A STUDY OF PERSONALITY FACTORS AS THEY RELATE TO VOCATIONAL SUCCESS OF THE MENTAL RETARDATE

by

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CHAPTER I
INTRODUCTION

Any individual who is excluded from a chance for employment for any reason, and who has potentialities to achieve such employment should be provided with every available opportunity for obtaining employment. This is good rehabilitation (Hamilton, 1968). Today there is a group of individuals who are capable of employment, but for several reasons, have been given relatively few opportunities for vocational success. This group consists of all those persons who, for various reasons, are classified as the mentally handicapped.

Industry is now beginning to tap this huge reservoir of potential manpower because the mentally retarded worker can perform routine, repetitive jobs without getting bored. When he accomplishes a task, he feels pride and satisfaction and also remains strong in his desire to please. Positive attitudes toward the hiring of retarded employees are spreading to establishments as varied as retail stores, laundries, factories, restaurants, gas stations, barber and beauty shops, hospitals, nursing homes, and farms (Rosenburg, 1967). The various kinds of work which the mental retardates are entering indicate
the widening scope of employment opportunities, including many jobs once believed to be too difficult for them, such as card punch operators, library assistants and engineering aids ("Help for the Mentally Retarded," 1967).

However, many retarded workers have not been successfully employed because the predictive measures used in assessing vocational success for these individuals have not been as reliable as those used for persons of normal intelligence. The prediction in this area is a much less mature field of investigation than even the prediction of parole from penal institutions or in outcome of mental illness (Windle, 1962).

Vocational adjustment has been defined by O'Brien (1952) as the ability of an individual to perform work in a manner which is satisfactory to his employer, which helps him meet his own needs, and which aids him in contributing to the needs of the society of which he is a part. It is this broad area--vocational success--in which definite reliable criteria are sparse and relatively undependable.

Certain factors make the evaluation of the mentally handicapped different from other individuals. One of
these is the fact that with limited abilities, it is more important that these abilities be accurately estimated and the individual enabled to utilize them to the utmost. If they are to compete they must function close to their potentialities. Another important factor is the great importance of identifying any specific assets or abilities and capitalizing on these (Patterson, 1965). Appell, Williams, and Fishell (1962) state that the factors which distinguish employed from unemployed retardates generally fall in three categories: (1) level of intelligence, (2) personality characteristics, and (3) specific vocational skills. Of these three, personality characteristics are the hardest to measure, and they are an even more important consideration in the job success of the retarded individual than with the individual of normal intelligence (Patterson, 1964).

It is for this reason that a study designed to focus on major dimensions of the personalities of mental retardates is needed. This would provide additional information for identifying those personality characteristics which might be predictive indicators of vocational success.

**Review of the Literature**

A review of studies designed for mentally retarded subjects reveals that the need for such research has only
been recently realized. It has also been noticed that there are various problems involved which are unique to the subnormal population. Previous studies have been approached through analyses of specific situational variables such as age, intelligence, and physical handicaps in addition to numerous personality factors.

The review of the literature which follows will be presented in three categories: (1) information leading to research; (2) specific situational variables involved in vocational adjustment; and (3) personality factors related to vocational adjustment.

Information Leading to Research

Shafter (1954) feels that some form of vocational placement for the mentally retarded worker existed long before it became vocalized and glorified. However, any far-reaching project needs some form of organization and planning. This applies to job placement of mentally handicapped workers: if placement is to be successful, it must be preceded by a great deal of planning and organizing. This fact was realized as the opportunity for employment became more widespread, resulting in a need for adequate predictive measurement. The realization grew that identification of as many intellectual, personal, social, and vocational skills and traits as
possible is the beginning of the assessment of employability (Kolstoe, 1960). Before this, sociological studies had been comparatively frequent, but psychological studies bearing on successful employment (apart from investigations into the distribution of intelligence) had been few (Tizard, Litt, and O'Conner, 1950).

When research in this area began to be utilized, certain problems became apparent. Of all the investigations providing prognostic data concerning employment success, none was highly effective when used by institutional personnel as a basis for release (Windle, 1962). Although the research done with the mental retardate has been very immature, there is hope for greater effectiveness in the future since there is a possibility that few variables might be involved in subnormality. This is the belief of Windle (1962), and he further states that the mental retardate seems to be less complicated psychodynamically than persons of normal intelligence. Therefore, it is possible that fewer factors might be involved in their adjustment.

The instruments and methods used in the evaluation of the mental retardate are basically the same as those used in evaluating other individuals. Their use with the subnormal entails the same problems of reliability, validity, and general inadequacies and limitations of
specific instruments and methods. However, there are some problems which are unique to the mentally handicapped and their evaluation which are not encountered in studies with other groups: the normal, the physically handicapped, or the emotionally disturbed (Patterson, 1965). As has been previously mentioned, the fact that they possess limited abilities in comparison to the average worker makes it more important that these abilities be identified. This identification can make possible the use of a few capabilities to their maximum degree of effectiveness. If they are to compete, the subnormal must have every opportunity to function close to their potentialities. Identification of these factors which would be relevant to vocational success is the first step in their prognosis for successful employment (Patterson, 1965).

**Specific Situational Variables Involved in Vocational Adjustment**

Intelligence is considered an important factor involved in the adequate functioning of most employees. It is also used for screening individuals to receive promotions; to enter special programs; to predict adjustment; etc. It has even been found that intelligence is highly related to likelihood of release from institutions for the mental retardate. However, this factor has not been found to be prognostic of adjustment after release.
(Windle, 1962). Elmer (1967) states that there are no significant differences between the mean values of intelligence, education, or achievement of retardates who completed a vocational training program and those who did not. These variables, therefore, were not found to be useful as predictors of success for the mentally retarded worker. Brainerd (1954) adds that the intelligence quotient is not a sufficient criterion by which to measure selection and employability, but that emotional balance, special aptitudes, and social background need to be considered.

