

JOB SATISFACTION AND OTHER INDICES OF
"FOLLOWERS" AND "NON-FOLLOWERS"
OF VOCATIONAL COUNSELLING

by

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DEDICATION

For graciously allowing the infringement of this paper on their way of life, sincere thanks are tendered to the writer's wife and three daughters.

ABSTRACT

This study was conducted to determine whether individuals who followed plans developed in collaboration with vocational counsellors would later reveal greater job satisfaction than would individuals who did not act upon these plans. These two sub-populations are referred to as Group I and Group II, respectively.

A structured interview schedule, together with the Brayfield-Rothe Index of Job Satisfaction, was administered to a random sample of 48 males who resided in the Lower Mainland of British Columbia and who had, in 1964, received counselling from the Vocational Counselling Service for British Columbia. Of the 48 ex-clients, 28 were allocated to Group I by a panel of experts, while 20 were allocated to Group II.

It was hypothesized that six years following counselling, Group I individuals would reveal greater satisfaction with their jobs than would Group II individuals. It was also hypothesized that Group I individuals would have experienced fewer periods of unemployment, fewer changes of employers, a greater number of promotions, and higher incomes in 1969, and that these individuals would rate themselves more capable in their work than would individuals in Group II. Non-parametric statistical techniques were employed to assess the significance of the relationships between individuals in Group I and individuals in Group II with respect to the six variables referred

to above. In no instance could the null hypothesis be rejected at the .05 level.

The results of the study imply that individuals who followed plans developed in concert with counsellors at the Vocational Counselling Service were no more satisfied with their jobs six years following counselling than were individuals who did not act upon these plans. Likewise, those who had acted upon plans developed in collaboration with counsellors had no greater vocational success, as measured by number of changes of employers, number of promotions, income, and their self-ratings of ability for their present jobs than had individuals who had chosen careers different from those planned in collaboration with counsellors. On the other hand, individuals working in occupations similar to those planned in collaboration with counsellors in 1964 experienced fewer periods of unemployment than did individuals in occupations different from those planned with counsellors.

The study offers little support for the contention that vocational counselling as conducted by the Vocational Counselling Service leads to improved vocational adjustment. Indeed, the evidence suggests that many more follow-up studies which incorporate sound research methodology and include a job satisfaction measure are required before the worth of vocational counselling can be accurately assessed.

Findings observed, but not directly related to the hypotheses, are outlined in Appendix C. These included a high correlation between the relatively long Brayfield-Rothe Index and one multiple-answer question incorporated in the interview

schedule. This observation suggested the feasibility of employing a short, but valid measure to assess job satisfaction. Also, a moderate correlation between a question concerning occupational satisfaction and scores on the Brayfield-Rothe Index was indicated. This finding implied an additional problem in evaluating the results of counselling, for it is the general occupation, and not the particular job that the counsellor considers in "predicting" suitable vocations. Further, more individuals in the sample indicated that they would prefer some other job than would choose their present one if they could start out over again in the world of work. Finally, correlation analysis was employed to investigate relationships between scores on the Brayfield-Rothe Index and seventeen variables including age, IQ, and marital status. Of these seventeen variables, three showed significant relationships with the Index. Two of these (income and the obtaining of promotions) were positively related to the job satisfaction scores, while the third (number of years with present employer) showed a negative relationship.

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CHAPTER I

I. BACKGROUND OF THE PROBLEM

That job satisfaction is an all-important factor in the general well being of the individual is exemplified by Pressey and Kuhlen's remarks:

Literally and figuratively work is the center of life. It is the prime concern of most people through their best years. In these years, it is the major factor determining their income, their associates, their status in the community, and their way of life... (67:216).

In the light of the foregoing, anything that can be accomplished to improve the vocational adjustment of members of the work force could be considered to fill a real need of society as a whole. Vocational guidance is an attempt to fill this need, its essential function being to assist people to select careers which they, themselves, will find satisfying.

As the National Vocational Guidance Association has defined vocational guidance, it is "the process of assisting the individual to choose an occupation, prepare for it, enter upon and progress in it." (In this paper, no distinction is made between the terms "vocational guidance" and "vocational counselling.")

There appear, however, to be limited opportunities for adequate vocational guidance in British Columbia. In the entire province, there is one small agency which provides, for a modest fee, a vocational counselling service to the general public. This agency was established by the Vancouver

Rotary Club in 1947, at which time it was known as the "Rotary Counselling Service." In 1951, it was incorporated as a society and re-named the "Youth Counselling Service for British Columbia." Finally, in 1966, the agency received its present name, the "Vocational Counselling Service for British Columbia." That name will be used throughout this study, which will focus on the work of the agency.¹

The 1965 Annual Report of the Vocational Counselling Service states that:

the Vocational Counselling Service is effectively meeting an urgent and basic need....In terms of expenditure there is little doubt that time and money applied to vocational counselling in this period of the late teens and early twenties can yield far greater benefit to the individual and to society, than time and money that would otherwise be spent for social assistance in later years (4:2)

There is, however, little data to support the premise that the agency provides a service that is generally beneficial to the client. A number of follow-up questionnaires have been sent out to former counselees by the Vocational Counselling Service and returns have, in the main, indicated satisfaction with the process. But whether this satisfaction resulted from the solicitous concern of the counsellor, the pleasure of learning that one is above average in ability, or from a change in occupation that had been recommended by the counsellor, is not clear.

¹A brief history of the agency and details of its staff in 1964, and its counselling procedures, appear in Appendix A.

II. PURPOSE OF THE STUDY

The purpose of the study was to discover whether individuals who had followed plans developed in agreement with a counsellor at the Vocational Counselling Service for British Columbia, were, six years later, more satisfied with their occupations than were those individuals who had not. Therefore, the following objectives were set:

To assess the degree of job satisfaction evident in two groups of ex-counselees--those who had followed a proposed course of action and those who had not. In addition, to compare the two groups with respect to a number of variables, including employment record, salaries earned, and self-assessment of ability for occupation in which engaged.

Job Satisfaction

Hulin (47:424) states that job satisfaction "must be considered as a feeling which has arisen in the worker as a response to the total job situation," and Katzell (50:342) declares that it is "the verbal expression of an incumbent's evaluation of his job." This paper assumes that the individual is able to express a valid opinion concerning his satisfaction with his present job; at the same time, it is appreciated that many unknown factors--both inside and outside the job situation--are involved in the formulation of his opinion. As Ewen (29) has summarized, a worker may dislike certain aspects of his job but still may consider it acceptable over-all because "as jobs go, this isn't so bad." This paper is primarily concerned, then, in determining whether

or not individuals who follow plans developed in collaboration with a counsellor are more likely to say their jobs "aren't so bad" than are individuals who chose plans of action different from those outlined by counsellors.

III. THEORETICAL FRAMEWORK OF THE STUDY

Tests as a Means for Predicting Occupational Success

For some sixty years, psychologists have been developing tests to predict occupational success. The First World War gave impetus to the testing movement, as standardized tests were first used en masse to assess the intelligence, aptitudes, and occupational skills of thousands of soldiers in the United States. Again, in World War II, in the placement of military personnel and defence workers, the value of testing was recognized (1). The period since 1945 has been, according to Thorndike and Hagen (83) one of development of test batteries and testing programs for educational and personnel use.

The predictive value of any test depends, of course, upon the degree to which it serves as an indicator of some future behaviour or performance. Typically, in validation studies connected with aptitude tests, the criterion is job success as measured by supervisors' ratings, grades in training classes, output, number of accidents, and so on. It is feasible, however, for a worker to be rated highly efficient in his job while at the same time to be extremely unhappy in the type of work in which he is engaged. Whether

or not ability and satisfaction share a close relationship is by no means clear.

That there is a connection between ability and satisfaction is staunchly supported by Bingham (9:vii) who feels that aptitude testing has become a "strikingly significant phase of twentieth-century life because proficiency in one's work is "vital to happiness and health of mind"; while Strong (79:183) goes so far as to imply that the real objective of vocational guidance is not to assist people to find the work they can do best, but to help them find work they enjoy best, for "a successful man is one who is doing the work he likes best and is getting paid for it."

According to Brayfield and Crockett (16), the literature on vocational psychology is replete with statements which imply that those in the field share the belief that a close relationship exists between job satisfaction and proficiency; their study of attitudes of employees engaged in many types of work, however, disclosed no significant correlation between job satisfaction and job performance.

Kahn (49) has summarized three investigations of the relationship between satisfaction and proficiency, conducted over a period of several years by the Survey Research Center of the University of Michigan. The results disclosed that job satisfaction was related to productivity, but none of the relationships was significant. Kahn was forced to conclude, therefore, that "productivity and job satisfaction do not necessarily go together" (p.275). Ghei (35), too, found little

evidence of a significant relationship among interests, achievement and satisfaction (the latter assessed only by responses to a single question: "If you could go back to age eighteen and start over again, would you select the same career or a different one?"). Upon reviewing twenty studies completed in the last fifteen years, Vroom (92:186) found a medium correlation between job satisfaction and job proficiency of .14. Therefore, he concluded that "there is no simple relationship between job satisfaction and job performance." And in the same vein, Crites (35:516-520), upon studying the accumulated findings on the relationship between satisfaction and success decided that "the relationship which obtains between them, if indeed there is one, is complex and contingent upon the presence or absence of other factors."

Cronbach (26:427) has stated that an individual's achieving of a high score on an interest test "should be interpreted as indicating that if the person survives training and enters the occupation, he is likely to enjoy the work." It would appear, then, that persons with both interests and abilities appropriate to a certain occupation will probably do well in it; those with suitable abilities but unsuitable interests may or may not do well; while those with suitable interests but poor aptitude probably will do badly.

In view of the foregoing evidence, it cannot be claimed that aptitude tests validated on performance criteria are necessarily of value in predicting vocational satisfaction. Although counsellors evidently are prone to suggest that

ability to do a particular job is a necessary concomitant to satisfaction in that job, it seems clear that ability is simply one of the many "other factors" alluded to by Crites (25). At any rate, few counsellors are likely to disagree with the following opinion:

With regard to vocational counselling, it has been shown, despite the limitations of the available research data, that vocational counselling can help individuals choose more satisfying occupations and that its effectiveness is increased when counselling interviews are combined with the use of psychological tests, especially interest and ability tests (44:220-221).

Vocational counselling, of course, involves the consideration of alternatives to those careers which might appear ideal on the basis of test evidence alone. Interest and ability measures are but two of the factors counsellors must bear in mind when suggesting possible careers to clients. The availability of employment, the age of the counsellee, his physical attributes, his past experiences, family background and responsibilities, as well as his motivation and other variables, need to be considered. Then, from a knowledge of the opportunities offered in different occupations, and from an understanding of the abilities required to reach a satisfying level of success, the counsellor is able to encourage his client to explore the career possibilities that appear feasible (9,81,88).

Thus, test scores would likely play a useful, if sometimes subordinate, role in vocational counselling as practised at the Vocational Counselling Service. And so their 1964 Annual Report would imply, with its reference to the various

factors considered in the counselling process including the results of the "extensive battery of psychological tests, designed to help clients assess their abilities and limitations" (3).

The battery of tests used by the Service in 1964 included the following: Kuder Preference Record, Otis Test of Mental Ability, Progressive Matrices, Minnesota Paper Form Board, Bennett Mechanical Comprehension Test, Minnesota Clerical Test, and a spelling test. These tests are described in detail in Appendix B, which also contains representative reliability and validation studies, and assessments by various authorities of the usefulness of the tests.

