

A COMPARISON OF PERSONALITY VARIABLES OF COLLEGE WOMEN PHYSICAL EDUCATION MAJORS WHO WERE SUCCESSFUL IN STUDENT TEACHING WITH THOSE WHO WERE LESS SUCCESSFUL

by

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CHAPTER I

INTRODUCTION

The personality of the teacher has an unconscious effect on the minds of the students; it can induce them to learn, to misbehave, to be happy, to be unhappy, to resent school and to love school (19:38-40). An employer will seldom hire a teacher without a personal interview and (or) references concerning the personality of the teacher.

If personality is so important for effective teaching, it would seem that it has a special implication for the teacher training institutions in the selection and guidance of students. The institution has an obligation to the students and to the profession to graduate only those young women who have the qualifications of a successful teacher (53). "No school is greater than its staff" (28:119); thus, the education of the nation can be of no higher quality than the quality of individuals who are certified as teachers.

Often the students of equal intelligence, teaching techniques and command of subject matter vary widely in achieving success as student teachers or teachers. This variance has often been attributed to personality differences (26:10).

Because of the limited amount of research in this field, the degree to which certain personality traits influence success has not been determined and can only be judged empirically (20:48); however, it has been stated that the successful teacher in any field has certain qualities which are similar. It has been further stated that these characteristics differ from one teaching field to another (20:48), and because of personality traits, one might be more suited for teaching in a particular field of specialization. If this is true and the personality traits that are characteristic of success in a particular field can be determined, vocational guidance will be greatly enhanced.

In order for personality inventories to be effective in a guidance program, personality profiles must be devised for specific occupations. Although a person is able to cultivate certain personality traits, it is useless to talk to a student about improving her personality unless the ingredients of the desired personality are known.

If the personality traits can be ascertained for the successful teacher of physical education, it is believed that the personality inventory can be of great value in the selection of students in the professional physical education program, the guidance of students in developing the desired personality characteristics and in the selection of teachers in service.

The writer does not advocate the use of the personality inventory as the sole criterion for predicting success. No one factor can be isolated as the basis of teaching success, but it is believed that personality testing is a vital component in the prediction of success in any field.

CHAPTER II

STATEMENT OF THE PROBLEM AND DEFINITIONS OF TERMS

1. Statement of the Problem

This study involved a comparison of personality characteristics of successful and less successful women student teachers in physical education, as measured by the Edwards Personal Preference Schedule. The purpose of the study was to determine whether there was an existing similarity in the personality patterns of successful student teachers that differed from those who were less successful.

A secondary purpose was to compare these groups with a group of successful women physical education students and teachers whose scores on the Edwards Personal Preference Schedule were reported in the Thorpe (61) study.

A third purpose of this study was to determine whether those persons who majored in physical education possessed personality characteristics which differed from those who chose other vocations, regardless of the degree of teaching success. This involved a comparison of the student teacher groups with a normative group of college women which was measured by Edwards (12).

2. Definitions of Terms

For the purposes of this study, the following definitions were accepted:

<u>Student</u> <u>teaching</u>: a realistic experience in teacher preparation in mich junior and semior physical education majors participate through limited observation, assisting, and actual teaching for a limited period of time in an actual school situation.

Personallity: the unique, individual pattern of anothous and social qualitities together with drives, semithenes and interests which anothe one to react to himself and to his anviroment, and to interests with his associ-

<u>Successively</u> a student teacher who is outstanding in the following areas: knowledge of subject matters; teaching methods; chase organization and control; correct use of English; initiative; personal appearance; and the ability to get along with students, teachers and administrators.

Less successiful: a student teacher who does not most the qualitycations as defined for the successiful student teacher.

<u>Personality variables</u> measurable categories into which have been placed a number of similar behavioral patterns, which in turn integrate to make up the total personality (21). The variables used in this study were the following:

Achievement: To do one's best, to be successful, to accomplish tasks requiring skill and effort, to be a recognized authority, to accomplish something of great significance, to de a difficult job well, to solve difficult problems and puzzles, to be able to do things better than others, to write a great novel or play.

Deference: To get suggestions from others, to find out what others think, to follow instructions and do what is expected, to praise others, to tell others that they have done a good job, to accept the leadership of others, to read about great men, to conform to custom and avoid the unconventional, to let others make decisions.

20.

Order: To have written work neat and organized, to make plans before starting on a difficult task, to have things organized, to keep things neat and orderly, to make advance plans when taking a trip, to organize details of work, to keep letters and files according to some system, to have meals organized and a definite time for eating, to have things arranged so that they run smoothly without change.

Exhibition: To say witty and clever things, to tell amusing jokes and stories, to talk about personal adventures and experiences, to have others notice and comment upon one's appearance, to say things just to see what effect it will have on others, to talk about personal achievements, to be the center of attention, to use words that others do not know the meaning of, to ask questions others cannot answer.

Autonomy: To be able to come and go as desired, to say what one thinks about things, to be independent of others in making decisions, to feel free to do what one wants, to do things that are unconventional, to avoid situations where one is expected to conform, to do things without regard to what others may think, to criticize those in positions of authority, to avoid responsibilities and obligations.

Affiliation: To be loyal to friends, to participate in friendly groups, to do things for friends, to form new friendships, to make as many friends as possible, to share things with friends, to do things with friends rather than alone, to form strong attachments, to write letters to friends.

Intraception: To analyze one's motives and feelings, to observe others, to understand how others feel about problems, to put one's self in another's place, to judge people by why they do things rather than by what they do, to analyze the behavior of others, to analyze the motives of others, to predict how others will act.

Succorance: To have others provide help when in trouble, to seek encouragement from others, to have others be kindly, to have others be sympathetic and understanding about personal problems, to receive a great deal of affection from others, to have others do favors cheerfully, to be helped by others when depressed, to have others feel sorry when one is sick, to have a fuss made over one when hurt.

Dominance: To argue for one's point of view, to be a leader in groups to which one belongs, to be regarded by others as a leader, to be elected or appointed chairman of committees, to make group decisions, to settle arguments and disputes between others, to persuade and influence others to do what one wants, to supervise and direct the actions of others, to tell others how to do their jobs. Abasement: To feel guilty when one does something wrong, to accept blame when things do not go right, to feel that personal pain and misery suffered does more good than harm, to feel the need for punishment for wrong doing, to feel better giving in and avoiding a fight than when having one's own way, to feel the need for confession of errors, to feel depressed by inability to handle situations, to feel timid in the presence of superiors, to feel inferior to others in most respects.

Nurturance: To help friends when they're in trouble, to assist others less fortunate, to treat others with kindness and sympathy, to forgive others, to do small favors for others, to be generous with others, to sympathize with others who are hurt or sick, to show a great deal of affection toward others, to have others confide in one about personal problems.

Change: To do new and different things, to travel, to meet new people, to experience novelty and change in daily routine, to experiment and to try new things, to eat in new and different places, to try new and different jobs, to move about the country and live in different places, to participate in new fads and fashions.

Endurance: To keep at a job until it is finished, to complete any job undertaken, to work hard at a task, to keep at a puzzle or problem until it is solved, to work at a single job before taking on others, to stay up late working in order to get a job done, to put in long hours of work without distraction, to stick at a problem even though it may seem as if no progress is being made, to avoid being interrupted while at work.

Heterosexuality: To go out with members of the opposite sex, to engage in social activities with the opposite sex, to be in love with someone of the opposite sex, to kiss those of the opposite sex, to be regarded as physically attractive by those of the opposite sex, to participate in discussions about sex, to read books and plays involving sex, to listen to or to tell jokes involving sex, to become sexually excited.

Aggression: To attack contrary points of view, to tell others what one thinks about them, to criticize others publicly, to make fun of others, to tell others off when disagreeing with them, to get revenge for insults, to become angry, to blame others when things go wrong, to read newspaper accounts of violence. (12)

CHAPTER III

REVIEW OF LITERATURE

Great teachers throughout the ages have sought the laws of personality. Since the development of the concept that the homo-sapien is an integrated person without a separate mind, body and soul, man has sought ways to use this concept for more effective pedagogy. In the teacher training institutions, a special effort is being made to select and train successful teachers; however, these institutions are still faced with a need for more valid, reliable means of measuring and predicting success in teaching.

CRITERIA OF TEACHER SUCCESS

Varying opinions have existed in regard to the characteristics of the successful teacher. In teacher selection and guidance, it is necessary that one be able to recognize the successful teacher; it is also important that the teacher recognize this in her own personal evaluation.

One of the first methods of recognizing the successful teacher is to study her influence on the students (18:34). Reese (23:140) has contended that no greater joy can come to a teacher than to see her pupils succeed. The student's success indicates that she, too, is successful. To observe a class in which the pupils like the teacher and one in which the pupils are interested in school and classroom activities was considered, by Tschechtelin (62) and McKenny (19:27), a very obvious indication that the teacher is doing a good job.