Compared to intelligence, the age factor has not been considered as important a variable. Nevertheless, it has been researched as to its possible relation to the vocational success of the mental retardate. Elmer (1967) found that the age factor was not a successful indicator of those who finished a vocational training program and those who did not. One researcher (Windle, 1962) hypothesizes that persons would be more likely to be successful on vocational placement if they were older, but he specifies no age range. He further states, "Unfortunately, the likelihood of age bias in placement and the obscurity of the determinants in the placement process defeats the testing of this hypothesis under ordinary conditions."
There are numerous other factors which have been used to select retardates for vocational placement. Shafter (1957) reports that most institutions use good behavior as a criterion for designating those individuals who enter vocations. Another aspect of rehabilitation potential which Patterson (1965) believes should be considered is the ability of the person to manage everyday activities. This includes the ability to handle aspects of life not encountered in an institution such as using a telephone, taking messages or telling time. Patterson (1965) and Windle (1962) have also found that the presence of severe physical handicaps should be an important consideration in assessing vocational placement. The more recent studies have included the previously mentioned situational variables, but they have added research dealing with personality variables.

**Personality Factors Related to Vocational Adjustments**

Many researchers agree that personality factors possibly have the greatest effect on the vocational adjustment of the subnormal (Elmer, 1967; Patterson, 1965; Shafter, 1957; Kolstoe, 1960; Wallin, 1966; and Warren, 1961). Patterson adds that these are the hardest to measure. Shafter (1957) states that the dynamic characteristics of the retardate are more important than
the static characteristics. His definition of static characteristics includes externally recognized conditions, and his definition of dynamic data includes subjective factors in a person's life and behavior. In addition to this he states that emotional stability is possibly of greater importance than any other factor. In agreement with this is Elmer (1967), but he mentions other factors he considers as pertinent in the successful employment of mental retardates. These are special aptitudes and social background.

Kolstoe (1960, 1961) believes that the development of personal independence and responsibility is of utmost importance in the job success of the mentally handicapped worker. He adds that their employability potential greatly depends on the degree to which they have had independence of action in the past. Social acceptability is another factor considered significant by Kolstoe: this involves the ability to cooperate and maintain a cheerful attitude.

Warren (1961) reveals that the most significant factors which distinguished between employed and unemployed mentally retarded males in his study were personality and social adjustment. This includes self-confidence; cheerfulness; cooperation with other employees; mixing socially with other employees; completing work on time;
quality of work; understanding of work; and initiative. Additional studies suggest some different significant personality variables related to vocational adjustment.

Shaffer (1957) notes that being rated as ambitious, obedient, not careless, and producing good quality work are each favorable for outcome of vocational placement. Wallin (1966) states that application, ambition and motivation seem to be more important in determining success in some vocational performance than either IQ or academic achievement. Another study suggests that the ability to use social judgment may be a factor in predicting vocational success for the mental retardate (Barrett, Relos, and Eisele, 1965).

However, even though personality factors have been demonstrated to bear great importance in predicting successful vocational adjustment for the subnormal, relatively little research has been done in this area (Tizard, Litt, and O'Conner, 1950; Windle, 1962; Kolstoe, 1961). Little is known of the precise characteristics which are most important; the degree of their importance; and their relationship with other factors (Kolstoe, 1961). Therefore, the relation between personality variables and job success is one area very much in need of additional study. New information must be offered to counselors who
are attempting rehabilitation and vocational placement of the mental retardate.

**Summary**

A research of the literature related to vocational problems with the mental retardate has revealed various findings. When such studies were in the neophyte stage, variables such as age and intelligence were tested in relation to vocational adjustment. However, these and other situational variables were not found to be effective indicators of job success.

Later, personality variables began to be researched as to their predictive ability for vocational adjustment. Personality factors were found to be more indicative of job performance, but the number of personality traits involved has become too numerous to be effective. Also, there has been no consistent correlation among the studies, and little use was made of standard personality instruments. In view of the widening use of mental retardates in the work force, there is a great need for identifying specific personality attributes and attitudes which could reflect successful employment.

**Purpose of the Study**

The purpose of the present study was to differentiate specific personality variables which might be related to
vocational success in a group of mentally retarded males. The entire group was employed, and most of the research deals with factors which are related to the successful or unsuccessful employment of these men.

A standard personality measure was utilized to define the personality traits under consideration. This instrument is Cattell's Sixteen Personality Factor Questionnaire, Form E. The present approach considered each scale in relation to the total personality profile as well as individually. From the survey of the literature concerning personality traits relevant to vocational success, it had been noted that these traits are numerous and often unrelated. However, Windle (1962) stated that it is possible that mental retardates are less complicated psychodynamically than persons of normal intelligence. This makes it possible that fewer factors may be involved in their vocational adjustment. The present study, therefore, sought to distinguish a limited number of personality variables that might prove useful in predicting vocational success.

An additional purpose included a study of work attitudes which are also related to vocational success. These attitudinal variables were included on a rating scale designed by the researcher. Observations were made concerning possible relations between the significant
personality factors and the attitudinal variables.

The purpose of this study was also to differentiate the personality characteristics of the sample studied and the standardization sample of the Sixteen Personality Factor Questionnaire. It was thought that additional information might be discovered about differences between the present sample and the normative population which would be helpful in identifying significant personality variables. It was hoped that the results could be used to more accurately predict vocational success for mental retardates.
CHAPTER II
METHODOLOGY

The present chapter will present and describe the sample that has been studied. The instruments which were utilized and the procedure followed will be explained in addition to the hypotheses which were formulated.

