# VOCATIONAI INTEREST DISSONANCE AND NEED FOR PRESTIGE 

by<br>HUGH MYIES ROBERTS<br>B.A., University of British Columbia, 1962<br>A THESIS SUBMITTED IN PARTIAL FUTFILMENT OF THE REQUIREMENIS FOR THE DEGREE OF<br>MASTER OF ARTS<br>\section*{in the Department Of}<br>PSYCHOLOGY<br>We accept this thesis as conforming to the required standard

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A principal purpose in vocational (i.e. educational and occupational) counselling is to guide counsellees directly or indirectly into jobs in which they will be relatively satisfied and successful. This thesis investigated the nature of one of the determinants of vocational adjustment, namely vocational interest.

Vocational interests can be separated into two basic forms: (I) predicated or affirmed interests, and (2) inventoried or tested interests. In this thesis the relationship between predicated and inventoried interests was studied, not by comparing their powers to predict vocational satisfaction and success, but by examining personality factors apparently related to discrepancies between predicated and inventoried interests in individuals. The question considered was, what causes a person to be dissonant, to have a discrepancy, in his predicated and inventoried interests? Specifically, is prestige need positively related to such dissonance?

Previous studies have shown that 'naivete and stereotypy', one's being naive about occupational activities and stereotyping occupational positions, and 'social pressure' are associated with vocational interest dissonance. Prestige need, however, appears without empirical support as a correlate of discrepancy between predicated and inventoried interests. The present study sought to provide such support.

A Job Choice Inventory was constructed for measuring prestige need. Form D of the WIPCO Vocational Interest Profile was used for measuring inventoried interest, and an Occupational Preferences Blank was constructed for measuring predicated interest. The discrepancy between these interests was used as a measure of vocational interest dissonance.

Although not statistically significant, vocational interest dissonance showed some curvi-linear relationship to prestige need. That is, interest dissonance increased somewhat towards the high and the low extremities of prestige need. Sex evidently did not differentiate this relationship.

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A principal purpose of vocational (educational and occupational) counselling is to guide counsellees directly or indirectly into jobs in which they will be relatively satisfied and successful. For this, information from two principal areas is utilized: (1) personality, or that intrinsic to the counsellee, and (2) opportunity, or that extrinsic to the counsellee. Regarding personality, the two major considerations are aptitudes and interests (Tyler, 1962). Aptitudes are considered to determine mainly job success, and interests are considered to determine mainly job satisfaction (Kuder, 1960), notwithstanding there being considerable interaction between aptitude and interest. Two primary aspects of interests can be considered: (I) predicated interests, i.e. those simply affirmed by individuals, and (2) inventoried interests, i.e. those assessed by psychological testing. In this thesis, the relationship between predicated and inventoried interests was studied as a function of need for prestige.

By the end of high school, vocational interests become fairly stabilized, but various studies have shown that predicated and inventoried interests only tend (r averages about .50) to coincide (Cronbach, 1960, p. 41720). The question arises then, what causes a subject to be dissonant in his predicated and inventoried interests? This study sought to augment the available answer through specifically hypothesizing that prestige need is positively related to said dissonance.

## REVIEW

The vocational guidance value of interest and aptitude tests has, by various studies in the last quarter of a century, been well established (Tyler, 1962). The predictive powers of such tests vary from one type of prediction to another (of choice, of satisfaction, and success), and from one vocation to another (Cronbach, 1960, p. 420-8). Except for the prediction of occupational choice, the relative predictive powers of inventoried interests and predicated interests is unknown (Super \& Crites; 1962, p. 439-41).

The meaning of discrepancy between predicated and inventoried interest in a subject (person) has been supposed by Darley \& Hagenah (1955, p. 61-2) to be: naivete and stereotypy, social pressure ("pressures"), and prestige need ("prestige drives"). They reasoned that these factors influence a subject to predicate certain interests, whereas interest inventories reduce the force of those factors through systematic and circuitous procedures (repetition, camouflage, etc.) and reveal the subject's 'true' interests. The supposition of Darley \& Hagenah has been supported by the findings of two studies with respect to naivete and stereotypy, and to social pressure.

Wrenn (1935) found that unintelligence as measured by the A.C.E. Psychological Examination, is associated with discrepancy between predicated and inventoried interests. Unintelligence - deficiency in scholastic aptitude - is taken as an indicant of naivete and stereotypy. For his measure of inventoried interest, Wrenn used the Strong Vocational Interest Blank; and for predicated interest he used the vocational choices of his subjects, junior college students. Of the high intelligence goup $45 \%$ secured $A$ ratings
in their chosen vocations, in contrast to $22 \%$ of the low intelligence group. Only $3 \%$ of the high intelligence group secured, $C$ ratings in their chosen vocations, but $20 \%$ of the low intelligence group secured $C$ ratings in their chosen vocations. Both this and the folloving study have limitations but were considered pertinent to the background of this thesis.

Norrell \& Grater (1960) found that succorance and order need as measured by the Edwards Personal Preference Schedule, also is associated with discrepancy between predicated and inventoried interests in university sophomores. Succorance and order need (Edwards, 1954) involves a lack of the capacity to rely on one's own resources. Solutions to adjustment problems are sought in dependency relations with others or in trying to achieve certainty and conformity in one's environment. The behavior of such persons is determined to a large degree by people around them, "not by a dynamic interaction between the individual and his surroundings" (Norrell \& Grater, 1960). Thus succorance and order need is taken as an indicant of effective social pressure. For their measure of inventoried interest, Norrell \& Grater used the Strong Vocational Interest Blank. For their measure of predicated interest, they gave their subjects profile sheets similar to the one used in plotting Strong profiles. "The meaning of the letter grades was explained to each subject, and they were then asked to rate their interests on each of the Strong scales." (Norrell \& Grater, 1960) An examiner was available to answer questions which arose. Of twelve needs from the Edwards Personal Preference Schedule used in their study, two were found significantly ( $\mathrm{P}=.05-$ ) related to interest dissonance. These were, as already noted, succorance and order need. Interest dissonance was presented as an aspect of 'self-unawareness' by Norrell \& Grater (1960).
between predicated and inventoried interests.