The teacher's personality either favorably or unfavorably affects the child's learning (2:128). Dewey (10:59) believed that everything a teacher does incites the child to respond in some manner. This may be good or bad, depending upon the teacher. The ability of the students to learn was also listed by Brubacher (6:278) and Groves (15:16-17) as the best indication of success.

Another criterion of the successful teacher that would be obvious during the observation of a class is her ability to control the class (3; 8:86; 52; 55). This does not mean rigid discipline and absolute control, but discipline by indirect means whereby there is lack of tension and the student and teacher are in harmony with one another, working together to accomplish the objectives of education.

Another place that one might look for insight into the evaluation of the effectiveness of the teacher is among the citizens of the community in which she teaches. The attitude of the parents has been suggested as a criterion for measuring the success of the teacher (18:40). According to this theory, if the teacher is successful, the parents will have a favorable interest in the school and its activities and will be willing to support education in general.

Another sign of a successful teacher is her ability to attain and hold a job (55; 9:9-10). Occasionally, other factors such as

progressiveness of the teacher in a non-progressive community or jealousy of other teachers might cause one to lose her job, but in almost every situation, it is the fault of the teacher involved (7:80).

From the literature reviewed here, it is contended that education depends on the successful teacher. To incite a child to learn, to develop within him discipline and co-operation and to interest the parents in the school and its objectives make it imperative that the teacher training institutions use every available means of predicting success in teaching. Only then can there be effective guidance for the progress of the student and the profession.

PERSONALITY AS A COMPONENT OF TEACHER SUCCESS

A subject becomes alive to the extent that a teacher can and will project into it her personality; thus, it is through the teacher's personality that subject matter receives its spirit and life. It is difficult to learn something that is uninteresting and meaningless; therefore, it is believed that it is that intangible something called personality that makes the teacher successful since an untaught child leaves an unsuccessful teacher (9:67; 5:113; 23:129; 7:81; 17:5).

Personality, as a factor in predicting teacher success, has only recently been recognized. In 1944, a review of literature revealed considerable emphasis on personality as the main criterion for the selection of teachers (30). Before this time, training, academic grades and teaching methods were commonly used as a basis for predicting success. This

raised the question as to why teachers who had "all" of the attributes for success would sometimes fail in student teaching or teaching (26:10).

Several studies have been conducted to determine the importance of training, academic grades and teaching methods. Almack and Lang (1:24) revealed that there is little correlation between success and the amount of training a person has had. Handy and Latchaw (43), in a study to determine the effects of academic grades on teaching success, found little correlation for those with a grade point average of 1.7 ("C"=1.0) and above. Very low academic grades tended to influence success but an average academic student had the possibility of becoming an outstanding teacher. In a study conducted by Morris (21), academic grades were rated first as a prediction of success, while personality was rated second. Personality was measured by the Trait-Index - L as devised by Morris. This Trait-Index included opportunities for expressing degrees of likes and dislikes, for reacting tactfully and untactfully and for interpreting situations, both in terms of judgment and in feeling. Scores on the index correlated +.463±.068 with student teaching grades when other measurable variables, academic grades and intelligence, were held constant.

Various studies have indicated that personality, rather than education and skill, is the determining factor for awarding salary increments (25:17-18). Certain personality traits have been listed as a requirement for acceptance in certain universities, and it has probably been one of the greatest determining factors in job interviews (16:191; 37).

A number of studies have been conducted to determine the effects of

personality on teaching success. In a report by the American Association for Health, Physical Education and Recreation (34:142), personal qualifications (character and personality) were listed among those characteristics necessary for a successful physical education teacher. Kelley (47) and McKinstry (53) have suggested that personality, rather than academic and professional knowledge and skills, is the most indispensible factor in determining success in teaching physical education; therefore, one might conclude that tests for personality are of long-range significance in predicting teaching success. In a follow-up of in-service teachers, using the University of California Rating Scale for Practice Teaching and a rank-order rating of teachers in their respective faculty groups, it was found that the highest correlation was between the successful teacher and the "good" personality (58; 59).

In a study by Bond (33), when thirty-two characteristics of student teachers were rated by supervisors, the mean scores were higher on personal qualities than on scholarship and professional competence.

In an investigation by Engelhardt (38), personality was listed by school administrators as one of the most important characteristics in the selection of a physical education teacher. He quotes one of the superintendents in regard to personality who said:

Health and physical education teachers hold strategic positions. From the very nature of their work, their contacts with boys and girls are the closest, the most personal, and the most intimate contacts which teachers have. Therefore, opportunities are presented for molding . . . which do not exist for the classroom teacher. We, therefore, want in this work, men and women whose personality, whose character, whose influence, and whose outlook upon life are wholesome, positive and unquestionable.

It is obvious that much has been done to secure only the best teachers, but it is equally obvious that there is much need for more work in this area. From all of these studies, it was noted that a "good" personality is essential for good teaching; however, each person has a different concept of what constitutes a good personality.

An attempt to isolate personality variables in order that the effectiveness of each might be discovered is an exceedingly difficult task. Some qualities are more significant than others in determining teacher success (24:155). Many of the traits are not observable and can only be inferred (13:9); therefore, it is difficult to determine which ones are necessary and which ones are lacking. This well-known rhyme might correctly illustrate this situation:

> I do not love thee, Dr. Fell, Why it is I cannot tell, But this one thing, I know full well, I do not love thee, Dr. Fell.

There is a real need for a rating scale that might be used in the selection and guidance of prospective teachers (51;35), and until there is one, many students will be Dr. Fells, desiring to know why they can't teach and the guidance personnel will not be able to tell them. There is much to be desired in teacher personality ratings and in student teacher ratings (41); yet, one seems to be essential for the development of the other, i.e., it is believed that in order to determine the personality profile of the successful teacher, a rating scale must first be developed for teacher evaluation and if personality is important in teacher success, the personality profile is needed for the teacher rating scale. METHODS AND DEVICES FOR PERSONALITY MEASUREMENT

Many instruments have been devised for the measurement of personality. These vary from very general observations to some relatively complex, though valid, instruments which can only be interpreted by a trained psychologist. The majority of the personality tests or inventories use a negative approach with traits measured in terms of neurotic tendencies; however, a few use the positive approach in which the personality is measured in terms of dynamic and motivational aspects of the personality. Personality tests may be classified as objective and subjective or unidimensional and multidimensional as well as negative and positive.

In general, subjective methods are used for diagnosing mental illness, while objective ones are used for research purposes. The observation technique and rating scales are subjective; the questionnaire is objective.

In the unidimensional - multidimensional classification, the unidimensional (14) is a study of the personality or the effects of the personality when only one trait is studied or when only one score is secured for the total personality. The interview is usually unidimensional and the interviewer rates the subject on the general effect of his personality. This might correspond to the subjective method.

The multidimensional inventory (14) is a study of a number of isolated personality variables from the same set of items which make up

the total personality or a segment of it. The Bernreuter Personality Inventory (4) is an example of the multidimensional type. In the Bernreuter Personality Inventory, published in 1932, there are 125 questions to which a person may answer "yes", "no" or "?" to indicate agreement, disagreement or doubtfulness. There are four scoring keys which are supposed to rate neurotic tendency, self-sufficiency, introversion-extroversion and dominancesubmission (4). The average reliability for the four scales is approximately .86. When the scores were correlated with self-ratings, the validity coefficient was .56 to .67. This is high in view of the possible low validity of the self-ratings (32).

In reviewing the literature related to this topic, it is necessary to understand some of the other types of measuring devices that have been used for similar studies. These devices are examples of the above mentioned general types of personality measuring instruments.

The interview method (27) is usually used for educational purposes and for the diagnosis of maladjusted children and mental patients. The interview method has been condemned by some people because of poor administration, prejudice of the interviewer or poorly recorded data; however, in situations where one is interested in "first impressions", it is one of the best methods. Whenever the interview method is used, it is very important that the interviewer understand what he is doing and work to build good rapport with his subject, since often the failure of the interview is due to lack of empathic understanding (36). The interview is frequently used by employers in the selection of teachers;

however, the interview is most useful when combined with a battery of objective tests.

Another method used for the assessment of personality is the rating and self-rating scales. A rating or self-rating test is usually a multiplechoice type of test with answers varying from poor to outstanding and recorded as letters, numbers or words. This is the method most frequently used for evaluating the personality of the student teacher. One of the disadvantages of the rating scale is that it seems easy to administer; therefore, it is often used by inexperienced persons who are unconcerned about objectivity, reliability or validity. Such people do not usually bother with the more objective diagnostic type of test. A disadvantage of the self-rating scale is that subjects tend to rate themselves in a socially approved manner, or they will rate themselves as they would like to be rather than as they really are.

In the projective method (14:359-369) of evaluation, the individual is allowed to use objects, ideas, words or symbols to describe or to construct a dramatic presentation. In this, his attention is drawn away from himself. One is usually on the defensive if asked to discuss one's own problems, but when using the projective method, the subject is describing something which appears completely unrelated to his own personality. Some examples of this type of testing are the Thematic Apperception Test, Beta Ink Blot Test, Similies Test, Rorschach Test and the Dramatic Production Test.