Sample

The individuals who participated in this study numbered twenty-seven. This group consisted entirely of males who ranged in age from eighteen to forty-five years with a mean age of 23.04. These men were occupants of the Marbridge House in Dallas, Texas. This is a half-way house operating to assist mentally retarded males to bridge the giant step from institutional life to that of employed, independent members of society. They all live together in a house with houseparents (a man and his wife) who oversee any problems that might be encountered at home or on the job. Everyone of the men was employed in different vocations at the time the data was collected. The length of their employment ranged from three months to two years. Each one of the men had been previously diagnosed as being mentally retarded and had been referred to the Marbridge House by vocational rehabilitation counselors serving statewide.
The group of twenty-seven men was divided into two groups: the successfully employed and the unsuccessfully employed. This was based on the arbitrary decision of each man's employer as to whether or not he would hire the mental retardate over an average worker if both were competing for the same job. Those who "probably" would have been hired or "definitely" would have been hired were placed in the successfully employed group. There were twenty-one men in this group. Those who "probably would not" have been hired or "definitely would not" have been hired were placed in the unsuccessfully employed group. There were six men in this group.

Due to the confidentiality of the files on these men, their intelligence scores and exact length of employment were not obtainable. Therefore, this information cannot be presented.

Instruments

Cattell's Sixteen Personality Factor Questionnaire, Form E was the standard personality instrument used in this study. An original employee attitude rating scale was also used.

Cattell's Sixteen Personality Factor Questionnaire, Form E (16PF)

This test is a factor analytically derived questionnaire consisting of sixteen distinct personality traits.
(Cattell, 1957). Form E, which is for use with culturally disadvantaged and intellectually limited individuals, was administered. Table 1 presents the scales and a description of each one. One specific scale (Factor G -

**TABLE 1**

**SCALES AND THEIR DESCRIPTIONS INCLUDED IN THE SIXTEEN PERSONALITY FACTOR QUESTIONNAIRE**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor A</td>
<td>Reserved vs Outgoing</td>
</tr>
<tr>
<td>Factor B</td>
<td>Less Intelligent vs More Intelligent</td>
</tr>
<tr>
<td>Factor C</td>
<td>Emotionally Less Stable vs Emotionally Stable</td>
</tr>
<tr>
<td>Factor E</td>
<td>Humble vs Assertive</td>
</tr>
<tr>
<td>Factor F</td>
<td>Sober vs Enthusiastic</td>
</tr>
<tr>
<td>Factor G</td>
<td>Expedient vs Conscientious</td>
</tr>
<tr>
<td>Factor H</td>
<td>Shy vs Venturesome</td>
</tr>
<tr>
<td>Factor I</td>
<td>Tough-minded vs Tender-minded</td>
</tr>
<tr>
<td>Factor L</td>
<td>Trusting vs Suspicious</td>
</tr>
<tr>
<td>Factor M</td>
<td>Practical vs Imaginative</td>
</tr>
<tr>
<td>Factor N</td>
<td>Forthright vs Shrewd</td>
</tr>
<tr>
<td>Factor O</td>
<td>Self-assured vs Apprehensive</td>
</tr>
<tr>
<td>Factor Q₁</td>
<td>Conservative vs Experimenting</td>
</tr>
<tr>
<td>Factor Q₂</td>
<td>Group-dependent vs Self-sufficient</td>
</tr>
<tr>
<td>Factor Q₃</td>
<td>Casual vs Controlled</td>
</tr>
<tr>
<td>Factor Q₄</td>
<td>Relaxed vs Tense</td>
</tr>
</tbody>
</table>
expedience vs constantious) will be studied in addition to the total personality profile of each subject.

**Employee Attitude Scale**

The scale consists of twenty items that were considered relevant to the successful or unsuccessful work adjustment of the subjects (see Appendix A). This rating scale was designed by the researcher from similar scales used by Kolstoe (1961), Shafter (1954), and Warren (1961) in their research studies with intellectually retarded persons. It includes items, each of which were considered important in rating employability in studies conducted by the individuals mentioned. For each of the twenty items, the subjects were rated by their respective employer as to how they compared to the average employee. This comparison was described in terms of whether the subject manifested more, equal, or less of the attitude than did the average employee. At the end of the rating scale the employer stated whether or not his retarded employee would be hired by him if he were competing with an average employee. As mentioned previously, this became the criterion by which the men were considered successfully or unsuccessfully employed.

**Procedure**

Collection of the data was begun with the
administration of the 16PF. The researcher went to the Marbridge House on Monday, Wednesday and Thursday evenings to administer the personality test. This took place for three weeks, and the time spent on these evenings was approximately three hours (6:00 p.m. to 9:00 p.m.). The men were tested individually in the office of the halfway house with the examiner remaining in the room during the required time for each man to complete the form. This was done in order to give the subjects an opportunity to ask questions concerning the test and make sure they understood the task. Five of the twenty-seven men were unable to read, making it necessary for the examiner to read the questions orally as they filled in their answer sheets. These men were the last five tested.

The scoring of the 16PF was completed in accordance with the standard scoring method. This was done after all the subjects had taken the test.

When the 16PF had been administered and scored, the researcher then began to acquire the employer's ratings. This was done by the researcher meeting each subject's employer at the job site, explaining the study, and giving him the rating scale to fill in. Each employer had been previously informed that this service would be asked of him, and he was aware of when he would be approached for
his help in this study. The completion of the rating scale took approximately thirty minutes; after which, any additional information he desired to contribute was discussed and noted by the examiner.  