METHOD

Essentially, the method entailed group testing to provide the data for analysis.

For measuring prestige need. A Job Choice Inventory was constructed by the writer. The Inventory was based upon data on social status of occupations from various empirical materials presented in Nosow \& Form (1962, p. 269-83) and Ruch (1963, p. 498). The Job Choice Inventory contained 72 pairs of job titles, the subject choosing from each pair that job perceived as potentially the more satisfying to him. Within each pair 2 contrasts existed: in occupational area and in social status. Thus in every pair one of the jobs represented a certain occupational area while the other job represented a different occupational area; and one of the jobs represented a fairly high social status while the other job represented a fairly low social status. The 72 pairs were built from 18 job titles. For each of 9 occupational areas below (Smith, 1961; Smith \& McIntosh, 1960) there were 2 job titles, one of fairly high social status and one of fairly low social status. 'Fairly high' means ranked llth through 40th, and 'fairly low' means ranked 5lst through 80 th, in a 90 -levels serial ordering of occupations according to "prestige status", "public evaluation", etc. (Nosow \& Form, 1962). The very high and very low were omitted because of their conspicuousness, and the medial were omitted because of their ambiguity. Not all of the job titles adopted for the Inventory were specifically dealt with in the source material on social status of occupations; some of the job titles were judged equivalents deemed more suitable for various reasons, e.g. 'chartered accountant' instead of the American 'certified public accountant'.

According to occupational area and status rank, the 18 job titles constituting the 72 pairs were

| mechanical engineer | (mechanical; | 23rd) |
| :---: | :---: | :---: |
| automobile repairman | (mechanical; | 59th) |
| chartered accountant | (numerical; | 28th) |
| toll-bridge cashier | (numerical; | 67th) |
| industrial chemist | (scientific; | 16th) |
| radio repairman | (scientific; | 59th) |
| court lawyer | (persuasive; | 18th) |
| travelling salesman | (persuasive; | 53rd) |
| gallery artist | (artistic; | 25th) |
| sign painter | (artistic; | 59th) |
| author of novels | (literary; | 31st) |
| newspaper ad-writer | (Iiterary; | 54th) |
| symphony musician | (musical; | 30th) |
| piano tuner | (musical; | 75th) |
| vocational counsellor | (service; | 29th) |
| first-aid attendant | (service; | 64th) |
| city postmaster | (clerical; | 17th) |
| stock clerk | (clerical; | 67th) |

Each higher status job was compared with every lower status job except the one in the same occupational area as the higher status job. Concomitantly, each lower status job was compared with every higher status job except the one in the same occupational area as the lower status job. This made $9 x 8=72$ items, in 36 of which the higher status job was presented first and in 36 of which the lower status job was presented first. Further, the serial arrangement of the items was randomized for the Inventory. These provisions were to conceal from the subjects the system of the Inventory, thereby to
reduce tendencies to stereotype or fake responses. The jobs in any pair were therefore perceptibly but not conspicuously differentiated according to social status, and obviously differentiated according to occupational area.

The respondents were instructed as follows. "Within each of the following pairs, choose the job which you think would give you the most satisfaom tion. If you are female, please regard all the jobs as if it were completely natural and ordinary for women as well as men to do them. Put a tick inside the brackets after your choice. You will not be 'tripped up' each comparison appears only once."

If a subject consistently chose according to occupational area - if he was unconcerned with social status - then his prestige need score would perforce be a neutral 36. If ihe was consistently attracted to high status jobs he would make all higher status choices, without concern for occupational area. This would yield the maximal (positive) prestige need score of 72 . If he was consistently attracted to lower social status jobs he would make all lower status choices, without concern for occupational area. This would yield the minimal (negative) prestige need score of 0 .

It seemed rational to expect that prestige need, like most mental measurements, would be approximately normally distributed. It further seemed rational to expect that the average measure of prestige need is above neutral, because in our culture a predominantly positive prestige need seems obvious.

For measuring inventoried interest. "Form D of the WIPCO Vocational

Interest Profile (Smith, 1961) was used. This form was used because it omits the profile chart of the regular form which could encourage one to 'cook' the results according to his reaction to the names of the vocational interest categories. This inventory is reviewed in Appendix B.

For measuring predicated interest. On the writer's Occupational Preferences Blank the respondent predicated his vocational interest by stating what occupations he wrould prefer for a career. The instructions were as follows. "What occupations would you prefer for a career? State your choices below. Be specific (if you don't know the specific occupational titles of your choices, describe important details in your own words)."

In order to calculate interest dissonance, the writer judged the pair of WIPCO VIP categories to which each subject's predicated interests ("Occupational Preferences") primarily attached. For the sake of objectivity and reliability, this was done with the aid of the Kuder preference record - vocational form C: administrator's manual (Kuder, 1960). Kuder's practice of regarding two categories as optimally descriptive of given occupations was followed. The summed inventoried ranks of these favored categories approximated the amount of interest dissonance in the subject. For instance, if a subject's predicated interest attached primarily to the highest categories on his inventory profile, there would be minimal discrepancy quantified by the lowest possible score of $1 s t+2 n d=3$. On the other hand, if those categories were the lovest on his inventory profile, there would be maximal discrepancy quantified by the highest possible score of 8 th +9 th $=17$.