Questionnaires (27:122-144) are often used in connection with

interviews and self-ratings. The questionnaire can usually be answered with "yes" and "no", or "always", "sometimes" and "seldom". The number of questions usually range from ten to 223 items; however, some of the multiphasic or multidimensional inventories have more items because they have several tests included in one. The Minnesota Multiphasic Personality Inventory (27:128-130), constructed by Hathaway and McKinley, is, perhaps, one of the best known of the standardized personality inventories. This test, consisting of 550 statements, is widely used in mental hospitals today. It is based on degrees of neurotic tendencies and is useful in differentiating normal personalities from abnormal ones. In education, it has been used with students having high and low academic grades and with subjects in different vocational fields. It is a clinical instrument that requires professional training and experience for accurate interpretation. Even when it is used with a clinical diagnosis, interpreters are likely to agree only about sixty per cent of the time (27:130).

The army, in attempting to improve upon the questionnaire and rating scale techniques, devised the forced choice technique (14:316-321) of personality rating. This was done in an effort to reduce the possibility of the individual choosing the more socially acceptable statement. When a comparison was made between a personality questionnaire and a forced-choice personality test by Gordon (42), no difference was noted between the item content and methods of interpretation; however, out of four variables tested, all four of the forced-choice type were

valid, while only two utilizing the questionnaire technique were valid.

THE EDWARDS PERSONAL PREFERENCE SCHEDULE

The Edwards Personal Preference Schedule is perhaps the most valid of the forced-choice tests. This device was constructed to measure fifteen variables which were considered by Murray (22:1h2-2h2) as needs which are manifest in action patterns. In this inventory, devised for college students, every effort has been made to reduce or eliminate the possible influences of social desirability. The test consists of an eight page booklet containing 225 pairs of statements. Edwards (12) had each statement scaled by judges' ratings for degrees of social desirability, and statements were matched accordingly. Each of the fifteen variables is paired twice with each of the other variables measured in the inventory. The subject selects one of the two statements in each pair that best applies to himself. These items probe into the personal, social, emotional and sexual needs of the subject (28).

The fifteen variables on the Edwards Personal Preference Schedule have been correlated with a specially constructed social desirability scale based on items from the Minnesota Multiphasic Personality Inventory and on the K-scale of the Minnesota Multiphasic Personality Inventory. The correlations were generally low, indicating that social desirability was not a major factor in the Edwards Personal Preference Schedule scores. This was supported by Silverman (60) with a repeated

test, using the K-scale and a second individual measure based on different scores on the Taylor Anxiety Scale and a forced-choice version of the Taylor Anxiety Scale designed by Heineman (45). Other studies, which support the lack of influence of social desirability as a factor in the Edwards Personal Preference Schedule, have been conducted by Klett (48) and Navran and Stauffacher (56).

In a comparison of the Minnesota Multiphasic Personality Inventory and the Edwards Personal Preference Schedule, Merrill and Heathers (54) found a tendency toward consistency between the two where relationships were found; however, the Edwards Personal Preference Schedule makes a contribution distinct from the Minnesota Multiphasic Personality Inventory. The Edwards Personal Preference Schedule reflects the relative strength of competing needs and attitudes rather than the absolute strength of any one need; the Minnesota Multiphasic Personality Inventory reflects the degree of response similarity to well-defined clinical groups. This tends to make the Edwards Personal Preference Schedule more feasible for research purposes when one is attempting to weigh the strength of different variables to determine personality patterns of certain vocational groups. The reliability of this test varies from .74 to .88 (12).

In a study by Bernardin and Jessor (31), a relationship was found between dependency (not included in the Edwards Personal Preference Schedule) and high scores on deference and low scores on autonomy. This contributes to the validity of these two scales on the Edwards Personal Preference Schedule. The validity of the Edwards Personal Preference

Schedule has been established with correlations with self-ratings and other test scores.

Studies have been conducted by French (40), Klett (48; 49) and Heilbrun (44) to determine the possibilities of the use of the Edwards Personal Preference Schedule with different age groups, social groups and vocational groups.

No one method can be called the best method for personality testing. The method used will depend on the situation, the training of the test administrator and the purpose of the test. There is still a need for more valid instruments for personality measurement. This is a handicap in any attempted personality study; however, much can be learned by the use of existing instruments.

RELATED STUDIES

Studies to determine the personality characteristics of physical education teachers are divided into two groups - those who choose physical education as a major in college, and those college physical education majors or in-service personnel who are considered outstanding students or teachers.

Using the Bernreuter Personality Inventory, Duggan (11) compared 200 physical education major students with 200 non-major students. The personality characteristics being compared were stability, introversionextroversion, self-sufficiency and dominance-submission. These were chosen because they could be measured objectively. She found that major

students tended to be less neurotic, more extroverted and more dominant than non-majors. There was little difference in self-sufficiency.

In comparing physical education majors with a normative group of college or adult women, Espenschade (39) concluded that the physical education major tends to be more emotionally stable, more dominant and more sociable than the average college or adult woman. Her study was based on results from the Bernreuter Personality Inventory.

In a comparison of student pilots, track squad athletes, physical education majors and students enrolled in weight lifting, Henry (46) reported that athletes and aviators had nearly identical scores, and that they were significantly more neurasthenic than physical education majors. Physical education majors were lower than weight lifters in total scores and in the ascendence-submission and Thurstone parts separately. These conclusions were based on results obtained from the use of a personality schedule including items from the Thurstone Neurotic Inventory and ascendence-submission questions.

Freeman (63) and Hein (64) compared personality traits of women who selected different physical activities by use of the Bernreuter Personality Inventory.

In the Freeman study, a group of dancers was compared with a group of physical education majors. The dance group showed a greater neurotic tendency, was more introverted, slightly more self-conscious and less sociable. There were no significant differences between the two groups in dominance-submission or self-sufficiency.

Hein compared the personality traits of five groups of students: those who selected individual sports, dance or team sports; a group who participated in no physical activity; and a physical education major group. The no activity group showed more self-sufficiency than the team sport group and less sociability than the team sport or the physical education major group. In comparing the physical education major group with the dance group, the results were the same as those found by Freeman. Hein concluded that there was a similarity of personality characteristics among a particular group, and that these differed from other groups who chose different activities.

Using as a measuring device, the Minnesota Multiphasic Personality Inventory, Mochel (65) compared a group of 263 physical education majors with a group of 255 education majors at the University of California. According to this inventory, the personal adjustment of the physical education majors was greater than the general education majors. The successful majors and those with higher academic grades were better adjusted than the less successful or the ones with low academic grades.

Studies to determine the personality characteristics of successful physical education teachers have been conducted by Palmer (57) and Thorpe (61).

In the Palmer study, fifty matched pairs of successful and less successful teachers were compared by the use of the Bernreuter Personality Inventory. The teachers were rated by three or more of their administrative superiors, who used a very simple man-to-man rating scale. The

successful teachers tended to be emotionally more stable, more selfsufficient, more extroverted and more dominant. The less successful group was below the normative group on the rating scale but very close to the norms. The successful group was at the opposite end of the rating scale above the norms. The less successful group was much nearer the norms than the successful group.

Thorpe (61) used the Edwards Personal Preference Schedule in a study of successful women students, graduate students and teachers of physical education. Based on the fifteen variables in the Edwards Personal Preference Schedule (12), Thorpe concluded that successful women in physical education tended to score significantly higher than the normative group in deference, order, dominance and endurance. They scored lower in autonomy, succorance, aggression and heterosexuality.* The three groups were compared with each other and with the normative group as established by Edwards. It was further revealed that there were significant differences between each of the groups; however, these differences were not great enough to destroy a similarity of patterns of personality variables when compared with the normative group.

The writer was interested in determining whether these characteristics, as revealed by the Thorpe study, were true only of the successful physical education teacher and if so, to what extent they differ from a less successful group.

"The variables discussed here are defined on page 4.

The existing evidence has indicated that a positive relationship exists between personality and vocational success. Because of the implications that this might have for guidance and teacher selection in the field of physical education, there seems to be a need for more research to determine the personality profile of the physical educator.

CHAPTER IV

PROCEDURE

Two of the problems faced in a study dealing with successful and less successful individuals in a given situation are those concerned with securing subjects and the selection and use of rating scales. In order to determine the best method of securing subjects, an interview was arranged in December with the chairman or a representative from each of the physical education departments in ten colleges or universities, in North Carolina and Virginia, that offer a major in physical education for women. A very brief outline of the proposed study was presented to each person interviewed and he (or she) was asked the following questions:

- 1. In your program, have you realized a need for a study of this type?
- 2. Would you be willing to participate in the study as it is now proposed?