Administration of the rating scale was accomplished intermittently over a period of two weeks because the researcher had to see each employer at a time convenient for him. For scoring, the rating scales were divided in accordance with the group into which the individual had been placed: successfully employed or unsuccessfully employed. Then the ratings for each group were tallied on a master sheet which contained the 20 attitudinal variables. This was the final step in collection of the data. 

**Experimental Hypotheses**

From readings in the literature which presented studies about the employability of mental retardates, three experimental hypotheses were formulated. The construction of the following hypotheses was designed to extract significant personality variables which might be predictors of employability. Another purpose was to examine some attitudinal variables which could be related to these personality traits.
**Hypothesis I**

Wallin (1966) concluded that application, ambition, and motivation seem to be related to the vocational success of mental retardates. Therefore, it was predicted that the successfully employed group would score significantly higher on Factor G of the 16PF (expedient vs conscientious) as compared to the unsuccessfully employed group.

**Hypothesis II**

Previous research findings of Kolstoe (1961) and Warren (1961) reveal that certain attitudinal traits appear to contribute to successful employment. Therefore, it was predicted that the successfully employed group would be rated higher on the attitudinal scales of cooperativeness, responsibility and initiative than the unsuccessfully employed group.

**Hypothesis III**

The sheltered and fairly structured environment in which the subjects live and work seems to project a situation in which certain personality traits would be subdued or exaggerated in comparison to individuals living more independently. Therefore, it was predicted that the entire group of mentally retarded males would show significant
differences on the total personality profile of the 16PF as compared to the normative population.
CHAPTER III

RESULTS

The present chapter will include a description of the statistical procedures utilized to test the previously stated hypotheses. The formulated hypotheses will then be presented in conjunction with the results derived from statistical analysis.

Statistics

Two statistical procedures were completed in analyzing the data to determine personality variables which might be predictors of vocational adjustment. Discriminant function was used to test for significant scales between the two groups on the 16PF. Chi Square analysis was used to determine differences on the Employee Attitude Scale.

Discriminant Function

This statistical technique was utilized to determine specific personality factors which distinguish the successfully employed group from the unsuccessfully employed group. Even though only one 16PF scale was mentioned in the hypotheses, all sixteen scales were analyzed so that all other significant results might be reported. The data was programmed on an IBM 360 computer system using a
stepwise discriminant analysis format. A "t" test was also run on the 16PF scores of the entire group to determine if there was any significance between their mean scores and the normative population.

Chi Square

This statistical procedure was completed on the attitudinal scale to determine significant differences in work attitudes between the two groups. Analysis of the entire twenty attitudinal variables was completed so that no significant results would be overlooked. Data was programmed on an IBM 360 Computer System format which includes Yates Correction for Continuity.

Testing the Hypotheses

Three hypotheses were formulated for testing significant differences among personality variables between the two groups. The results of these hypotheses are presented below.

Experimental Hypothesis I

It was predicted that the successfully employed group would score significantly higher on Factor G (expedient vs conscientious) as compared to the unsuccessfully employed group. This was confirmed through the utilization of discriminant function. Table 2 presents the mean scores
<table>
<thead>
<tr>
<th>Factor</th>
<th>Successful Mean</th>
<th>Successful SD</th>
<th>Unsuccessful Mean</th>
<th>Unsuccessful SD</th>
<th>f value</th>
<th>t levels</th>
<th>level of *significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor G</td>
<td>5.5</td>
<td>1.6</td>
<td>3.6</td>
<td>2.0</td>
<td>5.12</td>
<td>2.3</td>
<td>.05</td>
</tr>
<tr>
<td>Factor E</td>
<td>6.2</td>
<td>1.7</td>
<td>5.3</td>
<td>2.1</td>
<td>3.24</td>
<td>1.8</td>
<td>.05</td>
</tr>
<tr>
<td>Factor M</td>
<td>6.0</td>
<td>1.8</td>
<td>5.6</td>
<td>3.0</td>
<td>2.92</td>
<td>1.7</td>
<td>.05</td>
</tr>
<tr>
<td>Factor O</td>
<td>6.3</td>
<td>1.9</td>
<td>5.1</td>
<td>2.6</td>
<td>2.89</td>
<td>1.7</td>
<td>.05</td>
</tr>
<tr>
<td>Factor I</td>
<td>5.8</td>
<td>2.4</td>
<td>5.0</td>
<td>1.6</td>
<td>1.41</td>
<td>1.1</td>
<td>NS</td>
</tr>
<tr>
<td>Factor O</td>
<td>4.9</td>
<td>2.1</td>
<td>6.1</td>
<td>2.7</td>
<td>0.98</td>
<td>.99</td>
<td>NS</td>
</tr>
<tr>
<td>Factor Q</td>
<td>5.6</td>
<td>1.7</td>
<td>5.6</td>
<td>1.6</td>
<td>2.87</td>
<td>1.6</td>
<td>.10</td>
</tr>
<tr>
<td>Factor C</td>
<td>5.1</td>
<td>1.9</td>
<td>5.5</td>
<td>2.8</td>
<td>0.72</td>
<td>.85</td>
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<tr>
<td>Factor H</td>
<td>5.0</td>
<td>2.1</td>
<td>4.0</td>
<td>2.5</td>
<td>0.74</td>
<td>.86</td>
<td>NS</td>
</tr>
<tr>
<td>Factor A</td>
<td>5.4</td>
<td>2.0</td>
<td>6.8</td>
<td>1.1</td>
<td>0.53</td>
<td>.73</td>
<td>NS</td>
</tr>
<tr>
<td>Factor L</td>
<td>5.2</td>
<td>1.7</td>
<td>5.5</td>
<td>2.5</td>
<td>0.51</td>
<td>.71</td>
<td>NS</td>
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<tr>
<td>Factor Q</td>
<td>5.5</td>
<td>2.5</td>
<td>5.8</td>
<td>2.4</td>
<td>1.01</td>
<td>1.0</td>
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<td>Factor Q</td>
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<td>1.7</td>
<td>4.8</td>
<td>1.7</td>
<td>0.18</td>
<td>.42</td>
<td>NS</td>
</tr>
<tr>
<td>Factor B</td>
<td>3.9</td>
<td>1.5</td>
<td>3.0</td>
<td>1.7</td>
<td>0.20</td>
<td>.45</td>
<td>NS</td>
</tr>
<tr>
<td>Factor N</td>
<td>5.8</td>
<td>2.2</td>
<td>5.6</td>
<td>3.0</td>
<td>2.92</td>
<td>1.7</td>
<td>NS</td>
</tr>
<tr>
<td>Factor F</td>
<td>6.0</td>
<td>1.5</td>
<td>5.6</td>
<td>1.8</td>
<td>0.00</td>
<td>.00</td>
<td>NS</td>
</tr>
</tbody>
</table>