The foregoing three instruments were bound together in batteries for the purpose of administration to subjects (Appendix A). In each battery the WIPCO VIP followed the Job Choice Inventory and preceded the Occupa-
tional Preferences Blank. This order was to minimize transfer of response from the Job Choice Inventory to the Occupational Preferences Blank.

Subjects. The sample was 81 students at King Edward Continuing Education Centre in Vancouver City. It was a 'semi-volunteer' group, the students having been persuaded to attend the one administration of the battery on 28 May 1964. Actually 84 subjects attended, but 3 of the questionnaires were spoiled. About a dozen failed to record their age, grade, and sex identity. All but a few of the identified respondents were enrolled in grade XIII, the others in grade XII or taking subjects in both XII and XIII. The modal age was'19, and the mean age estimated at 20. There were 40 males and 41 females, judging sex from various clues in the unidentified questionnaires.

Procedure. The writer and King Edward counsellors supervised the testing session. The instructions which prefaced each battery can be seen in Appendix A. These instructions solicited the cooperation and confidence of the respondents, informed them of the $30-45$ minute duration of the questionnaire, and invited them to ask any necessary questions during the testing. The questionnaire battery was for the most part self-administering.

Processing the data. The correlation between prestige need and interest dissonance was calculated, and tested for significance. The same correlation for male and female subsamples was calculated, and the difference between them tested for significance. Inspection of the data indicated that the relationship between prestige need and interest dissonance was more curviIinear than recti-linear. Therefore the correlation ratio e (eta) rather than the Pearson product-moment correlation was employed, and according to the procedures of Peatman (1963, p. 132-3, 340). Calculations for the significance of $e$ and of the difference between etas were done according to

## RESULTS

Univariate distributions and bivariate distribution of prestige need and interest dissonance were compiled.

Univariate distributions of prestige need and interest dissonance are shown in Figure 1. Prestige need was approximately normally distributed with mean at about 12 points above the neutral ( $\overline{\mathrm{X}}=48.3, \mathrm{~s}=13.0$ ). Chisquare test for non-normality of distribution was not significant ( $P=.26$ for chi-square $=8.89$ and $d f=7$ ). Less than $20 \%$ scored in the negative range, and none scored at either the high or low extremes. Interest dissonance was an ' $L$ ' shaped distribution with' the mode at the low extreme. There were no scores at the high extreme.

Figure 1

Bivariate distribution of prestige need and interest dissonance is shown in Figure 2. This distribution was roughly 'U' shaped, with interest dissonance increasing towards the extremes of prestige need. The curve was fitted to approximate column means.

Figure 2

Data and calculations can be seen in Appendix C.

The association of interest dissonance with prestige need was $e_{y x}=.230$. This was 'significant' at $\mathrm{P} \approx .11$ (one tail). The difference between etas for males and females was .133. This was not significant ( $P=.52$, two tails). .

For the regression of prestige need on interest dissonance, $e_{x y}=.098$


FIGURE 1:


FIGURE 2: BIVARIATE DISTRIBUTION OF PRESTIGE NEED AND INTEREST DISSONANCE
(one-tail $P \approx .68$ ). Eta male minus etafemale $=.092$ (two-tail $P=.67$ ).

## DISCUSSION

Since the magnitude of $e_{x y}$ was negligible this Discussion is based on the regression of interest dissonance on prestige need ( $\mathrm{e}_{\mathrm{yx}}$ ). This was consistent with the belief that interest dissonance ( $Y$ ) is caused partly by prestige need (X), rather than vice versa.

Like most personality variables, prestige need was approximately normally distributed. Further, on the 72 point scale the mean score was about 12 points above the neutral 36. This is in agreement with the upward emphasis in vertical mobility in our society. Interest dissonance had an ' $L$ ' shaped distribution. It is expected that more sensitive instruments providing finer measurement would produce a minor modification, a two-tailed positively skewed distribution. By a priori judgement most persons would have been fairly consonant in their interests, but with many others being 'distorted' in their interests by naivete and stereotypy, social pressure, and prestige need.

The more extreme the prestige need, in either positive or negative direction from neutral, the more discrepancy between inventoried and predicated interests would be expected. A person should predicate his inventoried vocational interest unless something were causing him to predicate a discrepant interest. If one's inventoried vocational interest did not happen to be in that social status most appealing to him either consciously or subconsciously, then his predicated interest would tend to deviate from his inventoried interest in the direction of that most appealing social status. The popularized 'status seeker' has the familiar positive prestige need, whereas the individual with negative prestige need is likely seeking
the 'safety' of low social status. Thus the lower or higher the prestige need, the greater the effect it would tend to have in producing a predicated interest in a different vocational category than the top inventoried categories. The expected ideal bivariate distribution was therefore a bowlshaped curve. The obtained distribution did crudely approximate this curve.

A correlation ratio of from approximately .4 to .6 was thought possible. ${ }^{1}$ This investigation yielded $e=.230$. This shortcoming could be attributed partly to the unreliability of the instrument for measuring predicated interest, and partly to the invalidity of the instrument for measuring inventoried interest. Or, since the null hypothesis was not rejected chance could account for the correlation itself. It was not significant to a conventional degree of confidence. Significance might be achieved either by improving the measures of interests or by increasing sample size. There was no particular reason to believe that sex differentiated the relation between prestige need and interest dissonance; the difference between etas for males and females was insignificant.

Conclusion. Vocational interest dissonance apparently approaches a curvi-linear relationship to prestige need. That is, interest dissonance increases somewhat towards the high and the low extremities of prestige need. Sex evidently does not differentiate this relationship.