3. Do you think that you would be willing to participate in the study if you were contacted by correspondence only?

4. What suggestions do you have for this study?

As a result of the interviews and the enthusiastic response of the physical educators consulted, the writer was encouraged to proceed with the study.

In dealing with the problem of subjective ratings, student teacher rating scales, currently in use in several colleges, were reviewed. These served as the basis for establishing the criterion for rating the subjects used in this study. A successful student teacher was described as one who was outstanding in the following areas: knowledge of subject matter; teaching methods; class organization and control; correct use of English; personal appearance; initiative; and the ability to get along with students, teachers and administrators. A less successful student teacher was one who failed to meet these qualifications. The final rating for each student was derived from ratings by all persons who supervised the student teaching experiences of the subject. This very general type of rating was used because the writer wished to classify students as nearly like they would be classified for college records and future job references as possible.

Several personality inventories have been used in studies of this type. Studies were read to determine the reliability, validity and lack of possible influence of social desirability of certain tests. The Edwards Personal Preference Schedule (12) was considered for use in this study because of its forced-choice element, high reliability and validity, the fact that it was devised for college students and only required about fortyfive minutes to complete. Since the test is in a restricted classification and it is relatively new, it was felt that the subjects would not be familiar with it.

A conference was held with Dr. I. A. Burch, Director of Testing at The Woman's College, who approved the choice of this test and agreed to loan the inventory booklets and secure the answer sheets for this study. This same test was discussed with two psychologists and a guidance counselor before it was definitely selected for use in this study.

In January, letters were sent to the administrator or a member of

the physical education staff of twenty different departments of physical education, which offer a major program for women, to explain the problem and to solicit subjects. Return postal cards were enclosed for those persons to indicate whether or not they would be willing to participate in this study, and, if so, to report the anticipated number of subjects in each category. A list of those who did participate in the study and a copy of the letter and postal card may be found in the Appendix. Those contacted were assured that all information concerning individual schools or subjects would be confidential and that the names of subjects would not be used.

Copies of the Edwards Personal Preference Schedule, with answer sheets and letters of instruction, were sent to each of the participating institutions on or before March 23. A copy of the letter and instructions appears in the Appendix.

The tests were administered by a member of the physical education staff in each of the participating institutions, who then placed an "A" on the answer sheet of the successful student teachers and a "B" on the answer sheet of the less successful ones. These letters, "A" and "B", were used as a code for categorizing the subjects. In some of the institutions, the tests were administered to all of the women student teachers in physical education and only those scores of the students who were rated successful or less successful were used in this study; in other institutions, the test was administered only to those students who were rated in one of these categories. The inventories of those subjects who were not rated

as successful or less successful were neither scored nor presented in any way in the data of this study.

All of the tests were returned on or before the fourth of May. As they were returned, each inventory was hand scored, and the consistency score was computed by counting the number of identical choices made in two sets of the same fifteen items distributed throughout the inventory. One would be expected by chance alone to score at least 7.5 on consistency; however, it was observed in a normative study by Edwards (12) that only two per cent of the subjects scored eight or lower. Because of the higher scores in the normative group, all tests with consistency scores of less than nine were eliminated from this study.

The means and standard deviations were computed for each group for each of the fifteen personality variables as well as the consistency variable.

Using the t-test for significance of difference between the means, the successful group of student teachers was compared with the less successful group on each of the fifteen personality variables and the consistency variable. Both of these groups consisted of junior and senior physical education majors currently enrolled in a college or university who have completed a period of student teaching.

The student teacher groups were then compared with the following similar groups of women physical educators in the Thorpe (61) study: a group of 100 successful senior majors; a group of 100 in-service teachers; and a total group of 255 successful teachers, graduate students

and senior majors. The subjects in the Thorpe study geographically represented all of the six districts in the American Association for Health, Physical Education and Recreation. In 1957, when the Edwards Personal Preference Schedule was administered by Thorpe, all of the subjects in that study were teaching physical education or studying physical education in a college or university. The significance of difference between the means of the student teacher groups and the Thorpe groups was computed in an effort to denote similarities between groups of physical educators.

The same comparison was made between the two groups measured in this study and a normative group measured by Edwards (12). These subjects, geographically representing all areas of the United States, were similar in age and experience to the physical education student teachers and the Thorpe senior majors; however, these subjects did not represent a particular vocational field, but were enrolled in liberal arts classes at the time that the Edwards Personal Preference Schedule was administered by Edwards.

From these comparisons, conclusions were drawn concerning the personality characteristics of successful student teachers in physical education as they differed from a less successful group, a different professional age group and a different vocational group.
CHAPTER V

TREATMENT AND INTERPRETATION OF DATA

PRESENTATION AND ANALYSIS

Of the twenty institutions contacted for subjects to participate in this study, seventeen, or 81 per cent, returned the enclosed postal cards. Of those seventeen, fifteen institutions, or 75 per cent of the original twenty, indicated a willingness to participate in the study. From those fifteen institutions, geographically representing five of the six districts in the American Association for Health, Physical Education and Recreation, the Edwards Personal Preference Schedule was administered to a total of 125 student teachers in physical education. The number of participants from each district may be found in Table I.

Eight of the subjects were dropped from the study because of low consistency scores. The consistency scores were computed by counting the number of identical choices made in two sets of the same fifteen items. Each pair of items in a set was located at different places in the test. One would be expected by chance alone to score at least 7.5 on consistency; however, only two per cent of the 1509 subjects in a normative group (12) scored eight or lower, which would cause one to question scores of less than nine. These subjects were dropped from the study, leaving a total of 117 subjects - fifty less successful and sixty-seven successful. These were compared with the Thorpe groups (61) and the Edwards normative group (12), each of which consisted of a population representing all geographic

	Succe	ssful	Less Suc	cessful	То	tal
District	N	%	N	%	N	%
Central	10	بلد	3	6	13	10
Eastern	23	32	19	36	42	34
Midwest	11	15	10	19	21	17
Northwest	0	0	0	0	0	0
Southern	26	36	19	36	45	36
Southwest	2	3	2	4	4	3
Total	72		53		125	

COMPOSITION OF SUBJECT GROUPS ACCORDING TO GEOGRAPHICAL DISTRIBUTION

TABLE I

areas of the United States at the time that the studies were done.

A comparison was made of the following groups: the successful women physical education student teachers with the less successful; each of the student teacher groups with the total group of women physical education successful teachers, graduate students and senior majors in the Thorpe study; the student teachers with the successful in-service teachers in the Thorpe study; and the student teachers with a normative group of college women that were enrolled in day or evening liberal arts classes at various colleges and universities at the time that the norms for the Edwards Personal Preference Schedule were established. These comparisons were made by using the t-test for significance of difference between the means for each of the fifteen personality variables and the consistency variable. No difference of less than a five per cent level of confidence was accepted as statistically significant in these comparisons.

From the data presented in Table II, it may be seen that the successful student teachers were higher on dominance than the less successful student teachers at the five per cent level of confidence. There were no statistically significant differences on any of the other personality variables; however, the successful group had higher means on order and aggression than the less successful group. The less successful student teachers scored higher on deference, affiliation, intraception and nurturance.

When the student teacher groups were compared with the total group of physical educators in the Thorpe study (See Tables III and IV), the

MEAN, STANDARD DEVIATION AND SIGNIFICANCE OF DIFFERENCE BETWEEN THE SUCCESSFUL AND LESS SUCCESSFUL STUDENT TEACHERS FOR THE FIFTEEN VARIABLES AND THE CONSISTENCY SCORES MEASURED BY

TABLE II

THE EDWARDS PERSONAL PREFERENCE SCHEDULE

	Successful Group N=67		Less Successful Group N=50		Significance of Difference
Variable	. M	S.D.	M	S.D.	
Achievement	12.10	3.93	12.04	4.20	.0837
Deference	12.70	4.05	13.42	2.74	1.1344
Order	11.12	4.58	10.06	1.22	1.7944
Exhibition	14.01	3.60	14.02	2.94	.0084
Autonomy	12.37	4.51	12.36	4.84	.0148
Affiliation	16.79	4.14	17.82	3.68	1.4056
Intraception	16.01	4.80	17.34	4.67	1.5027
Succorance	9.81	4.44	9.98	3.74	.2277
Dominance	14.81	4.08	13.20	4.27	2.0321**
Abasement	15.42	4.81	15.76	5.00	•3773
Nurturance	15.34	5.14	16.38	4.63	1.1325
Change	18.48	4.50	19.02	4.51	.6384
Endurance	14.45	5.29	14.04	4.85	.4291
Heterosexuality	15.19	6.03	14.28	6.33	•7724
Aggression	11.21	4.84	10.28	3.68	1.1687
Consistency	12.09	1.58	12.16	1.53	.2405

**Significant at the 5% level of confidence.

TABLE III

MEAN, STANDARD DEVIATION AND SIGNIFICANCE OF DIFFERENCE BETWEEN THE SUCCESSFUL STUDENT TEACHER GROUP AND THE THORPE GROUP FOR THE FIFTEEN VARIABLES AND THE CONSISTENCY SCORES MEASURED BY THE EDWARDS PERSONAL PREFERENCE SCHEDULE