Job Satisfaction Studies: A Review of the Literature

In this review of the literature, evidence is presented which suggests that vocational counselling can enhance the probability of satisfaction with one's employment. A few studies which suggest that no relationship exists between vocational counselling and job satisfaction are also reviewed. Much of the evidence, however, is based upon incomplete returns of the mailed-in type of questionnaire, and few incorporate all of the criteria for adequacy outlined by Crites (25:511) who, after reviewing a total of 3,000 job satisfaction studies, stated that only "a handful" met the following important criteria:

- 1) Reported empirical findings;
- 2) Were methodologically sound; and
- 3) Included an assessment measure of job satisfaction.

The Brayfield-Rothe Index of Job Satisfaction is one of a number of instruments which purport to meet Crites' third criterion, and as the Index was used in this study it will be discussed in some detail.

Brayfield and Rothe (17) formulated the following criteria as desirable attributes of an attitude scale designed to provide an adequate measure of job satisfaction:

- 1) It should give an index of over-all job satisfaction rather than refer to specific aspects of the job situation.
- 2) It should be applicable to a wide variety of jobs.
- 3) It should be sensitive to variations in attitude.
- 4) The items should be of such a nature (interesting, realistic, and varied) that the scale would evoke co-operation from both management and employees.
- 5) It should yield reliable scores.
- 6) It should yield a valid index.
- 7) It should be brief and easily scored.

The Brayfield-Rothe Index purportedly fulfils the above requirements. A reliability coefficient of .87 has been reported for one large group of office employees of various levels of skill (17). While it is appreciated that the validity of any instrument is "dependent upon relatively arbitrary and subjective definitions of satisfaction" (77), the originators did exercise certain precautions in an attempt to avoid subjectivity. Job satisfaction was inferred from verbal reactions to jobs expressed along a favourable-unfavourable continuum. A marked consistency in evaluating the items was apparent among 77 "experts" who affirmed that "This statement expresses a feeling of satisfaction or dissatisfaction with a job and should be placed at such and such a point along such a feeling continuum" (17). As an

outside criterion of validation, Brayfield and Rothe administered their test to 91 adult night school students in classes in personnel psychology. All students were employed in office-type work of one sort or another, and enrolment in the evening class was considered to be an overt expression of their interest in personnel work. Range of job satisfaction scores for the sample was 28-89, with a mean of 70.4 and an S.D. of 13.2, while the mean of the 40 persons actually employed in personnel work was significantly higher than the mean of the non-personnel group. The assumption that those individuals employed in occupations appropriate to their expressed interests would reveal greater satisfaction than would those employed in inappropriate occupations was thus supported.

That the Brayfield-Rothe Index of Job Satisfaction has been utilized in a number of recent studies provides some evidence of the regard with which it is held. The Index, for example, was employed by Spitzer (77) as "a measure of overall job satisfaction" in a doctoral study of the relationship between satisfaction, work performance, goal attainment, and job withdrawal; Kirchner (52) noted a relationship between scores on the Index and success in sales work; in his study of the predictive value of the Strong Vocational Interest Blank, Schletzer (73) computed fairly high correlation figures for the Brayfield-Rothe and two other job satisfaction tests, the older Hoppock Blank, and the newly developed Job Dimension Inventory; while Ewen (30) employed the Brayfield-Rothe Index in a study which raised some doubts regarding the merit of

weighting components of job satisfaction to estimate over-all job satisfaction.

Objection might be made to the utilization of job satisfaction as a criterion for assessing the worth of vocational guidance. Indeed, Strong (79:12) criticizes job satisfaction as a measure because:

- a) Satisfaction may be an over-all reaction to one's life situation and the factors responsible may, therefore, be impossible to isolate;
- b) too much satisfaction is undesirable--"maladjustment is a motivating force"; and
- c) there are no adequate measures of satisfaction.

However, in spite of the above three objections, Strong could think of "no better criterion...than that of satisfaction enduring over a period of time."

The many hundreds of studies existing in the area of job satisfaction certainly attest to the interest researchers have in this theme. Studies of job satisfaction/dissatisfaction have blossomed to such an extent that the Personnel and Guidance Journal devotes space to a yearly review of the research in this category. The 23rd in this series discloses that 494 studies citing percentages of individuals dissatisfied with their jobs had to that time been reported, ranging from zero to 90 per cent dissatisfied; the median of 13 per cent dissatisfied evidently had held constant for the past decade (69). Roe (70), a long-time investigator in this area, refers to the wide range of dissatisfaction scores as an indication of discrepancies that occur when different research methods and evaluative criteria are employed. Obviously there

are degrees of dissatisfaction, and when authorities report that "it is conservatively estimated that well over one third of all employees have jobs with which they are dissatisfied" (24), it is not clear whether the one-third figure is derived from an arbitrary score on a five-point scaled questionnaire, from the "Yes-No" type of questionnaire, or from some other measure. A review of the literature by Herzberg et al. (44) for example, disclosed 13 to 21 per cent dissatisfied when studies were based "mainly" on the "Are you satisfied with your job?" type of question, but in studies in which the "If you could do it all over again, would you go into the same job?" question was used, the dissatisfaction figure was 54 per cent.

Many of the studies have been of a highly theoretical nature, involving a differentiation between occupational and job satisfaction (41); empirical versus theoretical aspects (74); conceptual problems in measurement (28); goal attainment (77); weighting components (30); needs (11); and so on. The list is almost interminable. For the purpose of this study, however, it appears feasible to review only research that has investigated the link between counselling and vocational satisfaction. In particular, this study relates to investigations of the longitudinal or follow-up type, and it is to studies of this sort that this review will now be directed.

The relative advantages of follow-up studies over immediate post-counselling evaluations of the worth of

vocational guidance are outlined by Gonyea (38). Although he appreciates that evaluation criteria obtained immediately following counselling can be of value in research, Gonyea notes a great deal of disparity between immediate post-counselling plans and plans cited a year or more after counselling. Gonyea observes, therefore, that immediate evaluation "does not appear to be a valid measure of enduring, meaningful effects of vocational counseling."

That there is a paucity of long-term studies which attempt to evaluate the effectiveness of vocational counselling has been noted by a number of authors, including Rothney and Farwell, Brayfield and Crites, and Volsky et al. In 1960, for example, Rothney and Farwell noted:

Only three books evaluating guidance services have been published during the 50 years since such services began, and one describing an extensive followup appeared during the period under review (71).

Brayfield and Crites report that "the bulk of the research relevant to vocational counseling practice is sporadic, fortuitous, unsystematic" (15:317), and Volsky et al. (91) have penned an entire volume illustrating the inadequacies of research in the area of guidance and counselling. A reader of the literature might well be concerned when an authority such as Super cites only three studies to support his contention that:

vocational counseling on the basis of psychological tests results in better employment records...higher levels of job satisfaction...and those who carry out plans made in counseling are more successful than those who do not (80:111).

One of these was published in 1936, another in 1938, and the third (a French study completed in 1955) evidently published only in the French language.

Nevertheless, there are reports of a number of follow-up studies which seemingly illustrate the efficacy of vocational guidance. One of the earliest reviews of "vocationally advised" cases, in 1933, reported predictions to be correct for 79 per cent of a group of 110 young men and women who had been tested and "advised" between six months and three years previously. Although no actual statistics are reported, those in occupations deemed suitable evidently expressed more satisfaction with their work than did others (58). A similar study by Jennings and Scott (48) in 1936 disclosed that 87 per cent of the counsellors' predictions had proved correct, and, in the authors' opinion, "the value of vocational guidance in promoting ability in work [had] been demonstrated." The authors also claim that greater job satisfaction was expressed by those who followed the counsellors' advice, although no actual statistics are provided. The criterion for "correct prediction" is somewhat loosely defined, however, in this and similar studies, for as Paterson et al. (64) have pointed out, it would be unrealistic to restrict correct predictions to the actual job suggestions made by the counsellors; but jobs "similar" to the ones suggested should also be included. (Criteria for "similarity" are outlined in the Revised Minnesota Occupational Rating Scales (20) by the foregoing authors.

A number of follow-up studies of individuals counselled in high schools and colleges have been carried out. Latham (54), for example, conducted a one-year follow-up of high school seniors who had undertaken a mammoth battery of 27 aptitude and interest tests throughout their senior years. Neither greater satisfaction nor better employer ratings were achieved by those whose employment was appropriate to aptitude and interest test results over those who were (on test evidence) inappropriately placed. It should be noted, however, that for some unstated reason test information had not been used in the vocational counselling of any of these individuals. A further negative result is apparent in Wallace's (94) study of school dropouts. It disclosed no significant difference in job satisfaction scores one year after completion of retraining programs deemed suitable by vocational counsellors. "Intensive counseling" of high school students has, however, resulted in more favourable adult behaviour and attitudes, according to the results of an eight-year follow-up study by Merinda and Rothney (60); while Strong (79) found a moderate relationship (.30) between interest scores of college students and later job satisfaction.

Campbell, in The Results of Counseling: 25 Years Later (22) reports the herculean task of contacting 731 out of 768 students (384 matched pairs of counselled and non-counselled males) who had attended the University of Minnesota between 1933 and 1936. The investigator's main conclusions were:

- 1) Students who sought counselling were "mildly"

- different from those who did not. (The difference between the two groups was not significant.)
- 2) The counselled were more successful in all academic areas.
 - 3) The counselled, 25 years later, were both slightly more successful and, according to Campbell, "uncomfortable."
 - 4) Two-thirds of the counselees remembered having been counselled; three-quarters of these thought it "had been helpful" (22:105-106).

The data collected, however, revealed no significant difference in job satisfaction between the two groups.

Contradictory results have been obtained in the area of rehabilitative counselling. In this connection, the largest program of vocational counselling ever attempted was carried out by the American Veterans Administration at the close of World War II. In one sample of 500 rehabilitated veterans, results indicated that 74 per cent were satisfied with the jobs they had managed to obtain in civilian life; of the satisfied men, 60 per cent were holding jobs for which they were trained on leaving the army. Of the dissatisfied, 34 per cent were in work for which they had been trained (51). On the other hand, Porter (66)--after an investigation involving 59 matched pairs of counselled-non-counselled individuals--concluded that "the vocational 'counselling' provided by the Missouri Division of Vocational Rehabilitation is not a critical rehabilitation service in terms of job satisfaction."

Tyler (86:273-275) indicates little need for further proof that those who follow plans developed with counsellors get along better than those who do not. However, to prove her

contention that those who follow the counselling plans are apt to be more satisfied and successful than those who do not, Tyler cites only studies limited in both type of population and in methodology; namely: a) a number of mailed-in questionnaire type of studies by British psychologists concerning young people who left school and went to work in the 1920's and 1930's; b) a 1929 study by Viteles which included 75 out of 91 counselees seen at the University of Pennsylvania in 1923-24; c) a 1935 study of an agency which was in existence for only 16 months; d) a 1942 study involving 81 of 125 ex-counselees who returned questionnaires; e) two studies (with differing results) of job satisfaction of ex-university students; and f) a report on 155 veterans six to 22 months after counselling had been completed.