In the absence of predictive data attaching to predicated and inventoried interests, the vocational counsellor could ascertain the influence of prestige need as well as of naivete and stereotypy and of social pressure.

1
The rationale for this was as follows: If the variance in interest dissonance was about equally determined by the three factors of naivete and stereotypy, social pressure, prestige need, and also by miscellany, then a perfect investigation would yield a correlation ratio of about .5 between prestige need and interest dissonance.

Thereby he might better take into account the vocational motivation of the counsellee.

## PROSPECTUS

In the preceding chapter it was suggested that the empirical findings for this thesis could be rendered 'significant' either by improving the measures of interests or by increasing sample size. The errors of measurement were ascribed to the deficiency in reliability and in validity of the instruments respectively for measuring predicated interest and inventoried interest.

To increase the reliability of the Occupational Preferences Blank, a substitute Occupational Categories Check-list is proposed and can be seen in Appendix D. It might confuse some respondents whose vocational goals are conceived rather rigidly in titular terms (e.g. the girl who aspires to be a 'nurse' but poorly takes into account nursing activities), but this disadvantage is thought to be outweighed by the advantage it has for those whose predicated interests are conceived partly or wholly in terms of activities. And the Occupational Categories Check-list is superior in objectivity.

In a minor aspect the WIPCO VIP is thought to be invalid. In the third paragraph on the instruction page of this Interest Inventory, the initial page of this Interest Inventory, the instruction to choose activities according to one's likes and dislikes is countermined by "... to think of doing these things as your life work." Thus an 'ought to' set counteracts a 'like to' set. In order to effect a purer 'like to' set, a systematic revision of this paragraph is substituted in the instruction page. The proposed instruction page, with the revised paragraph placed first, can be seen in Appendix D. It was designed to improve the construct validity of the VIP,
orienting the subject to those activities preferred for their own sake. Thus one's predicated interests would be to a greater extent precluded from confounding the inventory profile.

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APPENDICES

## A

Instruments Used

1

Your cooperation is expected to reault in a contribution to scientific reseanchinto vocational guidance.

This is not a 'test'。 Nor does it expose any weaknesses in character, secret loves or hates, or any such thing. All results will be handled only by the researcher.

We are relying on your sincerity to respond honestly, carefully, and privately. It takes from 30 to 45 minutes, and must be completed this period. Do not ponder your responses.

There are 3 parts to this questionnaire. Please do them in the order they appear under this page. put your hand up if you have any questions as you go alongo

Within each of the following pairs, choose the job which you think would give you the most satisfaction. If you are female, please regard all the jobs as if it were completely natural and ordinary for women as well as men to do them. Put a tick inside the brackets after your choice.


Here a student has chosen "Teacher" and "Reporter" as likely the more satisfying to that student. Now you do all the following.

| Symphony musician Radio repairman |  |
| :---: | :---: |
| Newspaper ad-writer |  |
| Symphony musician |  |
| Vocational counsellor |  |
| Sign painter |  |
| Stock clerk |  |
| Gallery artist |  |
| Industrial chemist |  |
| Newspaper ad-writer |  |
| Stock clerlk |  |
| Vocationel counsellor |  |
| Travelling salesman |  |
| City postmaster |  |
| Symphony musician |  |
| Automobile reoairman |  |
| Vocational counsellor |  |
| Automobile repairman |  |
| Mechanical engineer |  |
| Toll-bridge cashier |  |
| Mechanical engineer |  |
| Traveliing salesman |  |
| Toll-bridge cashier |  |
| tuthor of novels |  |
| Sign painter |  |
| Industrial chemist |  |
| Nenspaper ad-writer |  |
| Vocational counsellor |  |
| Piano tuner |  |
|  |  |
| Court lawyer |  |
| Nevsoaper ad-writer |  |
| Industrial chemist |  |
| Travelling salesman |  |
| Sign painter |  |
| Court lavjer |  |
| Toll-bridge cashier |  |
|  |  |
| Travelling salesman |  |
| Symphony rusician |  |
| Piano tuner |  |
| Author of novels |  |
| Gallery artist |  |
| - Newspaper ad-uriter |  |
| Toll-bridge cashier Industrial chemist |  |
|  |  |



| Sign paintor |  |
| :---: | :---: |
| Mechanical engineer |  |
| Travelling salesman |  |
| Author of novels |  |
| First-aid attendant City postmaster |  |
|  |  |
| Vocational counsellor |  |
| Radio repairman |  |
| Author of novels |  |
| Finst-aid attondant |  |
| Author of hovels |  |
| Automobile repeirman |  |
| Symphony musician |  |
| Sign painter |  |
| Chartered accountant |  |
| Nawspaver ad-writer |  |
| Gallery artist |  |
| First-aid attendant |  |
| Stock clerk |  |
| Industrial chemist |  |
| Gallery artist |  |
| Automobile repeirman |  |
| Vocational counsellor |  |
| Diano tuner |  |
| Stock clerk |  |
| Mechanical engineer |  |


$\qquad$ : Age $\qquad$ : Sex $\qquad$ Grade $\qquad$

School $\qquad$ :

The purpose of this questionnaire is to find out what kinds of activities you like to do most, and what kinds you like to do least. You are asked to choose your greatest and least preferences from groups of activities like this example.

| Build | - | - | - |
| :--- | :--- | :--- | :--- | :--- |
| Write | - | - | - |
| Draw |  |  |  |

Notice that it is the kinds of activities that we are interested in here, For this reason the activities are purposely phrased in vague and general terms. In the example above you are asked to consider the activity of writing. You may interpret this in any way you wish. You may think of it as writing stories, or poems or friendly letters, or any other kind of writing that may occur to you. The impcrtant, thing is for you to decide whether you prefer this writing to the other kinds of activities that you must consider along with it.