	Successful Group		Thorpe Total Group N=255		Significance of Difference
Variable	М	S.D.	М	S.D.	
Achievement	12.10	3.93	12.91	4.13	1.4672
Deference	12.70	4.05	13.65	3.74	1.8842
Order	11.12	4.58	11.75	4.40	1.0370
Exhibition	14.01	3.60	14.26	3.82	.4872
Autonomy	12.37	4.51	11.32	3.91	1.7358
Affiliation	16.79	4.14	17.35	3.87	.9906
Intraception	16.01	4.80	17.84	4.65	2.7711*
Succorance	9.81	4.44	11.26	4.21	2.3970**
Dominance	14.81	4.08	14.87	4.14	.1131
Abasement	15.42	4.81	14.85	4.67	.8590
Nurturance	15.34	5.14	15.63	4.01	.4214
Change	18.48	4.50	16.79	4.55	2.7084*
Endurance	14.45	5.29	14.82	4.83	.5182
Heterosexuality	15.19	6.03	13.30	5.55	2.3095**
Aggression	11.21	4.84	9.84	4.11	2.1094**
Consistency	12.09	1.58	11.59	1.78	1.9968**

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*Significant at better than the 1% level of confidence. **Significant at the 5% level of confidence.

MEAN, STANDARD DEVIATION AND SIGNIFICANCE OF DIFFERENCE BETWEEN THE LESS SUCCESSFUL STUDENT TEACHER GROUP AND THE THORPE GROUP FOR THE FIFTEEN VARIABLES AND THE CONSISTENCY SCORES

TABLE IV

MEASURED BY

THE EDWARDS PERSONAL PREFERENCE SCHEDULE

	Less Su Gr N=	ccessful oup	Thorpe Total Group		Significance of Difference
Variable	М	S.D.	М	S.D.	
Achievement	12.04	4.20	12.91	4.13	1.3310
Deference	13.42	2.74	13.65	3.74	.5043
Order	10.06	1.22	11.75	4.40	5.1793*
Exhibition	14.02	2.94	14.26	3.82	.4958
Autonomy	12.36	4.84	11.32	3.91	1.4187
Affiliation	17.82	3.68	17.35	3.87	.8113
Intraception	17.34	4.67	17.84	4.65	.6863
Succorance	9.98	3.74	11.26	4.21	2.1469**
Dominance	13.20	4.27	14.87	4.14	2.3831**
Abasement	15.76	5.00	14.85	4.67	1.1797
Nurturance	16.38	4.63	15.63	4.01	1.0590
Change	19.02	4.51	16.79	4.55	3.1645*
Endurance	14.04	4.85	14.82	4.83	1.0323
Heterosexuality	14.28	6.33	13.30	5.55	1.0117
Aggression	10.28	3.68	9.84	4.11	•7509
Consistency	13.16	1.53	11.59	1.78	2.1142**

*Significant at better than the 1% level of confidence. **Significant at the 5% level of confidence.

student teachers were found to be significantly higher on the change variable at the one per cent level of confidence, and the total physical education group was higher than the student teachers on succorance at the five per cent level of confidence. The less successful student teachers were lower on the order variable at the one per cent level of confidence and on dominance at the five per cent level of confidence. There were no significant differences between the successful student teachers and the total physical education group in the Thorpe study on those two variables.

The successful group was lower than the total physical education group in intraception at the one per cent level of confidence. The total group was less aggressive and scored lower on heterosexuality at the five per cent level of confidence when compared with the successful student teachers.

There was less difference between the Thorpe total group of successful physical educators and the successful student teachers than between the Thorpe group and the less successful student teachers on the following variables: order; dominance; abasement; nurturance; and endurance.

The successful student teachers were more aggressive than the Thorpe senior majors at the five per cent level of confidence. The major group scored higher on intraception than the successful student teachers at the five per cent level of confidence and higher on dominance than the less successful student teachers at the five per cent level of confidence. There were no other significant differences between those groups. See

Tables V and VI, pages 37 and 38.

When scores of the student teachers were compared with those of the successful teachers reported in the Thorpe study (Tables VII and VIII), the teachers scored higher on the order variables and lower on the change variables with differences significant at the one per cent level of confidence. The teachers scored higher than the student teachers on the deference variable and lower on heterosexuality. Those differences were significant at the one per cent level of confidence for the successful student teachers and at the five per cent level of confidence when the less successful student teachers and the successful teachers were compared.

The successful student teachers scored higher than the teachers on autonomy and lower on intraception at the five per cent level of confidence. The teachers were more dominant than the less successful student teachers at the one per cent level of confidence.

All of the physical education groups were higher than the normative group on endurance and deference. The successful student teachers were higher than the normative group on endurance at the one per cent level of confidence and the less successful student teachers were higher at the five per cent level of confidence. The less successful student teachers were higher than the normative group at the five per cent level of confidence on the deference variable. Although the successful student teachers had a higher mean than the normative group on the deference variable, the difference was not significant.

The physical education groups were lower than the normative group

MEAN, STANDARD DEVIATION AND SIGNIFICANCE OF DIFFERENCE BETWEEN THE SUCCESSFUL STUDENT TEACHER GROUP AND THE THORPE SENIOR MAJOR GROUP FOR THE FIFTEEN VARIABLES AND THE CONSISTENCY SCORES MEASURED BY THE EDWARDS PERSONAL PREFERENCE SCHEDULE

TABLE V

	Successful Group		Thorpe Major Group		Significance of Difference
Variable	M	S.D.	м	S.D.	
Achievement	12.10	3.93	12.61	3.91	.8107
Deference	12.70	4.05	12.73	3.67	.0460
Order	11.12	4.58	10.76	4.24	.5104
Exhibition	14.01	3.60	14.89	3.78	1.5010
Autonomy	12.37	4.51	11.07	4.26	1.8592
Affiliation	16.79	4.14	17.47	4.36	1.0106
Intraception	16.01	4.80	17.91	5.18	2.4077**
Succorance	9.81	4.44	10.95	4.51	1.6119
Dominance	14.81	4.08	14.73	3.57	.0123
Abasement	15.42	4.81	14.89	4.59	.7029
Nurturance	15.34	5.14	15.80	4.08	.6060
Change	18.48	4.50	17.64	4.11	1.2122
Endurance	14.45	5.29	14.44	5.05	.0094
Heterosexuality	15.19	6.03	14.48	6.00	.7464
Aggression	11.21	4.84	9.65	3.70	2.2198**
Consistency	12.09	1.58	11.55	1.95	1.9551

*Significant at the 5% level of confidence.

MEAN, STANDARD DEVIATION AND SIGNIFICANCE OF DIFFERENCE BETWEEN THE LESS SUCCESSFUL STUDENT TEACHER GROUP AND THE THORPE SENIOR MAJOR GROUP FOR THE FIFTEEN VARIABLES AND THE CONSISTENCY SCORES MEASURED BY

TABLE VI

THE EDWARDS PERSONAL PREFERENCE SCHEDULE

	Less Successful Group		Thorpe Major Group		Significance of Difference
Variable	м	S.D.	М	S.D.	
Achievement	12.04	4.20	12.61	3.91	•7946
Deference	13.42	2.74	12.73	3.67	1.3023
Order	10.06	1.22	10.76	4.24	1.5207
Exhibition	14.02	2.94	14.89	3.78	1.5352
Autonomy	12.36	4.84	11.07	4.26	1.5871
Affiliation	17.82	3.68	17.47	4.36	.5113
Intraception	17.34	4.67	17.91	5.18	.6734
Succorance	9.98	3.74	10.95	4.51	1.3841
Dominance	13.20	4.27	14.73	3.57	2.1622**
Abasement	15.76	5.00	14.89	4.59	1.0239
Nurturance	16.38	4.63	15.80	4.08	.7448
Change	19.02	4.51	17.64	4.11	1.8030
Endurance	14.04	4.85	14.14	5.05	.4660
Heterosexuality	14.28	6.33	14.48	6.00	.1835
Aggression	10.28	3.68	9.65	3.70	.9777
Consistency	12.16	1.53	11.55	1.95	2.0777**

**Significant at the 5% level of confidence.

TABLE VII

MEAN, STANDARD DEVIATION AND SIGNIFICANCE OF DIFFERENCE BETWEEN THE SUCCESSFUL STUDENT TEACHER GROUP AND THE THORPE TEACHER GROUP FOR THE FIFTEEN VARIABLES AND THE CONSISTENCY SCORES MEASURED BY THE EDEWARDS PERSONAL PREFERENCE SCHEDULE