That there is a need for information on, and evaluation of, local community counselling resources is emphasized by Norris et al. (62) in a recently published text. Obviously, little has been published that relates directly to vocational guidance. One example is a 1942 Canadian study by Webster (95) which was undertaken at the Psychological Institute in Montreal. Responses to a mailed questionnaire were obtained from 81 of 125 individuals counselled from two to five years prior to the follow-up. Results disclosed that the majority of respondents had found the guidance of some slight value, while 51 per cent had followed plans developed with counsellors and claimed satisfaction with their jobs. Similar results were obtained in Cole's (23) study of 100 boys given

vocational guidance at a boys' club and 100 boys (also members) not receiving this guidance. Five years later it was evident that only 28 per cent of the counselled boys wished to change occupations, while 65 per cent of the non-counselled wished to change.

A further study of a community service agency was conducted by Lipsett and Wilson (56). In their follow-up study of clients of the Rochester Institute of Technology's Counseling Center, Lipsett and Wilson made an effort to determine whether individuals with interests and abilities within the range of most people employed in a particular occupation would reveal more satisfaction with their jobs than would individuals in "unsuitable" vocations. As there are apparent similarities between that study and this one, as well as between the two agencies concerned, a relatively detailed review of the Rochester project appears warranted.

The Rochester centre evidently shares much in common with the Vancouver service, for at Rochester,

the main categories of clients are: high school seniors and adults seeking occupational and educational guidance on their own initiative; persons referred by industrial firms in connection with applications for jobs; persons referred by the New York State Division of Vocational Rehabilitation and other social agencies for testing and occupational suggestions. The Counseling Center is currently providing comprehensive aptitude testing and counseling programs for more than 300 clients per year.

Lipsett and Wilson mailed 701 questionnaires to clients who had completed counselling at least one year previously.

An eventual 54 per cent response was achieved, although a good

number of the returns were incomplete in one or more respects. Each respondent was asked to rate his job satisfaction on a five-point scale in response to the query: "If you are employed, how do you feel about your job?" The percentages in each of the five categories were: 1) best possible job for you, 17 per cent; 2) like it very much, 34 per cent; 3) like it fairly well, 28 per cent; 4) indifferent to it, neither strong like nor dislike, 13 per cent; and 5) dislike it, 8 per cent.

Of 204 clients answering the question on job satisfaction, it was possible to find 108 individuals who had also stated their occupations and for whom adequate measures of both interests and mental ability were available.

Libsett and Wilson then attempted to determine whether or not a relationship existed between job satisfaction and measures of interest and ability. The individual's job was considered appropriate to his interests if one of his two highest profiles (percentile scores) on the Kuder Preference Schedule corresponded with Kuder's classification of the occupation. In assessing suitable level of mental ability for the occupation, the individual's rating on the Otis, Wonderlic, and/or Wechsler-Bellevue was compared directly with lists in the Minnesota Occupational Rating Scales. (Where two tests were used, level was considered suitable if either test score fell within the appropriate range for the occupation.)

Only 25 (23 per cent) out of 108 respondents were suited to their occupations in terms of both interests and abilities,

in spite of the rather lenient criteria for determining suitability. All individuals who either disliked or were indifferent to their jobs disclosed academic ability or vocational interests "unsuitable" to their jobs. Of the individuals displaying both interests and abilities suitable to their occupations, 47 (44 per cent) indicated that their jobs were the best possible for them. The results suggest, therefore, that job satisfaction is directly related to both interest in, and ability for, the occupation in which the individual is engaged.

There evidently is a need, however, for many more studies which embody adequate procedures and, in particular, incorporate a standard instrument to assess job satisfaction. Moreover, it is quite likely that there are important differences between counselling offered in secondary schools, universities, armed services and other public agencies which finance both the counselling and the later training, and counselling as practised in private, fee-paying agencies. This diversity, coupled with differences in counsellors within any particular agency, differences in methods of evaluation, and in motivation of counselees suggests that information obtained from one follow-up study cannot be universally applied. At the same time, it is reasonable to assume that the results achieved over a period of time by one agency (barring major changes in staff, policy, or clientele) have a degree of consistency. This paper attempts to determine, then, whether or not following plans of action developed in collaboration with counsellors at agencies similar to the Vocational Counselling Service can lead to vocational adjustment along certain defined lines.

CHAPTER II

DESIGN OF THE STUDY

A structured interview schedule was employed to gather data from individuals who, in 1964, had completed the counselling procedures at the Vocational Counselling Service for British Columbia. In addition, the Brayfield-Rothe Index of Job Satisfaction was administered to each respondent. The following sections outline the hypotheses, the sample characteristics, the method of allocating individuals to Group I or Group II, the design and administration of the research instruments, and the analysis of the data.

Statement of the Hypotheses

This study was designed to test hypotheses which were derived partly from the present investigator's observations while employed as a vocational counsellor, as well as from previous research regarding the circumstances of individuals who have experienced vocational counselling. Two groups of ex-clients of the Vocational Counselling Service were compared, namely: (I) Those individuals who had acted upon plans developed in collaboration with counsellors, and (II) those who had not. In comparing these two groups, it is assumed that counselling, through the use of a variety of techniques, does provide the individual with the self-understanding necessary to plan realistic and promising courses of action. These techniques, which include psychological tests, interviews, and assessment of pertinent background information, are discussed

at length in Appendixes A and B.

Some empirical evidence supports the view that individuals in occupations considered appropriate to their patterns of interests and abilities are likely to reveal greater job satisfaction than do individuals in occupations inappropriate to their interests and abilities (for example, 26,56,79,81). Also, a number of follow-up studies disclose that those who acted upon plans developed in collaboration with counsellors are more satisfied with their jobs than are individuals who had not acted upon plans developed with counsellors (for example, 48,58,80,86,92).

Although a few studies provide little support for the thesis that counselling results in better vocational adjustment (for example, 54,66,94), the hypotheses formulated for this paper are based on the results of the majority of the research in this area. Therefore, as Group I individuals followed plans based on test and other evidence which suggested suitability for certain occupations, and Group II individuals did not, it was hypothesized that individuals in Group I would express greater job satisfaction than would individuals in Group II. In addition, it was hypothesized that:

- a) Group I individuals had since 1964 experienced fewer periods of unemployment than had Group II individuals.
- b) Changes of employers had been effected more frequently by Group II individuals than by Group I individuals.
- c) The average number of promotions earned by individuals in Group I exceeded the number earned by those in Group II.

- d) Average yearly incomes in 1969 were higher for persons in Group I than for persons in Group II.
- e) Those in Group I rate themselves more capable in their work than do the other individuals.

In the preceding chapter, evidence was presented suggesting that those who follow plans developed in collaboration with counsellors are more likely to reveal, later, greater job satisfaction than those who do not follow such plans. In regard to the other five hypotheses, there is evidence to support the assumption that periods of unemployment, changes of employment, promotions, income, and self-rating of ability are related to job satisfaction. For example, Vroom (92) discusses the relationship of job satisfaction to labour turnover, promotional opportunities, wages, and workers' reports of their job proficiency; and Roe (70), a recognized authority in the psychology of work, lists low salaries, instability of employment and lack of promotional opportunities as three major causes of job dissatisfaction.

The 1964 files of the Vocational Counselling Service contain 589 cases. As approximately one-quarter of the clients were referred by agencies such as Haney Correctional Institute and social welfare departments, they were perhaps intimidated into taking advantage of a service for which they, themselves, may have felt no need. It was decided, therefore, that agency-directed individuals should not be included in the sample. A measure of control was thus achieved over the motivation factor--for all individuals in the study were evidently sufficiently motivated to voluntarily seek out the service and to pay for it.

As a corollary to the foregoing, since they approached an agency designed (according to its brochure) to help people "who need advice and guidance in planning their careers and in seeking the jobs for which they are best suited" it can be assumed that these individuals shared a common problem, namely, some degree of vocational dissatisfaction.

In order to control or restrict additional client variables, the study was designed to include only:

- a) Males, 18 years and older (in order to include only those who either had completed their schooling or were in their last year at a secondary school).
- b) Those for whom the vocations proposed could be classified between the levels "lesser skilled" and "semi-professional," inclusive. The effect would be to dispose of the two extremes of the abilities continuum, namely, the "professionals" who would now barely have completed their university training had plans made in counselling been followed; and the "unskilled," a small group of individuals whose atypical disorders, handicaps and general lack of ability would add little to the study.
- c) Individuals now resident in the Lower Mainland area (listed in the Greater Vancouver Telephone Directory as being toll-free from the City of Vancouver). This restriction set up a degree of control over a situational variable; that is to say, the confining of the population to individuals resident within commuting distance of Vancouver implies that all of them had access to the opportunities for training and employment that the metropolitan area has to offer.

The imposition of the above limitations resulted in a total population of 151. Introductory letters¹ were sent to the first 96 of these selected by utilizing a table of random numbers (33).

¹Reprint of letter appears in Appendix D.

As it was critical to this study that a fairly equal division occur between those who were now engaged in occupations planned with counsellors and those who were not, an additional 35 files of individuals randomly selected were made available. However, as it developed that numbers in the two groups were sufficiently close for statistical treatment, no further cases were included.

Of the 48 individuals eventually interviewed, 34 were married, 11 single, and 3 divorced or separated. These individuals ranged in age from 25 to 45, with a mean of 28.2, and 31 claimed to have completed schooling to at least the Grade XII level.

Classification as Group I or Group II

In determining to which of the two groups members of the sample belonged, the opinions of three "experts" were sought. One is the executive director of the Vocational Counselling Service for British Columbia, another, a Manpower counsellor of considerable experience, and the third, a long-time counsellor at Vancouver Vocational Institute. The majority decision, in each instance, decided the placement of each member of the sample. In 38 cases, all three experts agreed as to classification; while in 10 instances the two in agreement decided the issue. The final result was that 28 individuals were designated as belonging to Group I, while 20 were placed in Group II.

Design of the Research Instruments

In view of criticisms levelled at job satisfaction studies which do not incorporate standardized assessment scales (25), care was exercised in selecting an appropriate measuring device. A number of instruments were considered, including the Hoppock Job Satisfaction Blank, the Job Dimension Inventory, and the Tear Ballot for Industry, but all were discarded as being either too long or too specific in content. The Brayfield-Rothe Job Satisfaction Index discussed in Chapter I is described as a measure of over-all job satisfaction by a number of authors (for example, 28,29,77), and upon review, appeared to be the most suitable instrument for the purpose of this study.

Some items on the interview schedule were obtained from a review of the existing literature; other items were developed from the writer's own experience in industry and in vocational counselling, and from worthy suggestions made by the chairman of his advisory committee. After a number of revisions, the interview schedule was printed in its final form.¹ The two individuals involved in administering the interview schedule pre-tested the instrument on a total of six persons--three junior counsellors at the Vancouver City College, and three individuals employed in industry. As a result, the interviewers were alerted to the necessity of adding the category "Once" to Question 21. Also, after

¹Interview schedule reproduced in Appendix D.

interviewing the first respondent of age 25, it was obvious that the category "Under 25" in Question 1 should read, "Under 26."

Administration of the Research Instruments

During the first two weeks of April, 1970, introductory letters were mailed to the total sample of 96. In view of the lapse of time since contact with Vocational Counselling Service had been initiated by the ex-clients, some difficulty in locating members of the sample was anticipated. Indeed, only eight individuals complied with the request to telephone the writer, and a large number of the envelopes were returned "Address Unknown." However, by referring to the Vancouver City Directory, the Lower Fraser Valley Directory, telephone directories of the area covered, and to student files at Vancouver City College, contact was eventually made with 75 members of the sample or with persons who knew of their whereabouts. Of these 75 individuals, 13 had moved out of the area, 11 were unwilling to be interviewed, 2 were full-time students, and one had been unemployed since an industrial accident some three years previously. In short, 48 individuals were left.