It is important that you should choose the kinds of activities stric lily according to your likes and dislikes. Do not reject any particular kind of activity because you think you cannot do that sort of thing very well, or because you think that it is not very suitable for making a living. You should consider that you have all the necessary abilities and opportunities, if you do wish to think of doing these things as your life work.

On the next two pages a number of kinds of activities are listed in groups of three; here is an example.

$$
\begin{aligned}
& \text { Work with some form of vegetable life - - M } L \mathbb{C}, \ldots \\
& \text { Relieve pain and suffering - - L L - - - - - - M } \\
& \text { Work with correspondence - - L M - - - - } L
\end{aligned}
$$

Ist - In each group of three decide which kind or class you prefer to do most. Then place a circle around the "M" for most, to its right.
2nd - Decide which of these three you like to do least. Then place a circle around BOTH of the "L"'s, for least, to its right.

In the example above, the student has decided that the most liked item was "Work with correspondence", and so has put a circle around the "M" for most, to the right of the item. The least liked type of activity was "Work with some form of vegetable life." and so the student put circles around BOTH the "L''s, for least, to the right of that item.

You must have three circles, and only three, in each group of three activities. There are thirty of these groups. Be sure to do all of them.

When you are certain that you understand how to make your choices, turn the page and do all the groups on the next two pages.



What occupations wovid you prefer for a career? State your choices relow. Be specific (if you don't know the specific occupationel titles of your choices, describe important details in your own woràs).

Main preference $\qquad$

Other preference $\qquad$

## B

Review of the WIPCO Vocational Interest Profile

## PSYCHOLOGICAL TEST REVIEW

by Hugh Roberts, University of B.C., 1964

1. Title.

WIPCO Vocational Interest Profile
2. Authors.
R.N. Smith, Ph.D., Faculty of Education, University of B.C.
J.R. McIntosh, Ph.D., Faculty of Education, University of B.C.
3. Publisher.

Western Interprovincial Publishing Co.
Box 879, Stn. A,
Vancouver, B.C.
4. Forms, and groups to which applicable.

Printed form and mimeographed Form D, both suitable for adolescents and adults.
5. Practical features.

Apparatus: printed pages; requiring pencil or pen for mariking. Each copy is the complete inventory.

Printed form has 4 pages $8^{\prime \prime} \times 1 l^{\prime \prime}$, p. 1 directions, p. 2 \& 3 the items, p. 4 scoring instructions \& profile chart.

Mimeographed form omits p. 4.
Separate profile charts available for filing individual profiles or for group norms. Users' Guide of 8 pages. Technical Manual of 30 pages.
6. General type.

Psychometric test of vocational interest. Group (non-clinical),
unspeeded, verbal.
7. Date of publication.

Users' Guide 1960, the inventory 1961, Technical Manual 1961 (?).
8. Price of materials.

Specimen set of Users' Guide, inventory, separate profile chart, 50\%. Inventories $\$ 8$ per 100. Separate profile charts $\$ 3$ per 100. Technical Manual 50ф.
9. Time required.

At most 30 min., 5 for directions, 20 for choices, 5 for scoring by testee.
10. Purpose for which reviewed.

Research for vocational guidance counselling.
11. Description of items, and scoring.

The test shows the intra-individual relative strength of interest in 9 vocational areas, numerical, mechanical, scientiric, clerical, persuasive, musical, artistic, literary, \& service.

There are 36 items each of 3 activities. The activities are phrased in vague terms. Each triad comprises activities from 3 different areas.

The testee indicates most liked and least liked activity in each item. Each interest area is compared with each of the other 8 areas 3 times. Weighting choices 2 for most liked, I for medially liked, 0 for least liked, makes a maximal score of 24 and a minimal score of 0 for each area. .

The arrangement of the possible responses ( 1 " $M$ " and 2 "L"s after each activity) in vertical columens by areas (coded so that
testee does not knov the significance of the columns) permits rapid scoring either by the testee or by a clerk. In marking the responses the testee automatically and unknowingly registers these preferences by areas in vertical colums. He encircles 1 "M" for the most liked activity, and 2 "I"s for the least liked, after the corresponding activity in each triad. The fixed-response design makes 1 of the $L s$ co-columnar with the M , giving 2 circles for the most liked activity \& its area, and 1 circle for the medially liked activity \& its area. Thus the scoring procedure is simply to count the circles in each column and transfer the sums to the profile chart.

The mimeographed form has an extra triad, giving 3 areas a maximal score of 26 . The extra item could be deleted, however, to restore balance to the comparisons and scores.
12. Author's purpose and basis for selecting items.

Vocational interest was enalysed to the 9 areas as thought to be at the same time the most meaningful, definitive, and practical. The purpose was to select items unambiguously representative of each area.

Vague activities were selected because particular activities narrow the segment of experience that the testee can bring to bear on his choice, and exclude other relevant experience that the testee might have. Activities for each triad were matched for social desirability, effort required, "visual regard", and general attractiveness.

Itern analysis was done on the principle that ideally every choice made within the triads should be consistent with the corresponding profile. A phi coefficient was utilized to quantify such consistence, across samples of testees, for each combination of 2 activities. Combinations having a phi ( -1.00 to +1.00 ) coefficient "consistently
less than +.50 were considered suitable for revision".
13. Adequacy of directions, training required to administer.

There are explicit directions in the Users' Guide for a tester's administering and scoring the inventory, but both forms of the inventory can be self-administering and both forms can also be self-scoring.