VariableMS.D.MS.D.Achievement12.103.9313.034.04Deference12.704.0514.643.41Order11.124.5813.144.47Exhibition14.013.6013.413.71Autonomy12.374.5110.983.64Affiliation16.794.1417.133.67Intraception16.014.8017.604.54Succorance9.814.4411.143.96Dominance14.814.0815.454.25Abasement15.424.8114.684.46Nurturance15.345.1415.933.82	Difference
Achievement12.103.9313.034.04Deference12.704.0514.643.41Order11.124.5813.144.47Exhibition14.013.6013.413.71Autonomy12.374.5110.983.64Affiliation16.794.1417.133.67Intraception16.014.8017.604.54Succorance9.814.4411.143.96Dominance14.814.0815.454.25Abasement15.424.8114.684.46Nurturance15.345.1415.933.82	
Deference 12.70 4.05 14.64 3.41 Order 11.12 4.58 13.14 4.47 Exhibition 14.01 3.60 13.41 3.71 Autonomy 12.37 4.51 10.98 3.64 Affiliation 16.79 4.14 17.13 3.67 Intraception 16.01 4.80 17.60 4.54 Succorance 9.81 4.44 11.14 3.96 Dominance 14.81 4.08 15.45 4.25 Abasement 15.42 4.81 14.68 4.46	1.4649
Order11.124.5813.144.h7Exhibition14.013.6013.h13.71Autonomy12.374.5110.983.64Affiliation16.794.1417.133.67Intraception16.014.8017.604.54Succorance9.814.4411.143.96Dominance14.814.0815.454.25Abasement15.424.8114.684.46Nurturance15.345.1415.933.82	3.2057*
Exhibition14.013.6013.413.71Autonomy12.374.5110.983.64Affiliation16.794.1417.133.67Intraception16.014.8017.604.54Succorance9.814.4411.143.96Dominance14.814.0815.454.25Abasement15.424.8114.684.46Nurturance15.345.1415.933.82	2.8013*
Autonomy12.374.5110.983.64Affiliation16.794.1417.133.67Intraception16.014.8017.604.54Succorance9.814.4411.143.96Dominance14.814.0815.454.25Abasement15.424.8114.684.46Nurturance15.345.1415.933.82	1.1079
Affiliation16.794.1417.133.67Intraception16.014.8017.604.54Succorance9.814.4411.143.96Dominance14.814.0815.454.25Abasement15.424.8114.684.46Nurturance15.345.1415.933.82	2.0961**
Intraception 16.01 4.80 17.60 4.54 Succorance 9.81 4.44 11.14 3.96 Dominance 14.81 4.08 15.45 4.25 Abasement 15.42 4.81 14.68 4.46 Nurturance 15.34 5.14 15.93 3.82	.5391
Succorance 9.81 4.44 11.14 3.96 Dominance 14.81 4.08 15.45 4.25 Abasement 15.42 4.81 14.68 4.46 Nurturance 15.34 5.14 15.93 3.82	2.1242**
Dominance14.814.0815.454.25Abasement15.424.8114.684.46Nurturance15.345.1415.933.82	1.9742
Abasement15.424.8114.684.46Nurturance15.345.1415.933.82	•9765
Nurturance 15.34 5.14 15.93 3.82	•9931
	•7932
Change 18.48 4.50 15.58 4.86	3.9242*
Endurance 14.45 5.29 15.48 4.95	1.2595
Heterosexuality 15.19 6.03 12.12 4.90	3.4497*
Aggression 11.21 4.84 9.83 4.15	1.8961
Consistency 12.09 1.58 11.64 1.72	1.7279

*Significant at better than the 1% level of confidence. **Significant at the 5% level of confidence.

TABLE VIII

MEAN, STANDARD DEVIATION AND SIGNIFICANCE OF DIFFERENCE BETWEEN THE LESS SUCCESSFUL STUDENT TEACHER GROUP AND THE THORPE TEACHER GROUP FOR THE FIFTEEN VARIABLES AND THE CONSISTENCY SCORES MEASURED BY THE EDWARDS PERSONAL PREFERENCE SCHEDULE

	Less Successful Group		Thorpe Teacher Group		Significance of Difference
Variable	M	S.D.	м	S.D.	
Achievement	12.04	4.20	13.03	4.04	1.3665
Deference	13.42	2.74	14.64	3.41	2.3466**
Order	10.06	1.22	13.14	4.47	6.3914*
Exhibition	14.02	2.94	13.41	3.71	1.0852
Autonomy	12.36	4.84	10.98	3.64	1.7565
Affiliation	17.82	3.68	17.13	3.67	1.0741
Intraception	17.34	4.67	17.60	4.54	.1322
Succorance	9.98	3.74	11.14	3.96	1.7410
Dominance	13.20	4.27	15.45	4.25	3.0205*
Abasement	15.76	5.00	14.68	4.46	1.2816
Nurturance	16.38	4.63	15.93	3.82	.5881
Change	19.02	4.51	15.58	4.86	4.2548*
Endurance	14.04	4.85	15.48	4.95	1.6893
Heterosexuality	14.28	6.33	12.12	4.90	2.0975**
Aggression	10.28	3.68	9.83	4.15	.6701
Consistency	12.16	1.53	11.64	1.72	1.8645

*Significant at better than the 1% level of confidence. **Significant at the 5% level of confidence. on achievement and nurturance; this difference was not statistically significant. All of the physical education groups were lower than the normative group on succorance at better than the one per cent level of confidence.

All of the physical education groups were above the normative group on the order variable except the less successful student teachers (Tables IX and X, pages 42 and 43).

There was no significant difference between any of the groups compared in this study on exhibition, affiliation, achievement, or abasement.

The consistency scores were higher for the student teachers than the total groups of successful physical educators in the Thorpe study at the five per cent level of confidence. The less successful student teachers scored higher than the Thorpe senior majors at the five per cent level of confidence. There were no significant differences between the successful student teachers and the Thorpe senior majors or either of the student teacher groups when compared with the teacher group or the normative group on the consistency variable.

INTERPRETATION OF DATA

On the achievement variable, there was no significant difference between any of the groups measured in this study, which might indicate that a manifest need to be successful and to solve difficult problems does not influence one to choose physical education in preference to another vocation or to succeed as a teacher.

TABLE IX

MEAN, STANDARD DEVIATION AND SIGNIFICANCE OF DIFFERENCE BETWEEN THE SUCCESSFUL STUDENT TEACHER GROUP AND THE NORMATIVE GROUP FOR THE FIFTEEN VARIABLES AND THE CONSISTENCY SCORES MEASURED BY THE EDWARDS PERSONAL PREFERENCE SCHEDULE

	Successful Group		Normative Group		Significance of
Variable	M	S.D.	м	S.D.	
Achievement	12.10	3.93	13.08	4.19	1.9210
Deference	12.70	4.05	12.40	3.72	•5837
Order	11.12	4.58	10.24	4.37	1.4999
Exhibition	14.01	3.60	14.28	3.65	•5737
Autonomy	12.37	4.51	12.29	4.34	·0144
Affiliation	16.79	4.14	17.40	4.07	1.1478
Intraception	16.01	4.80	17.32	4.70	2.1225**
Succorance	9.81	4.14	12.53	4.42	4.7831*
Dominance	14.81	4.08	14.18	4.60	1.1814
Abasement	15.42	4.81	15.11	4.94	•4970
Nurturance	15.34	5.14	16.42	4.41	1.6501
Change	18.48	4.50	17.20	4.87	2.1959**
Endurance	14.45	5.29	12.63	5.19	2.6799*
Heterosexuality	15.19	6.03	14.34	5.39	1.1117
Aggression	11.21	4.84	10.59	4.61	•9998
Consistency	12.09	1.58	11.74	1.79	1.7037

*Significant at better than the 1% level of confidence. **Significant at the 5% level of confidence.

M	EAN.	STANDARD DEVIATION AND SIGNIFICANCE OF DIFFERENCE BETWEEN	
THE	LESS	SUCCESSFUL STUDENT TEACHER GROUP AND THE NORMATIVE GROUP F THE FIFTEEN VARIABLES AND THE CONSISTENCY SCORES	OR
		MEASURED BY	

	Less Successful Group		Normative Group		Significance of	
Variable	M	S.D.	M	S.D.	Difference	
Achievement	12.04	4.20	13.08	4.19	1.6790	
Deference	13.42	2.74	12.40	3.72	2.4638**	
Order	10.06	1.22	10.24	4.37	.7621	
Exhibition	14.02	2.94	14.28	3.65	.5893	
Autonomy	12.36	4.84	12.29	4.34	.0987	
Affiliation	17.82	3.68	17.40	4.07	•7685	
Intraception	17.34	4.67	17.32	4.70	.0290	
Succorance	9.98	3.74	12.53	4.42	4.5674*	
Dominance	13.20	4.27	14.18	4.60	1.5490	
Abasement	15.76	5.00	15.11	4.94	.8830	
Nurturance	16.38	4.63	16.42	4.41	.0587	
Change	19.02	4.51	17.20	4.87	2.7229*	
Endurance	14.04	4.85	12.63	5.19	1.9646**	
Heterosexuality	14.28	6.33	14.34	5.39	.0649	
Aggression	10.28	3.68	10.59	4.61	.5611	
Consistency	12.16	1.53	11.74	1.79	1.8381	

*Significant at better than the 1% level of confidence. **Significant at the 5% level of confidence.