Structured interviews were conducted with all 48, commencing late in April and ending in the first week of June, 1970. According to pre-test data, the interview schedule plus the job satisfaction index required approximately 25 minutes to complete. However, few of the actual interviews

were completed in less than 45 minutes, as the respondents were in general inclined to expand upon their work experiences.

Statistical Analysis

To determine whether or not Brayfield-Rothe Index scores achieved by individuals in Group I were significantly higher than those achieved by individuals in Group II, testing for the significance of the difference between two means was carried out. It was proposed that the null hypothesis would be rejected were the t value, using the pooled variance in job satisfaction scores of the two groups, significant at the .05 level.

Chi square was applied to assess the significance of the difference in number of promotions earned by members of Group I and Group II. The Mann-Whitney U Test, with ties, was employed to assess inter-group differences in number of periods of unemployment, number of changes of employers, yearly income, and self-rating of ability. As was the case in assessing the difference in job satisfaction of the two groups, one-tailed tests were applied and the null hypothesis was to be rejected at the .05 level of significance.

CHAPTER III

ANALYSIS OF DATA

As the literature suggests, it is reasonable to assume that good vocational adjustment is a concomitant of a number of factors such as few periods of unemployment, infrequent changes of jobs, feelings of adequacy toward one's job, success as measured by promotions and other criteria, and salary earned (13,36,47,66,80). The main purpose of the study was to determine whether or not persons following plans developed in concert with counsellors showed significantly better vocational adjustment, as measured by the aforementioned variables, and by a standardized job satisfaction questionnaire, than persons not following these plans.

In comparing the two groups, (I) those individuals who acted upon plans developed in collaboration with counsellors, and (II) those who did not, hypotheses were formulated as outlined in Chapter II. For the sake of convenience, the six hypotheses are repeated here:

1. Individuals in Group I would reveal greater job satisfaction than would those in Group II.
2. Group I individuals had since 1964 experienced fewer periods of unemployment than had Group II individuals.
3. Changes of employers had been effected more frequently by Group II individuals than by Group I individuals.
4. The average number of promotions earned by individuals in Group I exceeded the number earned by those in Group II.

5. Average yearly incomes in 1969 were higher for persons in Group I than for persons in Group II.
6. Those in Group I rate themselves more capable in their work than do the other individuals.

Statistical Methods

To determine whether or not Hypothesis No. 1 could be substantiated, testing for the significance of t was carried out, using the pooled variance in job satisfaction scores of the two groups I and II. It was proposed that the null hypothesis would be rejected, were the mean of Group I greater than the mean of Group II at a level of significance of .05. In this hypothesis and the other five hypotheses, one-tailed tests were applied.

In Hypotheses 2, 3, 4, and 6, the Mann-Whitney U Test with ties, was utilized to test for significant differences between Group I and Group II. Chi square was applied to test for the significance of the difference in Hypothesis 5.

Hypothesis No. 1

Brayfield-Rothe scores achieved by individuals who acted on plans developed in collaboration with counsellors (Group I) and those who did not (Group II) are shown in Table I. Also listed is the pertinent statistical information required for computation of the t value. As a t value of 1.68 is required, with 46 degrees of freedom, for significance at the .05 level, the resultant t clearly is not significant.

TABLE I
BRAYFIELD-ROTHE JOB SATISFACTION INDEX RESULTS
SCORES FOR THE TWO GROUPS

	<u>Group I</u>	<u>Group II</u>
N	28	20
Mean	65.89	62.45
SD	11.72	11.9
s ²	137.43	139.73

Sp ²	-	138.38
t	-	1.04
P	-	>.05

Hypothesis No. 2

Question 21 of the Interview Schedule concerned the number of times the respondents were unemployed for more than two weeks over the past five years. The responses of both groups, along with statistical data, are shown in Table II.

Fewer individuals in Group I experienced any unemployment, and the Mann-Whitney test indicated a significant difference between the two groups in their over-all patterns of unemployment. The hypothesis that Group I individuals had experienced fewer periods of unemployment than had Group II individuals is thus supported.

TABLE II
NUMBER OF TWO-WEEK PERIODS OR MORE OF UNEMPLOYMENT
EXPERIENCED OVER THE PAST FIVE YEARS BY
THE TWO GROUPS

	Group I N - 28	Group II N - 20
Not at all	22	9
Once	3	3
Two or three times	3	4
Four or five times	0	1
More than five	0	3
<hr/>		
	U - 172.5	
	χ^2 - 2570	
	z - 2.64	
	P - .004	

Hypothesis No. 3

The number of different employers for whom members of Groups I and II had worked during 1965-69, inclusive, is listed in Table III, together with the Mann-Whitney data. The result of the analysis reveals no significant difference between the two groups.

TABLE III
NUMBER OF DIFFERENT EMPLOYERS OF THE TWO GROUPS
IN 1965-69

<u>No. of Employers</u>	<u>Group I</u>	<u>Group II</u>
	N - 28	N - 20
1	6	5
2	5	4
3	8	3
4	2	5
5	3	1
6	3	1
7	1	0
8	0	0
9	0	1

U - 290

χ^2 - 313

z - .21

P - >.42

Hypothesis No. 4

All respondents were asked whether they had obtained one or more promotions during the past five years. To classify as a promotion, the change in position had to involve responsibility additional to that which would accrue by seniority alone. In most instances, it was clear whether a promotion had been earned by the individual; in three or four cases, a degree of subjectivity was required in the writer's assessment.

Table IV shows the "Yes" and "No" responses to the question "Have you obtained any job promotions during the past five years?" The chi-square value indicates that the two groups do not differ in their responses to this question.

TABLE IV
PROMOTIONS EARNED DURING THE PAST FIVE YEARS BY
THE TWO GROUPS

	<u>"Yes"</u>	<u>"No"</u>	
Group I	12	16	N - 28
Group II	10	10	N - 20
<hr/>			
	χ^2	-	2.40
	P	-	>.10

Hypothesis No. 5

Income earned during 1969 by members of the two groups is depicted in Table V, along with Mann-Whitney U Test data. Analysis indicates that the over-all difference between the two groups is not significant.

In view of the reticence shown by 11 ex-clients about co-operating in the study, as shown by their unwillingness to be interviewed, it is reasonable to assume that they would more likely be in Group II ("non-followers") than in Group I and more likely to have earned lower, rather than higher, incomes during 1969. Therefore, the inclusion of these 11 individuals could have resulted in rejection of the null hypothesis, for the disclosed difference between the two groups approaches the .05 level of significance.

TABLE V
INCOME EARNED BY THE TWO GROUPS
DURING 1969

	Group I N - 28	Group II N - 20
\$ 3,001 - \$ 5,000	2	7
\$ 5,001 - \$ 7,000	15	6
\$ 7,001 - \$ 9,000	5	5
\$ 9,001 - \$11,000	6	1
\$11,001 - \$13,000	0	1

U - 345.5

ΣT - 940.5

z - 1.44

P - $> .075$

Hypothesis No. 6

Question 29 of the Interview Schedule asked the respondent to rate his ability for his present job. The five answers possible appear in Table VI, together with the responses of individuals in Group I and Group II, and statistical data. The Mann-Whitney test indicates no significant difference between the two groups.

TABLE VI
RATINGS BY THE TWO GROUPS OF THEIR ABILITY
TO PERFORM THEIR PRESENT JOBS

	<u>Group I</u>	<u>Group II</u>
	N - 28	N - 20
Poor	0	0
Slightly below average	0	0
Average	8	8
Better than average	11	7
Very good	9	5

U - 316

T - 1052

z - .80

P - >.21

It is evident from the analysis of data that the null hypothesis cannot be rejected for Hypotheses 1, 3, 4, 5, and 6, for Group I individuals revealed no greater job satisfaction than did Group II individuals. Neither did those in Group I experience fewer changes of employers, more promotions, or higher incomes than did individuals in Group II. Further, self-ratings of ability evidently did not differ for the two groups. However, the null hypothesis was rejected for Hypothesis 2, as Group I individuals experienced significantly fewer periods of unemployment than did Group II individuals.

CHAPTER IV

SUMMARY AND IMPLICATIONS

In evaluating the effectiveness of vocational counselling, researchers have generally relied on ratings devised by professional counsellors, who have judged the suitability of a vocational goal according to interest, intelligence, and aptitude test results of the counselees. Although the outcome appears to prove the worth of vocational counselling, most studies actually have had limited value, because they have compared test evidence with the individual's immediate plans, not with what actually happened. Also, the studies have largely involved university students, and have assessed the quality of counselling on the basis of partial returns of mailed questionnaires.

A few investigations in the United States have traced and interviewed random samples of individuals who underwent counselling some years previously, but no similar studies have been undertaken in Canada. This study represents an attempt to fill this need, and has proceeded on the assumption (a) that it is desirable for people to be happy in their work, and (b) that answers to questions relating to job satisfaction accurately reflect the individual's true feelings.

I. SUMMARY

A structured interview schedule, along with the Brayfield-Rothe Index of Job Satisfaction, was administered to 48 males who had, in 1964, experienced counselling at the Vocational Counselling Service for British Columbia. The sample ranged in age from 25 to 45, with a mean of 28.2; and all were living in the Lower Mainland area. These 48 individuals apparently shared the perplexity of being either dissatisfied with their work, or unemployed, when they sought the assistance of counsellors some six years ago. A panel of experts determined that 28 individuals in the sample had acted upon the plans developed in collaboration with counsellors, while 20 had not. These two sub-populations were referred to as Group I and Group II. The purpose of this study was to try to determine whether Group I, which had followed plans developed with counsellors, experienced a higher degree of job satisfaction than Group II, which had not followed these plans.

Testing of the Hypotheses

Non-parametric statistical techniques were employed to determine whether or not the two groups differed significantly with respect to the following variables:

1. Job satisfaction as assessed by the Brayfield-Rothe Index.
2. Number of periods of unemployment.
3. Number of changes of employers.
4. Number of promotions earned.
5. Income in 1969.
6. Self-rating of ability to perform their jobs.

The supposition that the two groups would differ with respect to job satisfaction was not substantiated. The mean score of Group I was 65.89, while the mean of Group II was 62.45. The difference between these two means is not significant. The mean score of the total sample on the Brayfield-Rothe Index was 64.46. This result differs little from the mean of 63.8 disclosed in Brayfield and Rothe's (17) study of 231 employed office workers.

The number of times when members of the sample were unemployed for two weeks or more was ascertained. Twenty-two individuals in Group I and nine in Group II reported no unemployment since 1964; three individuals in Group II stated that they had been unemployed more than five times during that period. Moreover, analysis revealed a significant difference between the two groups in respect to number of periods of unemployment. Group II individuals had experienced more periods of unemployment over the past five years than had Group I individuals.

Evidently, a majority of individuals had changed employers at least twice since 1964. Changes reported by Group I individuals ranged from one to six; for Group II individuals, the range was one to eight. The number of changes of employers made by both groups did not differ significantly.

Promotions were claimed to have been earned over the past five years by 22 of the 48 ex-clients. Twelve of the promotions were earned by members of Group I, and ten by members of Group II. The difference in number between the two groups was not significant.