No formal training would be required for administration, but academic training relevant to vocational guidance would be indicated for interpretation and counselling.
14. Mental functions or traits represented in each score.

The fixed-response design, forcing ranking of activities in each item, prevents any measuring of vocational drive, optimism, outlook, or curiosity. The purpose of the test is to measure the distribution, within himself, of the individual's vocational interests.
15. Comments regarding design of test.

This test has a close resemblance to the Kuder Preference Record Vocational. It has the same interest areas as the Kuder excluding the Kuder's loth area "outdoor", and the items are in both inventories triads of activities to be ranked by the testee.

The WIPCO VIP has some definite features beyond the KPR Vocational. Its activities are purposely vague (see section i2). Its equal frequencies of combinations within triads make the area scores directly comparable (see section 1l, of this review). It is shorter to administer and easier to score. It is less expensive.
16. Validity.
(I) Face: High.
(2) Construct: Provided for by the item analysis (see section 12)
and response design (see section 24). Fakability is apparently at least as high as on the KPR - Vocational, which would weaken the construct validity.
(3) Content: Small number of activities is counteracted by vagueness of activities (see section 12).
(4) Predictive: Wanting.
(5) Concurrent:
(a) With the KPR - Vocational as criterion:

A heterogeneous group of 66 grade XII students; intraindividual correlations of WIPCO order of areas with KPR order of areas. Median rho $=.82$. Of the 66 subjects the 2 inventories agreed on the most preferred areas for 38 , and the most preferred area on one inventory was runner-up on the other in 22 of the remaining 28 subjects. This finding was corroborated by 2 other samples, a larger and a smaller than the $N=66$ above.
(b) With certain vocational groups as criterion:

12 groups: 5 male, 4 female, 3 mixed.
Ranges: IN from 28 to 63, age from 15 to 45. Groups were deŝined by WIPCO VIP area according to Vocational aim. The Technical Manual fails to give any quantitative conclusion from the data. The top 'aimed' area was the top inventoried area for $9 / 12$ of the groups.

This study is really a variant in the investigation of to what extent claimed vocational interest agrees with inventoried vocational interest (they correlate about . 50 by \& large -.. Cronbach, 1960, ch. 14).
17. Comments regarding validity for reviewer's purpose.

Satisfactory. Section 16.(5)(b) assures that the test does not
merely measure claimed interests. The purpose of this thesis required instruments which regarded together are sensitive to differences between inventoried and claimed interests.
18. Reliability.
(I) Equivalence: Of split halves, 273 university freshmen gave coef. ficients ranging from'. 95 to .98.
(2) Stability: Over 4 weeks, 64 boys in their "senior year" of an academic high school gave coefficients ranging from . 83 to .91.
(3) Objectivity: Fully fixed-response design would, with careful scoring, give a coefficient of 1.00 .
19. Norms.

The Users: Guide gives 22 norms, presumably all local, in 8 classes: art, clerical, commerce, humaities, mathematical, medicine, science, trades. The 22Ns range from 15 to 134.

A MPCO Vocational Interest Profile Atlas is in preparation.
20. Comments regarding reliability and norms for reviewer's purpose. Reliability: Satisfactory. .

Norms: Such data is impertinent to the purpose of this thesis.
21. Comments of reviewers.

No Journal or Mental Measurements Yearbook reviews yet.
22. General evaluation.

More convenient than the KPR - Vocational. . Predictive validation seems to be the key to a conclusive evaluation. Prognosis thereanent appears good.

Some of the data in the Technical Manual is difficult to interpret for want of quantitative conclusions that more calculations would have
provided. The Users: Guide fails to list occupations that attach to each interest area.
23. References.

The Users'Guide and the Technical Manual.
The Kuder Preference Record - VocationaI.
CRONBACH, Lee. Essentials Of Psychological Testing. 1960, Harper, New York.

## C

Data and Calculations


Variates Grouped and Summed in Arrays and Within Arrays by Sex (Male, Female, \& Dubious)