TABLE X

All of the physical education groups were higher than the normative group on deference, which suggests that physical educators are more cooperative and interested in accepting suggestions from others and in praising others. The deference score tended to increase with age, which indicates that the more experienced teachers were more willing to listen to suggestions from others than the less experienced teachers. It is suggested that through sports and game situations, deference is consciously or unconsciously taught in physical education which might explain the high scores on this variable.

The successful student teachers were not significantly higher than the normative group on deference; yet, they had a higher mean than the normative group and they were lower than the teacher group which might indicate that they had a greater need for independence than the teachers and still were more co-operative than the normative group. The high scores of the physical education group on the deference variable should strengthen one's ability to work with administrators, and aid in the motivation of students to learn, through praise of student accomplishments.

Because of the highly organized games and activities which are usually taught in physical education and the emphasis that is given to the organization and planning in the physical education training programs, it is understandable that successful physical educators scored higher than the normative group on the order variable. According to the scores on this variable, as measured by the Edwards Personal Preference Schedule, the physical education groups tended toward a greater need for carefully

planned and organized programs and classes.

There was no significant difference between any of the groups used in this study on exhibition which would seem to indicate that the need to be the center of attention is not an important factor in determining success in teaching physical education.

The successful group of student teachers was significantly higher than the successful group of teachers in autonomy. This higher score with the lower score on deference suggests that the successful student teacher group tended to feel a greater need for independence. This is substantiated in a study by Bernardin and Jessor (31), who found a relationship between dependency and high scores on deference and low scores on autonomy.

There was no significant difference between any of the groups compared in this study on the variable, affiliation, which probably indicates that this is not a significant factor in teaching physical education.

The successful student teachers were significantly lower than the total physical education group in the Thorpe study on intraception at the one per cent level of confidence and higher than the senior majors at the five per cent level of confidence, as measured by the Edwards Personal Preference Schedule. This could indicate a lack of desire to understand how others feel about problems which is surprising unless the difference was due to lack of experience with failure of the successful group. If this should be the case, this might have caused them to be more concerned with what was being done rather than why it was done.

All of the physical education groups were lower than the normative

group on succorance, i.e., they seemed to have less need for affection and sympathy when problems occurred. The student teachers were lower than the total physical education group, which indicated that the student teachers had a greater desire to solve problems without the help of others.

The successful student teachers were significantly higher than the less successful student teachers on the dominance variable. This would seem to indicate that the successful student teachers had a greater desire to be leaders, to make group decisions, to settle arguments and to supervise and direct the actions of others. If those desires were manifest in action patterns, it is very possible that the supervisor of a student teacher would rate her as a successful student teacher, using this as a major criterion. This was the only significant difference between the successful and less successful student teachers as measured by the Edwards Personal Preference Schedule. There were no significant differences between the successful student teachers and any of the other groups measured in this study with regard to dominance.

All of the physical education groups tended to be more dominant than the normative group except the less successful student teachers. This lack of leadership goals or the lack of a desire to direct the actions of others seemed to be the greatest personal reason for failure to be an outstanding teacher as measured by the Edwards Personal Preference Schedule. The high scores on dominance in this study seem to indicate a more extroverted, leadership personality than the normative group or the less successful student teacher group, which is in agreement with previous

studies by Duggan (11) and Palmer (57), who used the Bernreuter Personality Inventory to measure these traits. Duggan found physical education majors to be more dominant and extroverted than non-majors and Palmer found successful teachers to be more extroverted and dominant than less successful teachers.

For the subjects used in this study, the abasement variable, like the affiliation, achievement and exhibition variables, did not differ significantly from that of the other groups with which they were compared. Although those variables might affect one's personal adjustment, they do not seem to directly affect one's teaching or vocational choice.

All of the physical education groups were lower than the normative group on nurturance but those differences were not statistically significant. The less successful student teacher group was closer to the normative group and the successful student teacher group was furthest from the normative group. This might suggest that the latter group felt less need for affection or to become personally involved with the students, by becoming one of them, in an effort to gain greater popularity among the students.

When the student teacher groups were compared with the teachers and the total group of physical educators in the Thorpe study, both student teacher groups were significantly higher on the change variable. It was noted that scores on change tended to become lower with increase in age. The younger subjects, especially the ones tested for this study (two years later than a comparable age group in the Thorpe study and five

years later than the Edwards normative study); had a greater desire to do new and different things, to experience change in daily routine, to move about and to participate in new fads.

Although there was no significant difference between the physical education groups in endurance as measured by the Edwards Personal Preference Schedule, all of these groups scored significantly higher than the normative group which might indicate that the physical educators were more willing to work hard at a task, to work long hours without distraction and to work at a task until it is completed. The many hours of classes and extracurricular professional experiences required of physical education majors might influence one with a low score on the endurance personality variable to choose another field before the senior year in college.

All of the college age women scored significantly higher than the teachers on heterosexuality. These scores tended to decrease with age groups which seemed to indicate that age rather than success or vocational choice affected this variable.

Although the successful student teachers were more aggressive than the senior majors or the total group measured in the Thorpe study, no apparent reason for this difference was observed.

In the comparison of the student teachers and the senior majors (a population consisting entirely of college women), the successful student teachers were more aggressive than the Thorpe majors; the major group was more intraceptive than the successful student teachers and were more dominant than the less successful student teachers. There were no other significant differences between those groups, which may well be an indication that age is an important factor in determining the manifest needs of the physical education subjects in this study. This seems to confirm the findings in the Thorpe study concerning the part that age plays in changing personality variables.

From this interpretation of the results obtained from the Edwards Personal Preference Schedule, it might be assumed that certain aspects of personality affect one's success in teaching physical education and affect one's choice of physical education as a profession. It could be further assumed that the individual's personality is constantly changing as one finds new insight, experiences new activities and is confronted with different cultural influences. It would be impossible from this study to ascertain the extent that personality affects teaching success or the extent that teaching affects personality.

CHAPTER VI

SUMMARY AND CONCLUSIONS

Through a comparison of personality variables of a group of women students in physical education who were successful in student teaching with a group who were less successful, the writer purported to determine whether there was an existing similarity of personality patterns within each group that differed from the characteristics of the other group. Those groups were then compared with groups of successful teachers and students measured by Thorpe (61) and with a normative group, in an effort to determine if there was a similarity in all of the physical education groups that differed from a normative group.

The subjects for this study were secured through correspondence with representatives from the physical education departments of selected institutions which offer a major program in physical education.

The Edwards Personal Preference Schedule, which has been devised to measure the needs of an individual that are believed to be manifest in behavioral patterns which reveal one's personality, was selected as the measuring instrument. Edwards, a well-known authority on psychological testing, established norms for both men and women of college age which made the test a logical choice for the college age subjects used in this study.

The Edwards Personal Preference Schedule was administered to 125 subjects by representatives from fifteen participating institutions, who then used a code letter to rate the students as successful or less successful in student teaching. The subjects did not know the basis for being chosen to participate in this study.

Using the t-test for significance of difference between the means, the following comparisons were made for each of the fifteen personality variables and the consistency variable: the successful student teachers with the less successful; the student teacher groups with a group of successful teachers, graduate students and senior majors in physical education as measured by Thorpe; and the student teachers with both the successful teachers and the senior majors in the Thorpe study. The student teachers were then compared with the Edwards normative group.

All of the physical education groups were higher than the normative group on the deference variable. The teachers were higher than the successful student teachers at the one per cent level of confidence and higher than the less successful at the five per cent level of confidence. The less successful student teachers were higher than the normative group at the five per cent level of confidence.

The low mean score of the successful student teachers on the deference variable combined with high scores on autonomy (higher than the successful teachers at the one per cent level of confidence) indicates a need for independence. (31)

The less successful student teachers comprised the only group of subjects below the normative group on the order variable. High scores on order, like deference, tend to increase with age and/or experience as evidenced by the teacher group being higher than both of the student teacher groups at the one per cent level of confidence. The total physical education group was higher than the less successful student teachers at the one per cent level of confidence.

The successful student teachers scored significantly lower on intraception than the total physical education group, the teacher group, the major group and the normative group. The difference between the successful student teacher group and the total physical education group was significant at the one per cent level of confidence. The other differences were significant at the five per cent level of confidence.

All of the physical education groups had lower means of succorance than the normative group. Of the physical education groups, the groups having the lowest mean were the student teacher groups which scored lower than the normative group at the one per cent level of confidence.

In comparing the successful and less successful student teachers, the successful student teachers tended to be more dominant than the less successful. There were no other significant differences between the two groups. All of the successful physical education groups scored higher than the normative group on dominance. Dominance seemed to increase with age and experience in the successful physical educators, since the highest mean was for the teacher group.