*t values were converted to t levels of significance
and standard deviations for the successfully employed group as compared to the unsuccessfully employed group based on 16PF scale scores.

Table 2 also presents significant factors from total analysis revealed through discriminant function. Factor G (expedient vs conscientious) was the best factor for distinguishing the successfully employed group from the unsuccessfully employed group. This variable reached the .05 level of significance, and is the only personality factor to reach the needed level by itself. The successfully employed group is, therefore, more conscientious, persevering, and rule-bound than the unsuccessfully employed group. This factor alone was responsible for correctly identifying twenty-three of the twenty-seven subjects.

There are three additional variables which were significant indicators of vocational success. Although they were not included in the stated hypotheses, their mention is included in order to present all significant data.

After conscientiousness, Factor E (humble vs assertive) showed significance at the .05 level for total analysis. Combined with Factor G, this variable correctly identified twenty-four out of the twenty-seven subjects. These results indicate that the successful group is more conscientious
in addition to being more assertive and independent than the unsuccessful group.

Factor M (practical vs imaginative) was also significant at the .05 level for total analysis. In combination with Factor G and Factor E, this variable accounts for twenty-four out of twenty-seven subjects. Therefore, the successfully employed group appears to be more imaginative and introspective than the unsuccessfully employed group.

Also significant at the .05 level for total analysis was Factor Q2 (group dependent vs self-sufficient). The successfully employed group was revealed to be more self-sufficient than the unsuccessfully employed group. This is the last factor included because the remaining factors tend to add more contamination than their predictive value would add. The four factors included were responsible for correctly identifying twenty-three out of twenty-seven individuals.

**Hypothesis II**

This hypothesis predicted that the successfully employed group would be rated higher on the attitudinal scales of cooperativeness, responsibility, and initiative, than the unsuccessfully employed group. Chi Square analysis partially confirmed the stated hypothesis with the factor of cooperativeness reaching the .01 level of
significance; the factors of initiative and responsibility failed to reach significance. Therefore, it was indicated that being cooperative is related to vocational success.

Table 3 presents the twenty Chi Square analyses that were completed on the attitudinal variables.

<table>
<thead>
<tr>
<th>Attitude Description</th>
<th>Overall Chi²</th>
<th>Probability Level</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Self-confidence</td>
<td>5.8801</td>
<td>0.05</td>
<td>$S$</td>
</tr>
<tr>
<td>2. Cheerfulness</td>
<td>1.5173</td>
<td>0.52</td>
<td>NS</td>
</tr>
<tr>
<td>3. Responsible</td>
<td>0.0198</td>
<td>0.99</td>
<td>NS</td>
</tr>
<tr>
<td>4. Initiative</td>
<td>2.6518</td>
<td>0.26</td>
<td>NS</td>
</tr>
<tr>
<td>5. Perseverance</td>
<td>3.0995</td>
<td>0.21</td>
<td>NS</td>
</tr>
<tr>
<td>6. Cooperative</td>
<td>8.3077</td>
<td>0.01</td>
<td>$S$</td>
</tr>
<tr>
<td>7. Respectful of Supervisor</td>
<td>3.9381</td>
<td>0.13</td>
<td>NS</td>
</tr>
<tr>
<td>8. Accepts Criticism</td>
<td>1.3776</td>
<td>0.50</td>
<td>NS</td>
</tr>
<tr>
<td>9. Works Independently</td>
<td>1.4694</td>
<td>0.51</td>
<td>NS</td>
</tr>
<tr>
<td>10. Good Grooming</td>
<td>3.5168</td>
<td>0.17</td>
<td>NS</td>
</tr>
<tr>
<td>11. Punctual</td>
<td>7.1633</td>
<td>0.02</td>
<td>$S$</td>
</tr>
<tr>
<td>12. Attendance</td>
<td>6.6673</td>
<td>0.03</td>
<td>$S$</td>
</tr>
<tr>
<td>13. Careful with Materials</td>
<td>2.1477</td>
<td>0.34</td>
<td>NS</td>
</tr>
<tr>
<td>14. Completes Work on Time</td>
<td>7.1633</td>
<td>0.02</td>
<td>$S$</td>
</tr>
<tr>
<td>15. Quality of Work</td>
<td>6.9566</td>
<td>0.03</td>
<td>$S$</td>
</tr>
<tr>
<td>16. Understands Work</td>
<td>3.8942</td>
<td>0.14</td>
<td>NS</td>
</tr>
<tr>
<td>17. Works Well with Others</td>
<td>2.0491</td>
<td>0.36</td>
<td>NS</td>
</tr>
<tr>
<td>18. Good Judgment</td>
<td>2.7000</td>
<td>0.25</td>
<td>NS</td>
</tr>
<tr>
<td>19. Politeness</td>
<td>2.7000</td>
<td>0.25</td>
<td>NS</td>
</tr>
<tr>
<td>20. Willingness to Work</td>
<td>5.7630</td>
<td>0.05</td>
<td>$S$</td>
</tr>
</tbody>
</table>

$\chi^2$ degrees of freedom = 2
Further Chi Square analysis revealed six additional attitudes which were significantly related to vocational success. Even though they were not included in the hypothesis, they will be reported and discussed so that all relevant data is reported. Of these six variables, two reached the .02 level, two reached the .03 level, and two reached the .05 level of significance.