Almost one-half (21) of the 48 individuals reported 1969 earnings in the \$5,001 - \$7,000 range. The lowest incomes reported were in the \$3,001 - \$5,000 category, while the highest income, earned by one individual, was in the \$11,001 - \$13,000 category. Incomes earned by the two groups did not differ significantly.

All members of the sample rated themselves at least average in their ability to perform their jobs. Nine in Group I and five in Group II gave themselves top ratings ("Very good"). There was no significant difference in the ratings of the two groups.

According to the results of this study, it made little difference whether or not ex-clients of the Vocational Counselling Service acted upon plans formulated with counsellors. While those who followed plans experienced fewer periods of unemployment than those who did not, the "followers" were not more satisfied with their jobs, changed employers as often, earned neither more promotions nor significantly higher incomes, and did not rate their job ability more highly than did the "non-followers".

The study has not proved that the Vocational Counselling Service was of little help to its clients in 1964; neither does it substantiate claims made by the agency in annual reports and brochures of the value of its services. Although the evidence disclosed that ex-clients who followed counselling plans were not so frequently unemployed as were those who did not follow counselling plans, it would be imprudent to formulate sweeping

generalizations on the basis of this paper. In fact, the main conclusion might well be that pretentious generalizations made in the literature should be viewed with a degree of skepticism.

II. IMPLICATIONS

From the findings, one might be inclined to agree with Metzler (61), who declares that guidance and counselling programs are "operating primarily on assumptions rather than on evidence,..." and with Rothney and Farwell (71), who feel that guidance services are "offered largely on the basis of hope and faith." As pointed out in the review of the literature, however, these negative opinions represent a minority view. In other words, the results of this study oppose opinions regarding the efficacy of counselling, expressed by authorities such as Super and Crites (25,80,81,82), and are at variance with results disclosed by long-term follow-up studies relating to job satisfaction (13:496,48,51,54,56,76,86:273-275). However, it should be mentioned that at least five of these studies involved mailed-in questionnaires; for the other two (13,76), the method of obtaining data is not known. It is perhaps significant that two other studies which involved personal contact with pre-selected populations (22,66) agree with findings of this study.

It cannot be determined whether the two groups are more, or less, satisfied with their jobs than are other groups of workers in this country. Unfortunately, comparison figures are difficult to obtain, owing to the diversity of measuring instruments employed in job satisfaction studies, and the

fact that few studies report actual test scores. A search of the literature disclosed no Brayfield-Rothe scores for a group of workers in a variety of jobs similar to those represented in this study.

Because the influence of variables affecting vocational satisfaction are by no means clear, there is a need for replication of much of the research done thus far, with an emphasis on longitudinal studies. However, as Crites (25) reports, more care must be taken to adopt sound research methodology, especially to develop a job satisfaction measure of recognized merit.

As noted in Appendix C, answers to the question "How do you feel about your present job?" showed a marked correlation (.78) with scores on the Brayfield-Rothe Index. Therefore, in situations where a rapid assessment of employees' attitudes toward their jobs is required, the use of this one question seems warranted. For example, it would be feasible for a counseling service to include this question as a regular part of its test battery or personal history form. The data derived could prove of particular value in follow-up studies of the agency's clients.

The moderate correlation (.51) between occupational satisfaction and job satisfaction indicated in Appendix C suggests a further difficulty in assessing the worth of vocational counseling. It is likely that in some instances, job satisfaction scores reflect dissatisfaction with certain aspects of the job (a vicious foreman, for example) and not with the occupation itself.

Therefore, the counsellor's "prediction" of what should prove to be a satisfying occupation may not be substantiated because of extraneous circumstances, not because of inadequacies in the counselling process.

Table VIII of Appendix C illustrates that more individuals would choose different jobs than would choose their present ones, were they able to revert to age 18. Whether or not this is simply a reflection of the "far fields are greener" adage or of real dissatisfaction with employment is not known. If the latter is the case, responses to this question provide further proof of the need for wise counsel. For as Roe (70:31) has stated:

there is no single situation which is potentially so capable of giving some satisfaction at all levels of basic needs as is the occupation.

As pointed out in Appendix C, factors other than the job itself (such as age, intelligence, and marital status) may influence the degree of satisfaction an individual gains from his job. Of the seventeen variables investigated, only three showed significant relationships with Brayfield-Rothe Index scores. Of these three, two (level of income and the obtaining of promotions) showed positive relationships; while one (number of years with present employer) was negatively related to the Index. Evidently, then, the more money one is paid for his services, and the more recognition he receives in the form of promotions, the more satisfied he is likely to be with his job. On the other hand, the longer one remains with an employer (within the limits encountered in this study), the less likely he is to be satisfied with his employment.

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APPENDIX A

APPENDIX A

I. BACKGROUND OF THE VOCATIONAL COUNSELLING SERVICE FOR BRITISH COLUMBIA

Organization

Largely due to the initiative and generosity of the Vancouver Rotary Club, the Vocational Counselling Service for British Columbia was established in 1947 in premises donated by the Burrard Street Branch of the Y.M.C.A.

The Rotary Counselling Service, as the agency was first termed, met with almost instant acclaim. With no paid advertising and very little publicity, the agency was soon working to capacity, so that within two months of its inception it was reported that 146 young men had been interviewed and 55 had completed tests (Vancouver Sun, Nov. 24, 1947). Other community agencies were evidently quick to appreciate the value of the counselling service; for example, the Department of Veterans' Affairs, the Workmen's Compensation Board, children's aid societies, welfare departments, and the National Employment Service referred individuals for assessment by the service. Within a few months, a waiting period of three weeks was necessary before a client could arrange an interview with a counsellor.

When the counselling service was supported solely by grants from the Vancouver Rotary Club, it was estimated that an annual budget of \$5,000 would suffice. However, the

demand for counselling proved this sum to be inadequate, and it has been exceeded every year since the first. Indeed, the most obvious message contained in every annual report since the agency was established is that it urgently needs greater financial support.

The agency was incorporated as a society under the Societies Act in 1951, when the Rotary Club formally turned over management of the operation to an independent board of directors consisting of six men of varying backgrounds; since 1962, there have been 22 individuals on the board. For the next fifteen years, the agency was known as the "Youth Counselling Service for British Columbia." In 1970, after some twelve years at the Pender Street address, the agency moved to its present location at 2617 East Broadway.

The Rotary Club continued to provide some financial support to the agency until 1955. In 1954, grants were received from both the provincial government and the United Community Services of Greater Vancouver, and financial assistance from both sources continued until 1969. In that year, the United Community Services indicated that its support would gradually be withdrawn over a three-year period, with the expectation that the provincial government would increase its contribution in accordance with the recommendations of the Barclay Report of 1965.

Prior to 1954, no charge was made for counselling, but that year the board decided to request a fee of five dollars from every client deemed able to pay. In 1962 this fee was

raised to seven dollars, in 1965 to fifteen dollars, and in 1968, to twenty-five dollars. Early in 1970, the charge was set at thirty-five dollars.

In 1969, a decision was made to issue typewritten reports to each counselee, and the fee now includes this report of test scores and a brief summary of the counsellor's interpretations and suggestions.

As the agency had always been primarily vocational in nature, and as there was no upper age limit for those who wished to avail themselves of its services, the name was changed in 1966 to "Vocational Counselling Service for British Columbia."

Staff During 1964

Throughout the first half of 1964, two individuals constituted the total full-time staff of the Vocational Counselling Service--one psychometrist-secretary and one counsellor. (A replacement for the acting executive director who had resigned late in 1963 had not yet been made). During this period, a part-time counsellor was employed on a one-evening-per-week basis. In June, 1964, a second full-time counsellor joined the staff, while in October of the same year an executive director was appointed to serve in a part-time capacity.

Members of the staff brought to the service varied backgrounds of experience and diverse professional qualifications. The psychometrist-secretary, an honours graduate in psychology, joined the agency following several years of experience in

clerical and secretarial capacities. The full-time counsellor, following a number of years of experience in industry and the receipt of a bachelor's degree in psychology, had completed an internship in vocational counselling with the Department of Labour and Industry, New South Wales, where he spent four years as a guidance officer.

The junior counsellor also held a bachelor's degree in psychology, had been active in youth work, and had held a variety of technical and other jobs prior to becoming a member of the staff. The new executive director (appointed initially on a one-third time basis) had a doctoral degree in psychology. For a number of years, this individual held a position as lecturer and counsellor at the University of British Columbia; more recently he had held a Civil Service appointment (Citizenship and Immigration), a position from which he had retired in 1963. Finally, the part-time counsellor, with a master's degree and some experience in industrial psychology, was at that time a counsellor at the King Edward Continuing Education Centre.

II. THE COUNSELLING PROCEDURE

Counsellors at the Vocational Counselling Service evidently based their discussions upon information obtained from both preliminary and final interviews, from forms completed by the client (a personal history form and an "Interest in Occupations" questionnaire), and from a battery of tests. In

fact, the procedure followed by the agency so closely follows the pattern described by Samler (in his description of a typical vocational counselling agency) that it seems appropriate to reproduce his words:

The procedure in the typical vocational counselling setting seems to be about as follows. The client, however he does it and with whatever motivation, applies for counseling. Probably he fills out a personal history form and has one or more interviews. Objective testing may be extensive and sometimes carry the entire task of providing data, or it may be limited to specific purposes. In what is at present sound practice at these stages in the process, the counsellor formulates hypotheses for his client's consideration relative to his probable functioning in educational preparation for work and in work itself (72:412).

Simply stated, it would appear that the process of vocational guidance involves counselling clients in individual interviews, using data derived from instruments such as tests and personal history forms. Each of these elements will be discussed briefly.

Counselling

Today there are counsellors of many sorts--investment counsellors, marriage counsellors, camp counsellors, and so on --each supposedly trained to assist people by using techniques peculiar to his own specialty. Counselling, as practised by the Vocational Counselling Service, related very closely to the description of counselling characteristics outlined by McGowan and Schmidt and might be described, therefore, as follows:

- 1) It is a social learning interaction between two people, ranging somewhat between simple advising and long-term psychological treatment.

- 2) The recipients of the service are generally called "clients."
- 3) The concern is usually with normal rather than with abnormal individuals.
- 4) Clients may be upset or frustrated at the beginning of counselling, but are not usually psychologically disabled or disintegrated.
- 5) A primary aim is to help clients understand and accept what they are, and to realize their potential.
- 6) Although listening and talking are the primary methods, psychological tests, biographical histories and outside resources are usually employed.
- 7) Attention is paid to extra-counselling as well as intra-counselling events and changes.
- 8) More emphasis is given to the positive and obvious than to the negative and unconscious in the counselling process (57:3-4).

In more theoretical terms, counselling at the Vocational Counselling Service might be said to be a melding of the "correlational" stream of psychology with the "experimental" as described by Cronbach (26). That is to say, not only has the procedure been to appraise the individual (comparing him with standardized reference groups) for the purpose of finding his niche in the world of work and elsewhere (the "correlational" approach), but regard has been taken of various treatments (courses in vocational training, remedial reading, and so on) that might lead to more effective functioning by the individual (the "experimental" approach). Goldman (37:13) has pointed out that "the user of tests in counseling should be able to benefit from a careful synthesis of selected elements from both approaches."