| $Y_{\text {Iov }}$ (14) | $Y_{\underline{\text { medial }}}$ (37) | $Y_{\underline{\text { high }}}(30)$ |
| :---: | :---: | :---: |
| 5.5 M | 6.0 M | 7.0 M |
|  | 10.0 M | 3.0 F |
| 3.0 F | 6.0 M | 3.0 M |
|  | 3.0 M | 5.0 M |
| 3.0 F | 4.0 F | 5.5 M |
|  | 3.0 M | 4.0 M |
| 5.0 M | 3.0 M | 4.0 M |
|  | 3.0 M | 7.0 M |
| 12.0 F | 3.0 M | 5.0 M |
|  | 3.5 M | 10.0 M |
| 9.0 F | 9.0 D | 4.0 F |
|  | 3.0 F | 5.5 F |
| 5.0 F | 15.0 F | 3.0 F |
|  | 3.0 F | 4.5 F |
| 8.0 D | 3.0 F | 10.0 F |
|  | 3.0 F | 11.0 F |
| 7.0 F | 6.0 M | 8.0 F |
|  | 6.0 M | 6.5 F |
| 7.0 F | 3.0 M | 6.0 M |
|  | 4.0 F | 6.0 F |
| 15.0 F | 5.0 M | 3.0 F |
|  | 3.0 F | 9.0 M |
| 3.5 M | 6.5 F | 6.0 F |
|  | 5.5 F | 5.5 M |
| 4.5 M | 3.0 M | 9.0 M |
|  | 7.0 M | 6.5 M |
| 3.0 M | 6.0 D | 8.5 F |
|  | 5.5 F | 3.0 M |
|  | 3.0 F | $9.5 \mathrm{M}$ |
|  | 3.0 D | $11.0 \mathrm{D}$ |
|  | 5.5 F |  |
|  | 3.0 M |  |
|  | 4.0 M |  |
|  | 6.0 F |  |
| 1 | 7.0 F |  |
|  | 5.0 F |  |
|  | 10.0 F |  |
| $\bar{Y}_{1}=6.46$ | $\bar{Y}_{m}=5.07$ | $\bar{Y}_{\mathrm{h}}=6.30$ |
| £M: 21.5 (5) | 滑: 77.5 (17) | इM: 99.0 (16) |
| इF: 61.0 (8) | $\Sigma F: 92.0(17)$ $\Sigma D: 18.0(3)$ |  |
| $\underline{\Sigma D:} \mathrm{Y}_{1}: \frac{8.0 \text { (1) }}{90.5(14)}$ |  |  |
| $\Sigma Y_{1}: 90.5(14)$ | $\Sigma Y_{4}=187.5$ (37) | $\Sigma y_{n}: 189.0$ (30) |
| $\sum\left(M^{2}\right): 96.75$ | $\Sigma\left(M^{2}\right)=418.25$ | $\sum_{\Sigma}\left(M^{2}\right): 689.00$ |
| $\Sigma\left(\mathrm{F}^{2}\right): 591$. | $\Sigma\left(\mathrm{F}^{2}\right): 654.00$ | $\Sigma\left(F^{2}\right): 565.00$ |
| $\Sigma\left(D^{2}\right): 64$. | $\Sigma\left(D^{2}\right): 126.00$ | $\Sigma\left(D^{2}\right): \frac{121.00}{1375.00}$ |
| $\Sigma\left(Y_{1}^{2}\right): \overline{751.75}$ | $\Sigma\left(Y_{m}^{2}\right): \overline{1198.25}$ | $\Sigma\left(Y_{h}^{2}\right): 1375.00$ |


| $\mathrm{X}_{\text {low (33) }}$ | $\mathrm{X}_{\text {meaial }}(25)$ | $X_{\text {high (23) }}$ |
| :---: | :---: | :---: |
| (ID 3-4.5) | (ID 5-6.5). | (ID $7+$ ) |
| 57 F | 47 M | 48 M |
| 34 F | 26 M | 57 M |
| 63 M | 53 M | 65 M |
| 41 M | 55 M | 28 F |
| 31 F | 65 M | 40 D |
| 38 F | 33 M | 55 M |
| 44 M | 56 M | 44 F |
| 57 M | 47 M | 35 F |
| 36 M | 38 M | 26 D |
| 61 M | 61 F | 65 F |
| 53 M | 37 M | $61 F$ |
| 51 M | 30 F | 64 F |
| 40 M | 67 F | 16 F |
| 44 F | 67 M | 69 M |
| 53 F | 67 F | 14 F |
| 53 F | 68 F | 23 F |
| 58 F | 69 M | 42 M |
| 49 F | 40 F | 58 M |
| 52 M | 42 F | 64 F |
| 52 F | 47 D | 42 F |
| 53 F | 45 F | 64 M |
| 59 F | 47 F | 63 D |
| 56 F | 58 M | 46 F |
| 68 F | 39 F |  |
| 37 M | 51 F |  |
| 20 M |  |  |
| 30 M |  |  |
| 47 F | . |  |
| 50 D |  |  |
| 45 M |  |  |
| - 44 M |  |  |
| $\begin{aligned} & 56 \mathrm{M} \\ & 13 \mathrm{M} \end{aligned}$ |  |  |
| $\bar{x}_{1}=47.4$ | $\bar{X}_{\mathrm{m}}=50.2$ | $\mathrm{X}_{\mathrm{h}}=47.3$ |
| इM: 763 (17) | इM: 651 (13) | $\Sigma \mathrm{M}: 458$ ( 8) |
| $\sum \mathrm{E}$ : 752 (15) | EF: 557 (11) | $\sum_{\sum} \mathrm{F}: 502(12)$ |
| $\Sigma \mathrm{D}: \quad 150$ (1) | $\sum \mathrm{D}: \frac{47 \text { ( } 1 \text { ) }}{}$ | $\sum \mathrm{D}=129$ (3) |
| $\Sigma \mathrm{X}_{1}:=1, \overline{565}(33)$ | $\Sigma X_{m}:=\overline{1,255}$ (25) | $\Sigma \mathrm{X}_{\mathrm{h}}:=1,089$ (23) |
|  | $\sum_{N}\left(M_{2}^{2}\right): 34,805$ | $\sum_{N}\left(M_{2}^{2}\right): 26,788$ |
| $\sum\left(F^{2}\right): 39,092$ | $\sum_{\Sigma}\left(\mathrm{F}^{2}\right): 29 ; 943$ | $\sum_{\Sigma}\left(\mathrm{F}_{2}^{2}\right): 24,944$ |
| $\sum\left(D^{2}\right): \frac{2,500}{}$ | $\sum_{\Sigma}\left(D_{2}^{2}\right): \frac{2,209}{}$ | $\sum_{i}\left(D_{2}^{2}\right): \frac{6,245}{57,977}$ |
| $\Sigma\left(\mathrm{X}_{1}^{2}\right):=78,013$ | $\sum\left(X_{m}^{2}\right):=66,957$ | $\sum\left(X_{h}^{2}\right):=57,977$ |