Those factors which reached the .02 level of significance were punctuality and completing work on time. Therefore, the successfully employed group are rated as being more punctual and as able to finish their work in the time allotted.

The factors which reached the .03 level of significance were attendance and quality of work. The successfully employed group is rated as having better attendance and as producing better quality work than the unsuccessfully employed group.

The .05 level of significance was reached by the attitudinal factors of self-confidence and willingness to work. This reveals that the successfully employed group is rated as possessing more self-confidence and as being more willing to work than the unsuccessfully employed group.

Hypothesis III

This hypothesis stated that the entire group of
mentally retarded males would show significant differences on the total personality profile of the 16PF as compared to the normative population. A "t" test was completed to determine differences between the mean scores of the sample studied and the mean scores of the standardization sample. This statistical analysis did not lead to a confirmation of the stated hypothesis because only Factor B (less intelligent vs more intelligent) reached the .05 level of significance. Table 4 presents mean scores for the sixteen factors tested.

Summary

Results of the analysis of the test data revealed several variables which were significant predictors of vocational success. The personality factors which were related to successful vocational adjustment were conscientiousness, assertiveness, imaginativeness, and self-sufficiency, all of which reached the .05 level of significance. The attitudinal variable of cooperativeness reached the highest level of significance (.01) of the twenty which were tested. Other attitudes that appeared able to predict vocational success were punctuality; completing work on time; attendance; quality of work; self-confidence; and willingness to work. Discussion of these results will follow.
TABLE 4
MEAN SCORES AND SIGNIFICANCE LEVEL FOR POPULATION AS REVEALED FROM 16PF, FORM E

<table>
<thead>
<tr>
<th>Factor</th>
<th>Sample Mean Score</th>
<th>Test Mean Score</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor A</td>
<td>5.7</td>
<td>5.5</td>
<td>NS</td>
</tr>
<tr>
<td>Factor B</td>
<td>3.7</td>
<td>5.5</td>
<td>S(.05)</td>
</tr>
<tr>
<td>Factor C</td>
<td>5.2</td>
<td>5.5</td>
<td>NS</td>
</tr>
<tr>
<td>Factor E</td>
<td>6.0</td>
<td>5.5</td>
<td>NS</td>
</tr>
<tr>
<td>Factor F</td>
<td>5.9</td>
<td>5.5</td>
<td>NS</td>
</tr>
<tr>
<td>Factor G</td>
<td>5.1</td>
<td>5.5</td>
<td>NS</td>
</tr>
<tr>
<td>Factor H</td>
<td>4.8</td>
<td>5.5</td>
<td>NS</td>
</tr>
<tr>
<td>Factor I</td>
<td>5.6</td>
<td>5.5</td>
<td>NS</td>
</tr>
<tr>
<td>Factor L</td>
<td>5.3</td>
<td>5.5</td>
<td>NS</td>
</tr>
<tr>
<td>Factor M</td>
<td>5.9</td>
<td>5.5</td>
<td>NS</td>
</tr>
<tr>
<td>Factor N</td>
<td>5.8</td>
<td>5.5</td>
<td>NS</td>
</tr>
<tr>
<td>Factor O</td>
<td>5.2</td>
<td>5.5</td>
<td>NS</td>
</tr>
<tr>
<td>Factor Q₁</td>
<td>5.4</td>
<td>5.5</td>
<td>NS</td>
</tr>
<tr>
<td>Factor Q₂</td>
<td>6.1</td>
<td>5.5</td>
<td>NS</td>
</tr>
<tr>
<td>Factor Q₃</td>
<td>5.6</td>
<td>5.5</td>
<td>NS</td>
</tr>
<tr>
<td>Factor Q₄</td>
<td>5.6</td>
<td>5.5</td>
<td>NS</td>
</tr>
</tbody>
</table>

Chi² degrees of freedom = 2

Factor B is the only factor which falls outside + or - one standard deviation of the 16PF; therefore it is the only one considered significant.

Mean scores for the standardized population is 5.5 for all 16 factors.
CHAPTER IV
DISCUSSION

The present study was designed to present some definite personality variables which would prove to be significant in the prognosis for successful employment of mentally retarded males. The investigation was limited to a small number of men (27) who reside in the Marbridge House in Dallas, Texas, and who are employed in various occupations in that city. Definition of these personality dimensions was based on Cattell's Sixteen Personality Factor Questionnaire, Form E. None of the personality factors was treated as being negative or positive, but only as to its relation to vocational success.

Secondly, the study was designed to uncover attitudinal variables related to vocational success and to explore how these attitudes might be related to the significant personality factors. Thirdly, the study presented the personality profile of the sample in order to discover any significant differences between those individuals studied and the normative population. The three experimental hypotheses will be presented, and the significant findings will be discussed.
Hypotheses

Hypothesis I

Wallin (1966) concluded that application, ambition, and motivation seem to be related to the vocational success of mental retardates. Therefore, it was predicted that the successfully employed group would score significantly higher on Factor G (expedient vs conscientious) as compared to the unsuccessfully employed group.