Interviews

Although it is obvious that interviewing methods and techniques would vary somewhat within any agency, there is no

evidence to suggest that the counsellors involved in this study differed significantly in their philosophies regarding counselling, or in their ability as counsellors. In any event, the philosophy of the agency clearly outlined in the 1964 Annual Report, and it seems likely that counsellors employed therein would agree that the interview should be

...conducted along permissive lines, and no attempt ... made to tell the client what he should do. Rather it is an informal discussion, in which the individual's capacities and characteristics can be objectively viewed, and assessed in relationship to the alternatives between which he is deciding. During the interview, the counsellor interprets the test results, questionnaire, and other evidence, provides information about the many types of occupations and training courses, and attempts to help the client plan realistic and promising courses of action. Sometimes this means encouraging and motivating the individual towards considering hitherto unthought of objectives, and giving the encouragement and incentive that he has seldom if ever before received. At other times, it entails helping the client to view himself and the world of work more realistically, directing his attention towards objectives more readily attainable than the goals he has previously set for himself. Underlying these basic considerations are the personal, social, and emotional factors which govern individual decisions, and are parts of the total situation. Here, in the objective but positive and constructive counselling interview, clients find themselves able to clarify many of the hopes, aspirations, difficulties and fears which influence their lives, and as a result more easily understand their own problems and find solutions.

Every client of the service was accorded a minimum of two interviews. The first was usually of one-half hour's duration, and its primary purpose was to acquire background information from the client, determine his problem, explain the nature of the service, and mutually determine whether testing and counselling could help him. The second interview usually lasted

an hour and, as pointed out above, the counsellor at this stage presented evidence derived from testing and other sources, made practical suggestions, and in a non-directive fashion assisted the client to determine an appropriate occupational goal.

Instruments

In addition to the test battery, described at length in Appendix B, each client of the Vocational Counselling Service completed (at home, between initial interview and testing) a personal history made up of five pages. (With only minor revisions, this form remains in use today).

On Page 1, in addition to giving data such as his name and address, the client is requested to list other cities and towns in which he has lived, and state whether he has previously taken psychological tests. Here, and on the back of the page, he is asked to outline fully the reasons why he is seeking guidance.

Military service, if any, is listed on Page 2, although most of this page is reserved for educational experience (including night school, vocational training and miscellaneous courses). Information regarding problems in school, subject preferences and grades is also requested. Page 7 is reserved for employment background, with questions concerning likes and dislikes in previous jobs, a self-rating of his capacities for work he has done, pay he considers adequate at present and in the future, occupations contemplated in the past and at present,

and careers that may have been suggested by other people.

On Page 4, the client is asked questions relating to his spare-time activities, including club membership, sports, religion, reading habits, entertainment, and social activities. On Page 5, he is asked to supply information on family and personal background, i.e., parents' occupations and interests, occupations of brothers and sisters, his marital status and living arrangements. Also, on this page, he is asked for certain physical and health data.

At home the client completed an "Interest in Occupations" questionnaire naming some 200 of the more common vocations arranged into 17 groups such as "Practical Trades," "Transport Work," etc. The client was asked to put a cross (x) against any occupation he would like to follow; a dash (-) against any occupation he would dislike; and a zero (0) against all occupations about which he does not know enough to mark with either a cross or a dash. Also, he was asked to list any three occupations he would most like to follow. (This form was introduced part-way through 1964 and thus was not completed by all members of the sample. The questionnaire evidently has been of some value, however, as it remains in use.)

APPENDIX B

APPENDIX B

TESTING--A BRIEF OVERVIEW

According to Anastasi (1), interest in individual differences and their measurement gained impetus in 1882 when Sir Francis Galton established his anthropometric laboratory in South Kensington Museum, London. Since Galton's time, man has sought to measure his psychological traits systematically with the aid of scientifically developed instruments, including psychological tests. These tests have proved useful in a number of areas, one of which, important to both the individual and to society as a whole, is occupational choice, or vocational guidance. What is desired in vocational guidance is the achievement of the wisest utilization of the capabilities of the individual in order that both the individual and society are thereby enriched (9,80,81,88).

Test scores indicate what an individual does in certain standardized situations, and from these measures of an individual's performance, an inference is made regarding his capacity to perform in the future. This estimate of future performance is, of course, a statistical probability and by no means a certainty. Bingham (9:264), for example, makes it clear that aptitude tests are by no means infallible and, in interpreting results, therefore, "richly informed common sense must hold the reins." The view that caution must be exercised evidently has changed little from Bingham's time. Thorndike and

Hagen (83:13) declare that "measurement at best provides only information, not judgment." Tyler (88:109) states that "it seems unlikely that we are going to be able to predict degree of success very accurately by means of tests," while Super and Crites (81:8) affirm that "the measuring instruments we now use even for the most adequately measured traits such as intelligence and vocational interest are still not completely understood."

While appreciating that tests have many weaknesses, Ghiselli (36) feels that they have far more predictive value than devices such as the employment interview, the application blank, references from previous employers, and so on. This view evidently is shared by many of Ghiselli's contemporaries, including Blum and Balinsky (10), Cronbach (26), Goldman (37), and Traxler (84). In any event, testing seems to have become an integral part of industrial life, as Anastasi (1:4) indicates:

From the assembly-line operator or filing clerk to top management, there is scarcely a type of job for which some kind of psychological test has not proved helpful in such matters as hiring, job assignment, transfer, promotion or termination.

The Test Battery at the Vocational Counselling Service

The battery administered to individuals seeking vocational guidance from the Vocational Counselling Service throughout 1964 included the following tests:

- 1) The Kuder Preference Record (Vocational).
- 2) Otis Self-Administering Test of Mental Ability (either the Higher or Intermediate form, as appropriate).

- 3) Progressive Matrices (1938), 1956 Revision.
- 4) Revised Minnesota Paper Form Board (Form MA).
- 5) Bennett Mechanical Comprehension Test (Form BB).
- 6) Minnesota Clerical Test.
- 7) An agency-developed spelling test.
- 8) The majority of individuals also completed a personality test. This was generally either the Sixteen Personality Factor Questionnaire, Minnesota Counseling Inventory, or Edwards Personal Preference Schedule.

At the discretion of the individual counsellor, certain clients completed additional tests; for example, those for whom professional careers seemed indicated worked through the Strong Interest Blank; some evincing an interest in art completed the Meier Art Judgment Test; the Nelson-Denny was administered when a reading handicap was suggested, and so on. In certain instances "check testing" was carried out, and also some individual testing by means of the Wechsler Adult Intelligence Scale.

As the first seven tests were written by all of the individuals in this study, only these will be discussed in detail.

Anastasi (1:22) defines a psychological test as "an objective standardized measure of a sample of behavior." The predictive value of the test depends on the degree to which this sample of behaviour serves as an indicator of some related form of activity. Most of the tests in the battery have been subjected to a number of validity studies. Descriptions of the tests and the opinions of some authorities regarding their value are outlined below.

Kuder Preference Record (Vocational). Commonly called

an "interest test," the Kuder consists of sets of three options which might read:

Fix a broken clock.
Keep a set of accounts.
Paint a picture.

In each set, the individual is required to indicate the one which he would most like to do and the one which he would least like to do. Raw scores are converted to percentiles that illustrate ratings in each of 10 interest clusters; namely, "Outdoor," "Mechanical," "Computational," "Scientific," "Persuasive," "Artistic," "Literary," "Musical," "Social Service," and "Clerical." Separate norms are provided for males and females.

The Kuder test may be interpreted by identifying the two highest scores in the profile and referring to a list of occupations believed to be appropriate. Thus, according to this manual (53) a profile showing highest scores in the "Scientific" and "Literary" categories, suggests the occupations author, editor, reporter, physician, surgeon, psychologist, and etymologist. It is likely, however, that most counsellors resort to "common-sense" interpretations and then make suggestions appropriate to the individual's capacities (80:192).

As revised in 1964, the Kuder manual summarizes a number of validity studies, although some criticism could be levied at the way much of this information was gathered; i.e., contributed by test consumers. There is a need to know, for one thing, the conditions under which the test was given, as

it is readily appreciated that a subject suitably motivated (as might be a job applicant after the ideal salesman's profile in order to obtain a sales position, for example) could successfully fake the Kuder Preference Record. It is reasonable to assume, however, that individuals self-motivated to seek vocational guidance would be honest in choosing their responses.

Super and Crites (81) summarize a number of the studies carried out relating to the Kuder. (And there have been many--The Sixth Mental Measurements Yearbook (21) lists the number of such studies as 567 up to the year 1965). Typical of the research is a comprehensive report of high school students tested in the ninth grade, and again in the twelfth, with the results disclosing that 64 per cent of the three lowest areas of interest and 67 per cent of the three highest had remained constant (81). Thorndike and Hagen (83) report on a number of reliability studies, based on analysis of a single testing, with values averaging about .90; while in a longitudinal study, Herzberg and Bouton (43) reviewed the constancy of Kuder interest ratings between the ages of 17 to 21. Correlations ranged from .50 to .75 for the various scales. Studies such as the foregoing suggest that the Kuder provides results sufficiently stable to be used as a counseling instrument (and, as the manual points out, older groups would likely reveal even greater stability of interests).

Although Katz (21) decries the methods involved in the derivation and interpretation of Kuder scores, other reviewers

praise the test. Brayfield (18:663) states that "a point favoring the Kuder blank is the extreme care taken in its construction and standardization," while Carter (19:738) reports that "a digest of such studies leads to the judgment that the test is one of the best from the standpoint of validity." Insofar as assisting individuals to choose appropriate educational and vocational activities is concerned, Carter continues: "In the reviewer's judgment, the Kuder Preference Record is the most useful available instrument for this purpose" and "its practical values justify extensive use by high school teachers and counselors, and by those engaged in counseling representative groups of adults." On the other hand, a large-scale study of the educational and occupational choices of individuals at the post-Grade 13 level in the Province of Ontario revealed that "the predictive value of the Kuder was disappointingly low for the schools studied" (31:iii).

Cronbach (26:420) states that both "the Strong and the Kuder tests have been studied sufficiently to verify that the majority of persons successful in an occupation have corresponding interest test scores." Thorndike and Hagen (83) review one comprehensive study based on the Kuder profiles of 2,797 men who had undertaken the test as part of Veterans Administration counselling at the end of World War II. The results of this doctoral study disclosed substantial differences in the patterns of interest of these veterans and showed that these interests were, in general, appropriate to the occupations in

which the individuals were engaged. Although studies such as the foregoing lend some support to the validity of the Kuder as a predictor of later behaviour, they provide no evidence regarding subsequent satisfaction with that choice.

Some indication of a relationship between satisfaction and interest is provided by Strong's (79:115) report of three studies which disclosed: a) a correlation of .26 between interest scores and satisfaction measures of women elementary teachers; b) a coefficient of .30 in regard to pharmacists; and c) a coefficient of .30 between satisfaction and interest of 100 clerical workers. Interest scores and satisfaction measures were assessed concurrently, however, and results do not necessarily provide proof of the predictive ability of the instrument--for common interest patterns may have blossomed as a result of experience in the work itself.

Otis Self-Administering Test of Mental Ability. This test is administered with a time limit of 30 minutes, and consists of 75 questions made up of informational, arithmetical, number series completion, recognition of opposites, analogies, logical inferences, and practical judgment items arranged in random sequence, although in order of increasing difficulty.

The Otis has been validated against measures of academic achievement and might, therefore, be more properly designated a test of scholastic aptitude. In this connection, Super and Crites (81:108) allow that "it is of value in estimating a given student's prospects of success in school or college,"

while Kuder (18:331) remarks that "for purposes of prediction of school and college success these tests compare favorably with other measures of general ability."

