
- Kerlinger, F.W. & Pedhazur, E.J. (1973) Multiple Regression in Behavioural Research. N.Y. Holt, Rinehart & Winston.
- Lacey, D.W. (1971) Holland's Vocational Models: A study of work groups and need satisfaction. Journal of Vocational Behaviour 1, 105-122.
- Osipow, S.H. (1970) The interaction between occupational environments and personality types. In W. Bartlett (ed.): Evolving Religious Careers. Washington: CARA.
- Osipow, S.H., Ashby, J.D., Wall, H.W. (1966) Personality types and Vocational Choice. A test of Holland's theory. Personnel and Guidance Journal. 45, 37-42.
- Roe, A. (1964) "Personality structure and Occupational Behaviour" In H. Borow (ed) Man in A World At Work, Boston: Houghton Mifflin.
- Wakefield Jr. J.A. & Doughtie, E.B. (1973) The geometric relationship between Holland's Personality typology and the Vocational Preference Inventory. Journal of Counseling Psychology, 20 No. 6. 513-518.
- Walsh, W.B. & Russel, III J.H. (1969) College major choice and personal adjustment. Personnel and Guidance Journal, 48, No. 4, 685-688.
- Whitney, D.R. (1969) Predicting from expressed vocational choice: A review. Personnel and Guidance Journal, 48, No. 4, 279-286.