This hypothesis was confirmed by discriminant function and revealed three additional personality characteristics which, when combined with conscientiousness, are significant at the .05 level for total analysis. These factors are Factor E (humble vs assertive); Factor M (practical vs imaginative); and Factor Q₂ (group dependent vs self-sufficient).

The formulation of this hypothesis evolved from a search of the literature which reveals numerous personality characteristics that were related to satisfactory job adjustment by mental retardates. The presence of certain ones of these variables in different individuals seems to be instrumental in their vocational adjustment. Therefore, it is apparent that those who have been rated as successfully employed should have scored significantly different on individual scales of the 16PF than those who were rated as unsuccessfully employed.
Since Factor G (conscientious vs expedient) was alone able to correctly identify 23 out of the 27 subjects, this trait appears to be extremely important for consideration. Conscientiousness seems to be instrumental in providing these mentally retarded men with work behavior which satisfies their employers. This finding supports results from previous studies in which personality factors are viewed in relation to job success. One such study was conducted by Kolstoe in which he mentions cooperativeness and responsibility as important prognostic traits for vocational adjustment. It is believed that being conscientious would motivate an individual to be cooperative in completing tasks assigned by an employer. In addition, those persons who accept responsibility and are dependable would be that way due to their basic desire to do what they know is expected of them.

High motivation is listed by Shafter as an important variable in job success. As previously mentioned, it seems that conscientiousness would result in a high degree of motivation to be cooperative and to accept responsibility. This means that the mentally retarded employee would be obedient to an employer's requests; therefore obedience, also mentioned by Shafter in a previous study, appears to be another facet of conscientiousness.
It would seem that this personality characteristic must be more essential for a retarded employee than it would be for the average employee. The subnormal is working under a profound handicap when he must compete with individuals of normal intelligence. The fact that he possesses a conscientious attitude toward his job responsibilities would help him make up somewhat for his intellectual deficit. In addition, most retarded employees are given jobs where they do routine, uncomplicated tasks which require little or no creativity. Individuals who perform routine work would most likely not be desirable if they were less conscientious and were more expedient and disliked following rules closely. Therefore, the mental retardate who is conscientious would seem to be a good candidate for most jobs that are open to these individuals.

Two of the next three factors which were significant indicators of successful employment seem to complement and enhance the important variable, conscientiousness. These factors are assertiveness and self-sufficiency: the successfully employed group was more assertive and self-sufficient. Therefore, the employees who satisfied their respective employers are generally men characterized by conscientiousness, assertiveness, independence, and self-sufficiency. The combination of these factors could
possibly reflect a work situation in which the employer would be able to explain the task involved and feel confident that his worker could follow through successfully without constant supervision.

The remaining factor which was also significant in distinguishing vocational success is imaginativeness: those who were rated as successful employees were more imaginative and impractical. Even though this factor seems to contradict those mentioned previously, it is possible that when it is in combination with them, it may not be as influential in vocational success. In other words, these mentally retarded employees are wrapped up in inner urgencies, but with their high degree of motivation and conscientiousness, this impracticality probably does not interfere with job performance.

In summary, it appears that vocationally successful retarded males seem to possess certain personality characteristics as derived from discriminant analysis. These characteristics are conscientiousness, assertiveness, imaginativeness, self-sufficiency.

Hypothesis II

Previous research findings of Kolstoe (1961) and Warren (1961) revealed that certain attitudinal traits appeared to contribute to successful employment. Therefore,
it was predicted that the successfully employed group would be rated higher on the attitudinal scales of cooperativeness, responsibility, and initiative than the unsuccessfully employed group.

This hypothesis was partially confirmed in that cooperativeness was significant at the .01 level as revealed through Chi Square analysis. However, the traits of responsibility and initiative failed to reach the needed level of significance. In addition to cooperativeness, there were six other attitudinal variables which reached to at least the .05 level of significance. These traits are completing work on time; punctuality; attendance; quality of work; self-confidence; and willingness to work.

These variables were statistically analyzed in order to determine their relation to personality factors considered prognostic indicators of vocational success. Of the twenty attitudinal traits, that of cooperativeness emerged as the most significant variable related to vocational success. This has previously been discussed as possibly being a manifestation of a conscientious attitude. The fact that conscientiousness was the best personality factor in identifying the successful worker and cooperativeness was the most significant attitude related to job success is a strong indication that the personality trait
may provide the impetus for cooperativeness. It would seem, therefore, that this combination of variables would be important for the mental retardate to possess if he is to succeed vocationally.

Other attitudinal variables which proved to be significant were punctuality and completing work on time which reached the .02 level and attendance which reached the .03 level. These three factors also appear to be related to conscientiousness, for a worker who can be depended upon to arrive on time with few absences would be desired by most employees and considered dependable. If an employee can also be depended upon to do assigned tasks within a time schedule, he would probably be thought of as conscientious. Completing work on time appears related to the personality factors of assertiveness and self-sufficiency. This is because an individual would probably need to be able to take independent action to finish tasks without undue delay. These findings support Kolstoe's conclusions that independence of action seems important in job success.

Turning out good quality work also showed significance (.03 level) for vocational success. However, there does not seem to be an obvious relation between this factor and the personality variables which were significant in identifying the successfully employed subjects.
Another attitudinal variable which showed significance (.05 level) is willingness to work. This factor also appears to be related to the personality characteristic of conscientiousness. An employee would necessarily have to be conscientious before he would be willing to work and accept assignments without complaining.