Of the many validation studies concerning the Otis, the following could be considered representative. Bingham (9) reports data on 562 college freshmen who had undertaken the Otis test. While the general trend is obvious (72 per cent of those with IQ's between 115-124 remaining in college at least two years, as opposed to 42 per cent of those with IQ's rated between 85-94), it is also clear that some who did poorly on the test made some progress in college. Freeman (32) tested approximately 1,000 college students over a four-year period and computed a .56 correlation between grade point averages and the Otis test. Bonk and Beamer (12) noted that testing accomplished during orientation week resulted in a correlation of only .35 with first semester grades, while testing half way through the semester resulted in a correlation of .51 with grades for the semester. And Garrison (34) noted that the Otis Self-Administering Test correlated .48 with academic grades of nursing trainees, and .59 with their average grades in nursing arts.

The Otis manual (63) reports correlations with high school grades of around the order of .57, while studies cited by Super and Crites (81) report correlations ranging from .20 to .69. A reliability coefficient of .86 for adults is reported in the test manual. Insofar as correlation with

success on the job is concerned, widely differing results have been achieved. Some of the reasons are discussed by Super (50:202-207). It is reasonable, however, to assume that ability to score well on the Otis would have little relationship to efficiency in certain jobs. For example, in assembly-line work where manual dexterity and singleness of purpose are more important than mental alertness. Again, at the professional level, correlations between Otis scores and criteria for success are negligible, as the test does not discriminate adequately at the upper levels; nevertheless, it is said to provide "adequate ceiling for unselected adult groups" (1:215).

To summarize, then, the available evidence suggests that correspondence between the Otis Self-Administering Test of Mental Ability and success on the job or in academic endeavours is never inordinately high. As with all tests, the Otis is of real practical value only when considered in concert with other data.

Progressive Matrices (1938), 1956 Revision. Progressive Matrices is an untimed test made up of 60 patterns. Each of the patterns has a piece missing. The examinee must determine the type of progression or relationship that is established and then choose from a given number of pieces the one that would make the pattern logically complete. No printed instructions are involved. To ensure that normally intelligent recruits were not rejected because of poor education and consequent lack of verbal skills, this test was adopted as the principal test for military classification in Great

Britain during World War II.

This test has been described variously as a test of abstract reasoning, of logical reasoning, of non-verbal reasoning, of innate intelligence, and as a culture-free test of intelligence (1:26,83). On inspection, it would certainly appear that this test contains abstract matter largely foreign to either classroom or everyday experience, and, as Shipley states:

It is highly probable that what is being measured relates more directly to 'native' abstract intelligence and less to academic achievement, educational opportunity, or cultural background than is the case with most tests of general intelligence (18:338).

The manual (68) claims rather high correlations between the Matrices and other tests of intelligence; and Westby (19:419) reports that "factor analysis in the Services suggests the test is an almost pure 'g' test with a small loading of some perceptual factor..." Several studies which reveal a sizable correlation (from .58 to .70) between the Matrices test and individual intelligence are cited by Cronbach (26).

That the test was extensively used in the British services during World War II is indicated by Vernon's (89) analysis of the scores achieved by 89,764 naval candidates in 1943. His research disclosed large differences in the norms for various occupational groups, in much the same manner as has been indicated for American populations by the Army General Classification Test (87).

- a) had significantly lower correlation with socio-economic status than had conventional verbal intelligence tests;
- b) had a high loading of .78 in the general ability factor;
- c) had moderate relationship with school grades;
- d) had a reliability coefficient of .87.

Westby (19:418) declares that the Progressive Matrices test is "a highly convenient rough grading instrument for the mass testing of adults," and this view is reiterated by Bortner in the most recent edition of The Mental Measurements Yearbook (21:764): "These tests should be quite helpful as screening devices for groups where estimates of levels of intelligence need to be determined."

It appears that the Vocational Counselling Service used the test mainly as a check on the validity of the Otis; that is to say, an individual's obtaining of a much higher score on the untimed Progressive Matrices than on the Otis might suggest a pronounced reading handicap, a language problem, or inability to function efficiently in the timed test situation.

Revised Minnesota Paper Form Board, Form MA (MPFB). The Form Board test purportedly furnishes an indication of an individual's ability to discriminate geometrical patterns in two dimensions and mentally to manipulate these figures. In the upper left-hand corner of each of the 64 problems, there are from two to five geometrical forms. The task is to decide which of the five other given figures represents a composite of the individual pieces. The test is administered with a 20-minute time limit.

The unusually large number of studies that have been

conducted with the MPFB "indicate that it is one of the most valid available instruments for measuring the ability to visualize and manipulate objects in space" (1:411). Criteria for validation include performance in shop courses, supervisors' ratings, production records, and achievement in such areas as dentistry and art. Indeed, Clifford and Jurgensen (18:762-763) claim that the MPFB is:

a classic in measurement of mechanical aptitude. It has a long history, has been used widely, and still warrants high respect and frequent use....Numerous validity studies have been made, and it is the exceptional case where the test is not sufficiently valid to warrant its use for selecting employees in mechanical type jobs such as drafting, inspection, linotype operation, machine operation, packing and the like.

Reliability coefficients of between .85 and .92 are reported in the manual, while Super and Crites' (81:294) summary of a number of studies suggests that the reliability is "actually in the .80's and sufficiently high for individual diagnosis."

The MPFB is perhaps best used in conjunction with other tests. Bingham (9) reports that the paper form board, when used together with a mechanical assembly test, predicts the quality of work done in school shop courses with an efficiency 23 per cent greater than chance. And, in this connection, Struit (18:713) states that "the Revised Minnesota Paper Form Board should not be regarded as a complete index of mechanical promise but rather as measuring one component of mechanical and engineering aptitude." It is evidently along these lines

that the test was viewed by the staff of the Vocational Counselling Service.

Bennett Test of Mechanical Comprehension, Form BB. This is an untimed test consisting of 60 sets of drawings, diagrams and questions, evidently designed for the selection of engineering school applicants and similar technically oriented groups. Reliabilities of .77 to .84 are reported in the manual, where it is also claimed that the test correlates .30 to .60 with success in engineering-type training.

Early reviewers of the Bennett Mechanical questioned its value on the ground that several items involve principles or facts likely to be learned in physics, but unlikely to be encountered in everyday mechanical experience, and all three reviews in The Third Mental Measurements Yearbook decry the paucity of validation studies. However, one reviewer, (18:723) states that when validity studies are completed the test "should prove to be a useful tool especially to those persons engaged in educational and vocational guidance."

More recently, Anastasi (1) has claimed that this type of test proved to be among the most valid in the selection of personnel for a number of technical specialties during World War II. And Super and Crites (81) have reviewed a number of studies in which success on the job, as measured by supervisors' ratings has correlated around .50 with test scores on the Bennett Mechanical. The foregoing authors stress the need for developing local norms for use with the Bennett Mechanical.

The policy of the Vocational Counselling Service is evidently in agreement with this view, as normative data used for the test is based on scores achieved by technical course applicants at the Vancouver Vocational Institute.

Minnesota Clerical Test, (MCT). This test consists of two separately timed subtests, "Number Comparison" and "Name Comparison." The examinee is allowed relatively short time limits in which to indicate the pairs of numbers and names he believes to be identical. His score on this test will depend primarily on his speed, although a deduction (rights minus wrongs) penalizes inaccuracies to a certain degree.

According to the manual (21), the validity of this test as indicated by clerical workers, commercial students, accounting students, and students of typing is satisfactorily high, and the author indicates that clerical test scores predict performance in clerical fields such as accountancy and typing better than do measures of academic ability. The low correlations between test score and years of office experience, amount of commercial training, years of schooling, and intelligence suggest that the test measures something other than experience and academic factors. Validity coefficients of between .50 and .60 are reported by Anastasi (1), when test scores are correlated with such criteria as grades in business courses or ratings by commercial teachers or office supervisors. Retest reliability coefficients of between .85 and .91 are reported by the same author.

On reviewing a number of studies of the test, Hunt

(20:635) states that the Minnesota Clerical Test "can be recommended as a very usable test for selecting promising clerical workers, or for the guidance in the selection of students for clerical training." Two other reviewers in the 1959 issue of Buros' Yearbook are in general agreement with the foregoing, although a third (Taylor) suggests that the validity data published in the manual is inadequate. Super (20:874) also claims that validity studies cited in the manual should be brought up to date; however, in view of later studies reported in the literature, he feels that "the Minnesota Clerical Test is as good as it ever was, and still probably has no effective rival."

Super and Crites (81:177-178), upon reviewing a number of studies of the test, comment that the Minnesota Clerical "has value for distinguishing those who have promise for clerical work from those who do not," and that if a battery can be used to appraise clerical aptitude "it should include the Minnesota Test and an intelligence test such as the Otis." These are two of the factors considered by counsellors at the Vocational Counselling Service in their appraisal of vocational fitness.

The above-mentioned authors decry the absence of studies that illustrate a relationship between specific aptitudes and job satisfaction. In regard to the MCT and other tests of clerical aptitude they say:

One of the objectives of vocational counseling and selection is the attainment of satisfaction in his work

by the worker. This being the case, one would expect to find studies of the relationship between clerical aptitude and job satisfaction. No such studies have been located, however, the emphasis has so far been entirely on success (81:177).

Spelling Test. This test was developed by the staff of the Vocational Counselling Service in 1963. The form lists 100 words, half of which are misspelled, and the individual is allowed ten minutes in which to rewrite correctly the words that are misspelled. Some 200 males and 100 females made up the norm groups, differentiated as to sex and years of schooling completed.

While obviously a test of spelling ability, it is possible to extract other information from an individual's performance on this examination. For example, results can provide support (or non-support) for an intelligence test score, give information regarding an older individual's interests, or retention, and so on.

APPENDIX C

APPENDIX C

Responses to questions on the Interview Schedule administered to ex-clients of the Vocational Counselling Service of British Columbia disclosed information additional to that discussed in the body of this paper. These are briefly discussed in this section.

Relationship of Brayfield-Rothe Score to Question 25

Question 25 of the Interview Schedule asks the respondent to indicate how he feels about his present job. The possible responses appear in Table VII below. In effect, then, Question 25 seeks to evaluate job satisfaction, although by a shorter and more direct route than is utilized by the Brayfield-Rothe Index.

Analysis revealed a product-moment correlation between Question 25 and the Index of .78. This high degree of relationship suggests the feasibility, for certain purposes, of using a much shorter questionnaire than the Brayfield-Rothe Index with its 18 multiple-choice questions. This was accomplished by Lipsett and Wilson (56), who used the five-point question to rate job satisfaction in their study cited earlier (see p.18). A comparison of the responses obtained by Lipsett and Wilson with this study is depicted in Table VII.

Similarities are evident in the results of these two studies. The total percentages representing the first two categories are only one percentage point apart (51 per cent

versus 52 per cent), despite the fact that the Lipsett and Wilson survey involved only a 54 per cent response to mailed questionnaires.

TABLE VII
A COMPARISON OF TWO STUDIES POSING IDENTICAL QUESTIONS
CONCERNING JOB SATISFACTION

<u>Answer</u>	<u>Lipsett & Wilson</u>	<u>This Study</u>
Best possible job for you	17%	8.3%
Like it very much	34	43.8
Like it fairly well	28	31.2
Indifferent	13	16.7
Dislike it	8	0

Job Satisfaction and
Occupational Satisfaction

It has been argued that a significant difference may exist between satisfaction with one's occupation and the particular job within that occupation in which the individual is currently engaged (22,65,75), although Harmon (41) was unable to obtain significant differences in her attempt to measure occupational satisfaction and job satisfaction independently.