Calculations for Eta Igx Magnitudes and Significances

All subjects

$$
\begin{aligned}
\Sigma\left(y_{a}^{2}\right) & =\frac{\left(\Sigma Y_{I}\right)^{2}}{\mathbb{N}_{I}}+\frac{\left(\Sigma Y_{m}\right)^{2}}{\mathbb{N}_{m}}+\frac{\left(\Sigma Y_{h}\right)^{2}}{\mathbb{N}_{h}}-\frac{(\Sigma Y)^{2}}{\mathbb{N}} \\
& =33.43 \\
\Sigma\left(y_{w}^{2}\right) & =\left[\Sigma\left(Y_{I}^{2}\right)-\frac{\left(\Sigma Y_{I}\right)^{2}}{N_{I}}\right]+\left[\Sigma\left(Y_{m}^{2}\right)-\frac{\left(\Sigma Y_{m}\right)^{2}}{N_{m}}\right]+\left[\Sigma\left(Y_{h}^{2}\right)-\frac{\left(\Sigma Y_{h}\right)^{2}}{N_{h}}\right] \\
& =599.11 \\
\Sigma\left(y_{t}^{2}\right) & =\Sigma\left(Y^{2}\right)-\frac{(\Sigma Y)^{2}}{N} \\
& =632.54 \\
e^{2} & =\frac{\sum\left(y_{a}^{2}\right)}{\sum\left(y_{t}^{2}\right)}=.053 \\
e & =.230 \\
N \cdot e^{2} & =4.293, \approx x^{2} \text { with af = columns }-1=2 \\
P \approx & .11 \text { (high tail) }
\end{aligned}
$$

$$
\begin{aligned}
& \Sigma\left(y_{a}^{2}\right)=26.64 \\
& \Sigma\left(y_{w}^{2}\right)=145.68 \\
& \Sigma\left(y_{t}^{2}\right)=172.32 \\
& e^{2}=.155 \quad e=.394 \\
& s_{e}=\frac{1-e^{2}}{\sqrt{N-c}}=.143
\end{aligned}
$$

Female subjects (excluding those of dubious sex)
$\Sigma\left(y_{a}^{2}\right)=26.67$
$\Sigma\left(y_{w}^{2}\right)=366.91$
$\Sigma\left(y_{t}^{2}\right)=393.58$
$e^{2}=.068 \quad e=.26 I$
$s_{e}=.158$

Male-female homogeneity regarding the correlation
difference $=.394-.261=.133$
$s_{\text {dif }}=\sqrt{s_{e}^{2}(\text { male })+s_{e}^{2}(f e m a l e)}=.212$
$z_{\text {dif }}=\frac{.133}{.212}=.63$
$P=.52$ (both tails)

A feature of the contemporary world is the richly developed countries' providing vocational assistance to the poorly developed countries. Trained and paid personnel go on temporary job assignments, engaging in diverse activities. Increasing numbers of job assienments lasting from a fev weeks to a few years are expected to become available, givinc many more individuals or teams the opportunity to go on them. They would involve activities in industry \& business, education, recreation \& entertainment, etc.

The purpose of this questionnaire is to find out what kinds of activities you vould like most, and what kinds you vould like least. Assume that you could be trained well for any kind of activity, and would be paid equally for any kind of activity. You are asked to choose your strongest and weakest preferences from groups of activities like the following example.

| Build $-\overline{-}-\mathbf{-}$ |
| :--- |
| Write $-\overline{-}$ |
| Draw $-\quad-$ |

Notice that it is the kinds of activities that we are interested in here. For this reason the activities are purposely phrased in vague and general terms. In the example above you are asked to consider the activity of writing. You may interpret this in any way you wish. You may think of it as writing stories, or poems or friendly letters, or any other kind of writing that may occur to you. The important thing is for you to decide whether you would prefer this writing to the other kinds of activities that you must consider along with it.

On the next two pages a number of kinds of activities are listed in groups of three; here is an example.

lst - In each group of three decide which kind or class you would prefer to do most.
; Then place a circle around the "M" for most, to its right.
2nd - Decide which of these three you would like to do least. Then place a circle around BOTH of the "L":s, for least, to its right.

In the example above, the student has decided that the most liked activity would be "Work with correspondence", and so has put a circle around the "M" for most, to the right of the item. The least liked type of activity would be "Work with some form of vegetable life", and so the student put circles around BOTH the "L"'s, for least, to the right of that item.

You must have three circles, and only three, in each group of three activities. There are thirty-six of these groups. Be sure to do all of them.

When you are certain that you understand how to make your choices, turn the page and do all the groups on the next two pages.



Below are defined 9 occupational categories. Which pair of categories includes the occupation(s) you will likely choose for a CAREER? Underline the 2 categories that best describe the activities of your prospective occupation(s).

K: Activities involving the creation, appreciation or improvement of pleasing visual forms on a pure or applied basis. Still or moving art forms.

D: The practical aspects of recording, classifying, and inspecting - primarily but not exclusively associated with office work and business procedures.

J: The creation or appreciation of the spoken or written word. Activities involving language or literature that is native or foreign, prose or verse, imaginative or practical.

B: Those activities commonly associated with the use of machines, tools or instruments of any description. The designing, operating, or repairing of mechanical apparatus.

H: Activities commonly associated with melodic sound and entertainment of oneself or of others. Involvement with the composition or performance of music.

A: The use of number usually associated with the solution of problems involved in business, industry and the theoretical and applied aspects of the physical, biological, and social sciences.

E: Activities involving interpersonal relationships. Those associated with personal influence over others as in aspects of leadership or selling.

C: Activities pursued with a spirit of enquiry - the search for cause, effect or information generally. Those based on a desire to know or understand.

0: Activities on any level primarily directed to the aid or convenience of others. Promotion of the welfare of individuals or gromps, involving working with them.