The last attitudinal variable that was significant is self-confidence at the .05 level. It appears to be related to the personality factor described as self-sufficiency. Being able to rely on one's decisions and feel confident with them are probably desirable traits for any employee, but especially for one who is handicapped by mental retardation.

Hypothesis III

It was predicted that the group of mentally retarded males would show significant differences on the total personality profile of the 16PF as compared to the normative population. The sheltered and fairly structured environment in which these men live and work seems to project a situation in which certain character traits would be subdued or exaggerated in comparison to persons living more independently.

This hypothesis was formulated in anticipation that the sample studied would reveal marked differences in
several 16PF scales. However, the findings were not consistent with the stated hypothesis.

From "t"-test analysis, the only scale which was significant was Factor B (less intelligent vs more intelligent), and this factor is not usually considered a personality variable. It does point out, nevertheless, that members of the sample studied are generally lower in intelligence than most individuals who are intellectually limited. These results should strengthen the previously discussed findings. The personality variables that were prognostic of employability for this extremely subnormal group should be significant for other individuals who function at a somewhat higher intellectual level.

On the remaining scales the group received scores which were not significantly different from the standardization sample. It appears that these individuals as a group do not possess any personality traits which are uniformly inconsistent with those of other persons who have taken Form E of the 16PF.

**Implications**

There were several attitudinal variables which emerged as significant in distinguishing the successfully employed group from the unsuccessfully employed group. These variables, with one exception, appeared to be
related to one or more of the personality factors that were indicators of vocational success. However, these relationships were discussed only on the basis of their logical correlation and not on any statistical analysis between them. Therefore, any vocational placement which considers such a relationship between personality traits and attitudes should be done cautiously.

Another aspect that should be considered is the fact that numerous raters (the employers) were used, and their various opinions would cause more contamination than if one rater had been used. This was necessary due to the nature of the research, but it should be remembered that the various feelings of the employers certainly affected their ratings.

The standard personality measure that was utilized seems to be an adequate discriminator of the personality differences among these mentally retarded males. From this instrument, conscientiousness would appear to be an important criterion for vocational placement. The effect of this personality characteristic upon work attitudes is something that placement counselors should look for in their work with mental retardates.
CHAPTER V
SUMMARY AND RECOMMENDATIONS

Summary

In recent years the employers in industry have begun to realize the many advantages in hiring mentally handicapped employees. They can perform varied tasks with feelings of pride and accomplishment that most individuals of normal intelligence would dislike doing. The growing number of retarded workers entering vocations have made it necessary to discover some ways in which placement on jobs could be more accurate and satisfactory—to employer and employee alike. Of studies which have been designed to distinguish variables related to work success, many have been contradictory. They have also yielded too many variables to be of practical value. This is especially true concerning the personality factors related to vocational success. Therefore, the present research was designed to isolate a limited number of personality variables upon which counselors could depend when attempting to find employment for retarded workers.

The sample studied in this investigation consisted of twenty-seven male retardates who live in the Dallas Marbridge House and are employed in various occupations
in that city. These men were administered Cattell's Sixteen Personality Factor Questionnaire (Form E) from which the significant variables were determined through discriminant function. Each man's employer was asked to rate the workers on twenty attitudinal traits and how they were present in the subject as compared to the average employee. Chi Square analysis was run on this rating scale to determine which attitudes revealed significance for employability. Also each employer was asked if he would hire the retarded worker if he were in competition for a job with an average worker. Those subjects who would have been hired were rated as successfully employed, of which there were twenty-one. Those who would not have been hired were rated as unsuccessfully employed, of which there were six. This arbitrary decision by each employer was the criterion by which the group was divided into two groups.

Three hypotheses were formulated for testing, and the results of this study yielded significant information. Four personality variables reached the needed level of significance. The one variable which was the best indicator of employability was conscientiousness with the three additional ones being assertiveness, imaginativeness, and self-sufficiency.
Six attitudinal traits revealed significance, and they were cooperation, punctuality, completing work on time, attendance, quality of work, self-confidence, and willingness to work. These work attitudes were discussed concerning their relation to the personality traits which showed significance as indicators of successful employment.

Recommendations

From the present study recommendations for further research need to be made. These results should be confirmed with a larger population of retardates who work elsewhere in the United States. Some research using female retardates also seems worthwhile. In any further studies knowledge of more situational variables such as intelligence and length of employment would be beneficial. Lastly, more research that involves the study of how specific personality variables might be manifested through work attitudes would offer much to this area of study.
REFERENCES


Cattell, R. B.; Handbook for the 16PF, Questionnaires; Champaign, Illinois; IPAT, 1957.


APPENDIX A

Please rate ______________ as he compares with your average employee in the following areas:

<table>
<thead>
<tr>
<th></th>
<th>Less than the average employee</th>
<th>Equal to the average employee</th>
<th>More than the average employee</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Self-confidence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Cheerfulness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Irresponsible</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Initiative</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Perseverance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Uncooperative</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Respectful of Supervisor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Accepts criticism</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Unable to work independently</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Good grooming</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Punctuality</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Attendance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Careless with materials and property</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Completes work on time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Quality of work</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Understands work</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. Unable to work with others</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. Uses good judgment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. Politeness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. Willingness to learn</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

46
APPENDIX A—Continued

Would you be willing to hire this individual as you would your average applicant if a job were available?

YES____ PROBABLY___ PROBABLY NOT___ NO___

If the above answer is PROBABLY NOT or NO, please answer the following:

Would hire if (state condition):
Would you be willing to hire this individual as you would your average applicant if a job were available?

YES ___  PROBABLY ___  PROBABLY NOT ___  NO ___

If the above answer is PROBABLY NOT or NO, please answer the following:

Would hire if (state condition):