One of the questions in this study related specifically to job satisfaction of the individual (Question 25), while another (Question 27) related to his satisfaction with his occupation and not necessarily his present job (Appendix D). In other words, these questions recognize the possibility of a person liking his occupation of carpenter, for example, but disliking his job assembling cabinets in a suburban factory.

That these two variables are related is evident in the product-moment correlation of .51 between them. Of course, this figure accounts for only 26 per cent of the variance between occupational and job satisfaction and the respondents apparently had reasons for rating their jobs more highly than their occupations, and vice versa.

The "Back-to-18" Question

Question 26 asks respondents whether they would choose the same or different jobs, if they could go back to age 18. A comparison of the responses to Question 26 of the Interview Schedule and the replies of 5,000 individuals returning mailed-out questionnaires to Fortune Magazine (70:281-282) appears in Table VIII.

TABLE VIII

A COMPARISON OF TWO STUDIES ASKING INDIVIDUALS
WHETHER THEY WOULD CHOOSE THEIR PRESENT
JOBS IF THEY COULD GO BACK TO AGE 18

<u>Answer</u>	<u>Fortune Magazine</u>	<u>This Study</u>
Same	39%	29.2%
Different	41	43.8
Uncertain	20	27.0

It would appear that more individuals in both studies would prefer different jobs than their present ones if they could start over again. It is also evident that ex-clients of the Vocational Counselling Service for British Columbia were

not more satisfied with their jobs, in spite of vocational counselling, than were individuals involved in the Fortune survey of a non-counselled population.

Relationships Between Brayfield-Rothe Scores and Seventeen Variables

Undoubtedly, many variables apart from components of the job itself contribute to the satisfaction an individual reveals for his job. For example, in looking at age as a variable, it seems feasible to suppose that older people may, on the average, achieve higher ratings on a job satisfaction test than do younger people. Again, possibly marital status, intelligence, number of years with one employer, and other variables play important roles in determining job satisfaction. In this study, seventeen variables were considered, as shown in Table IX. Information was obtained from files of the Vocational Counselling Service as well as from the interview schedule; correlation analysis was employed to assess the relationship between these variables and Brayfield-Rothe Index scores.

In considering the seventeen variables listed in Table IX, values for t were calculated only for coefficients of .30 and higher, since a correlation coefficient of .30 is required to reach significance at the .05 level of probability (two-tailed) with 46 degrees of freedom. The t values and significance levels of the three variables falling into this category are shown in Table X.

TABLE IX
RELATIONSHIPS BETWEEN BRAYFIELD-ROTHE
INDEX SCORES AND SEVENTEEN VARIABLES

<u>Variable</u>	<u>Corr. Coeff.</u>
1. Age	-.12
2. IQ	.11
3. Single	-.09
4. Married	.13
5. Divorced/Separated	-.19
6. Individuals with working wives	-.19
7. Combined incomes (1969) of individuals with working wives	.01
8. Number of dependents	.06
9. Schooling	.07
10. Number of years employed	-.08
11. Number of years with present employer	-.30
12. Income for 1969	.35
13. Engaging in part-time employment in 1969	-.02
14. Number of jobs held since 1964	.26
15. Number of times unemployed for two weeks or more since 1964	.07
16. Number of promotions earned	.36
17. Rating of own ability for job	.28

TABLE X
THREE VARIABLES SHOWING SIGNIFICANT RELATIONSHIPS
WITH BRAYFIELD-ROTHE INDEX SCORES

<u>Variable</u>	<u>t</u>	<u>Probability</u>
11. Number of years with present employer	2.14	.05
12. Income for 1969	2.52	.02
16. Number of promotions earned	2.62	.02

The available evidence indicates that job satisfaction, as measured by the Brayfield-Rothe Index, is positively related to income and to the obtaining of one or more promotions; whereas a negative relationship exists between job satisfaction and the years one has spent with one employer. The other fourteen variables investigated evidently share little association with job satisfaction.

APPENDIX D

INTERVIEW SCHEDULE
(Sheet 1)

I SHOULD LIKE TO ASK YOU A FEW QUESTIONS OF A GENERAL NATURE.
YOUR ANSWERS, OF COURSE, WILL BE HELD STRICTLY CONFIDENTIAL.

1. What is your age?
 - Under 25 1
 - 26-30 2
 - 31-35 3
 - 36-40 4
 - 41-45 5
 - Over 45 6

2. Date of Birth

day mo. year

3. What is your marital status?
 - Single 1
 - Married 2
 - Divorced or 3
 - Separated 4
 - Widowed 5

4. (IF MARRIED) Is your wife working? Yes 1
 No 2

5. (IF WIFE WORKING) What is your wife's present job?

6. (IF MARRIED, AND WIFE WORKING) What was your combined
 income for 1969?
 - Less than \$3,000 1
 - \$3,000 to \$5,000 2
 - \$5,000 to \$7,000 3
 - \$7,000 to \$9,000 4
 - \$9,000 to \$11,000 5
 - \$11,000 to \$13,000 6
 - \$13,000 to \$15,000 7
 - Over \$15,000 8

7. How many dependents do you have?
 - None 1
 - Wife 2
 - 1 Child 3
 - 2 Children 4
 - 3 Children 5
 - 4 Children 6
 - 5 or More Children 7
 - 1 Other Dependent 8
 - 2 or More Other 9
 - Dependents

8. (IF A PARENT)
 - a) How many of your children are not yet of school age?
 - b) How many are attending school?
 - c) How many have left home?

INTERVIEW SCHEDULE
(Sheet 2)

9. How many years of schooling have you completed? _____
- | | |
|------------------|---|
| _____ 9 or less | 1 |
| _____ 10-11 | 2 |
| _____ 12 | 3 |
| _____ 13-15 | 4 |
| _____ 16 or more | 5 |
10. Have you completed any academic courses since you visited the Youth Counselling Service in 1964? _____ Yes _____ No 1 2
(If "Yes") What have you done? _____
.....
11. Have you undertaken any vocational training since you wrote the aptitude tests at the counselling service? _____ Yes 1
(If "Yes", obtain the name of the course, the _____ No 2
place where taken, and the length of the course.) _____
.....
.....
12. Are you presently employed? _____ Temporarily unemployed? _____ 1 2
13. The name of your employer is?.....
14. Please briefly describe your present job. (If interviewee is temporarily unemployed, this and following questions should relate to the last job he held for at least three months.)
.....
15. How long have you been working for the above employer? _____
- | | |
|--------------------------|---|
| _____ Less than 6 months | 1 |
| _____ 6 to 12 months | 2 |
| _____ 1 to 2 years | 3 |
| _____ 2 to 3 years | 4 |
| _____ 3 to 4 years | 5 |
| _____ 5 to 6 years | 6 |
| _____ Over 6 years | 7 |
16. How long have you worked in this type of occupation? _____
(This reply would, of course, include similar work with ex-employers.) _____
- | | |
|--------------------------|---|
| _____ Less than 6 months | 1 |
| _____ 6 to 12 months | 2 |
| _____ 1 to 2 years | 3 |
| _____ 2 to 3 years | 4 |
| _____ 3 to 4 years | 5 |
| _____ 5 to 6 years | 6 |
| _____ Over 6 years | 7 |

INTERVIEW SCHEDULE
(Sheet 4)

22. Have you obtained any job promotions during the past five years?

☐ Yes ☐ No

1 2

(If "yes", obtain details.)

.....
.....

23. From what you can recall of your interview at the counselling service in 1964, do you feel that your present occupation is

☐ one that was suggested by the counsellor?
☐ similar to occupations mentioned by the counsellor?
☐ only slightly related to jobs mentioned by the counsellor?
☐ quite different from any occupation suggested by the counsellor?

1
2
3
4

(Use this space for any significant comments.....

.....
.....

(If individual cannot recall any of the occupations suggested by the counsellor, please indicate.)

☐ Remembers no suggestions

5

24. Even though you may like your work, is there some other type of job you would rather be doing?

☐ Yes
☐ Perhaps
☐ No
☐ Do not know

1
2
3
4

(If "Yes", determine what type of work and the reason for choosing it.)

.....
.....

NOW, I AM GOING TO ASK YOU TO FILL OUT THE NEXT TWO PAGES FOR YOURSELF. THE ITEMS RELATE TO YOUR JOB. DIRECTIONS ARE ON THE TOP OF EACH PAGE. ASK ANY QUESTIONS YOU WISH.

INTERVIEW SCHEDULE (Sheet 5)

On this page we are trying to find out how well you like the type of work you do. For each question, mark an "X" against the appropriate answer.

25. If you are employed, how do you feel about your present job?

- ☐ Best possible job for you.
- ☐ Like it very much.
- ☐ Like it fairly well.
- ☐ Indifferent.
- ☐ Dislike it.

1
2
3
4
5

26. If you could go back to age 18, and start over again, would you select the same career or occupation, or a different one?

- ☐ Same
- ☐ Different
- ☐ Uncertain

1
2
3

27. Check the one of the following which best tells how you feel about changing your occupation (not necessarily your present job).

- ☐ I would quit this occupation at once if I could get into almost any other type of work.
- ☐ I would enter almost any other occupation where I could earn as much money.
- ☐ I am not eager to change my type of work, but would do so if I could get into a better occupation.
- ☐ I would not exchange my occupation for any other that I can think of.

1
2
3
4

28. Would you suggest that young people with the same abilities and interests as yours enter your occupation?

- ☐ Yes, in most cases.
- ☐ Probably.
- ☐ If he could not get anything better.
- ☐ Not in most cases.
- ☐ No.

1
2
3
4
5

29. Would you rate your own ability for your present job as:

- ☐ Poor.
- ☐ Slightly below average.
- ☐ Average.
- ☐ Better than average.
- ☐ Very good.

1
2
3
4
5

INTERVIEW SCHEDULE
(Sheet 6)

JOB QUESTIONNAIRE

Some jobs are more interesting and satisfying than others. We want to know how people feel about different jobs. This blank contains eighteen statements about jobs. You are to cross out the phrase below each statement which best describes how you feel about your present job. There are no right or wrong answers. We should like your honest opinion on each one of the statements. Work out the sample item numbered (0).

- | | | | | | | |
|-----|---|----------------|-------|-----------|----------|-------------------|
| 0. | There are some conditions concerning my job that could be improved. | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 1. | My job is like a hobby to me. | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 2. | My job is usually interesting enough to keep me from getting bored. | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 3. | It seems that my friends are more interested in their jobs. | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 4. | I consider my job rather unpleasant. | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 5. | I enjoy my work more than my leisure time. | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 6. | I am often bored with my job. | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 7. | I feel fairly well satisfied with my job. | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 8. | Most of the time I have to force myself to go to work. | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 9. | I am satisfied with my job for the time being. | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 10. | I feel that my job is no more interesting than others I could get. | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 11. | I definitely dislike my work. | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 12. | I feel that I am happier in my work than most other people. | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 13. | Most days I am enthusiastic about my work. | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 14. | Each day of work seems like it will never end. | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 15. | I like my job better than the average worker does. | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 16. | My job is pretty uninteresting. | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 17. | I find real enjoyment in my work. | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |
| 18. | I am disappointed that I ever took this job. | STRONGLY AGREE | AGREE | UNDECIDED | DISAGREE | STRONGLY DISAGREE |