The scores for the change variable tended to decrease with age, with the student teacher groups higher than the teachers and total physical education group at the one per cent level of confidence. There were no significant differences between the physical education groups on endurance; however, all of the physical education groups scored significantly higher than the normative group. The less successful student teachers were nearer the normative group than any of the other physical education groups; yet, the difference between the less successful student teachers and the normative group was significant at the five per cent level of confidence.

Scores on heterosexuality, like change, tended to decrease with age, with those of the student teachers being significantly higher than those of the teacher groups.

The successful student teachers scored higher on aggression than the senior major group and the total group at the five per cent level of confidence.

On the consistency variable, the student teacher groups scored significantly higher than the total physical education group and the less successful student teacher group scored higher than the major group at the five per cent level of confidence. There were no other significant differences between the groups for the consistency variable.

There were no significant differences between any of the groups for achievement, exhibition, affiliation and abasement.

Based on inventory scores for fifteen personality variables suggested by Murray (22) as manifest needs which are constantly changing, and measured by the Edwards Personal Preference Schedule (12), the following conclusions were drawn from an analysis and treatment

of the data gathered for this study:

- 1. There appeared to be little difference between the two student teacher groups when compared with each other or between the student teacher groups and the senior physical education major group in the Thorpe study; therefore, it was concluded that the students measured in this study who have remained in physical education displayed needs which were manifest in similar personality patterns regardless of teaching success.
- 2. When the college age groups of women physical education majors were compared with the normative group of college women, the physical education majors scored significantly higher on change, endurance and deference. They scored significantly lower on intraception and succorance which indicates that students who choose physical education as a profession tend to have similar personality traits which differ from a normative group of college students, as measured by the Edwards Personal Preference Schedule.
- 3. The student teachers tended to score significantly higher on autonomy, change and heterosexuality when compared with the in-service teacher group. The student teachers scored significantly lower on the following variables: deference; order; intraception; and dominance. On the basis of these differences as measured by the Edwards Personal Preference Schedule, it was concluded that age and experience influence

personality variables of physical education teachers.

- 4. All of the physical education groups had higher means than the normative group on the following variables, measured by the Edwards Personal Preference Schedule: achievement; deference; and endurance. All of the physical education groups had higher means on order and dominance except the less successful student teachers, and all of the physical education groups scored lower on succorance and nurturance. From these similarities of needs, it was concluded that although there are some differences with age and degree of success, the differences are not great enough to destroy a similarity of personality traits of persons who choose physical education as a profession.
- 5. The conclusions drawn from this study further support the conclusions of a similar study of personality characteristics of successful physical educators by Thorpe (61).

LIMITATIONS OF THIS STUDY

The fact that more specific conclusions cannot be drawn as a result of this study may be due in part to the nature of the measuring instrument and the possible lack of differentiation between the two groups.

Although the social desirability element has been greatly reduced in the Edwards Personal Preference Schedule by use of forced-choice statements, it is still a self-rating instrument and it is possible that subjects

may rate themselves in terms of a personal goal rather than reality.

In dealing with successful and less successful subjects, who have completed three years of college training in physical education, it is difficult to draw a line between the two groups. This is especially true in a study where subjects are rated by persons from a number of different colleges. Even though the criteria for success were given for the subjects used in this study, each person responsible for rating the subjects was still left to draw his (or her) own conclusions concerning the degree of success necessary to be considered successful. This is understood because each person probably has a different connotation of the word, success.

CHAPTER VII

SUGGESTIONS FOR FURTHER STUDY

Objectivity is a limiting factor in the field of personality testing and teacher rating; however, it is believed that much research is needed and can be accomplished with presently established instruments.

If a similar study is conducted, it is suggested that a five or seven point rating scale be used and that the subject be rated on each criterion separately. It is believed that a larger number of subjects would give a more definite picture of the personality patterns of the group.

If there is interest in further research in this field, it is suggested that a group of women physical educators be compared with a group of professional women in another selected field and that these groups be of comparable age and educational experience. This would, perhaps, show more definitely how physical educators differ from persons in other fields in relation to personality patterns.

A long-range study of this type might prove valuable if the Edwards Personal Preference Schedule is administered to a group of physical education majors upon college entrance and again at the end of the senior year. Here the test scores of those who remained in physical education could be compared with those who did not remain in school or who changed to another profession. The first test administration scores could also be compared with the final scores to note the change during the college years. Such a study might be of much value in a guidance program. BIBLIOGRAPHY

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APPENDIX

LIST OF PARTICIPATING INSTITUTIONS

INSTITUTION

State University of New York Cortland, New York

Radford College Radford, Virginia

East Carolina College Greenville, North Carolina

Wayne State University Detroit 2, Michigan

The Woman's College Greensboro, North Carolina

Longwood College Farmville, Virginia

Illinois State Normal University Normal, Illinois

University of Michigan Ann Arbor, Michigan

Appalachian State Teachers College Boone, North Carolina

Mississippi State College for Women Columbus, Mississippi

University of Oklahoma Norman, Oklahoma

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Miss Jo Anne Thorpe

Dr. Beverly Yerrington

COPY OF LETTER TO INSTITUTIONS

Department of Physical Education The Woman's College Greensboro, North Carolina

Dear

For a master's thesis, I am trying to determine to what extent personality traits might predict success in teaching physical education. In order to do this, I plan to administer a standardized personality inventory to fifty women physical education majors who have done an outstanding job in student teaching and to fifty students who were less successful.

Since I shall be working with personality variables of groups of people and never of individuals, I am appealing to administrators of certain selected institutions for co-operation in this endeavor. I do not want the names of any individual students; but, I am asking the administrator to distribute the tests and before returning them to me, indicate whether the student was successful or less successful in student teaching. This is based strictly on achievements in student teaching and not on any other attainments the student might have had during her college career.

Would you be willing to distribute this test to the major students in your department who are in one of these categories? If so, please state on the enclosed card the number of students in each category and I shall send that number of tests. This information will be treated impersonally and will be kept confidential. The inventory requires about forty-five minutes to complete and need not be supervised. Each test is to be taken individually and the students are asked not to discuss the test with anyone.

For the purpose of this study, I am defining the successful student teacher as one who is outstanding in the following areas: knowledge of subject matter; teaching methods; class organization and control; initiative; correct use of English; personal appearance; and ability to get along with students, teachers and administrators. This should be helpful in rating students for this study.

I know you are busy, but I believe that the results of this study may be useful in guiding and selecting physical education majors. If you would like to have a summary of the results of this study, I shall be glad to send them to you. If you are willing to participate in this study, I shall appreciate hearing from you at your earliest convenience. Thank you for your co-operation.

Sincerely yours,

Kitty E. Rogers

Gail Hennis, Advisor

Enclosure.

COPY OF POSTAL CARD

Please check:

1. ____ I am willing to participate in this study.

2. ____ I am not willing to participate in this study.

3. ____ I would like a summary of the results.

If the answer to the first statement is yes, please indicate the number of students in each category.

Successful

Less Successful

Signed

COPY OF LETTER OF INSTRUCTIONS

Department of Physical Education The Woman's College Greensboro, North Carolina

Dear

Thank you for agreeing to help with my thesis study. It is because of the interest of those participating that this is possible.

Enclosed are (number) of the Edwards Personal Preference Schedules to be distributed to the students who will participate in this study. Please ask them to read the instruction page on the front of the test booklet very carefully. Some points on which they might be cautioned are:

- 1. Look at the answer sheet before beginning the test to note where question six follows question five, et cetera.
- Do not write names on the answer sheets. A separate slip of paper is attached for the name. (This is for your convenience and is to be removed before returning it to me.) All other information should be filled in on the answer sheets.
- 3. It is very important that no questions be left unanswered.
- 4. Do not discuss the test with anyone during or after the test is taken.
- 5. Do not write on the test booklet. Mark the answer sheet only.

The test need not be supervised. On the red line beside of the X on the answer sheet, please put an A if the student was in the successful category and a B if she was in the less successful group. If you will check the answer sheet to see if it is completely filled out, it will be very helpful to me.

A stamped, self-addressed envelope is enclosed for the return of the test booklets and answer sheets.

Thank you very much for your time and interest. I do hope that I shall have some interesting and useful results for you.

Sincerely yours,

Kitty E. Rogers

Enclosures.

TABLE XI

RAW DATA EDWARDS PERSONAL PREFERENCE SCHEDULE SCORES FOR THE SUCCESSFUL (A) AND LESS SUCCESSFUL (B) STUDENT TEACHERS

Subject	Ach	Def	Ord	Exh	Aut	Aff	Int	Suc	Dom	Aba	Nur	Chg	End	Het	Agg	Con
A-1	15	10	6	7	16	23	10	16	17	17	22	12	18	2	19	13
A-2	7	9	10	20	7	22	16	12	15	22	23	16	10	14	7	10
A-3	6	15	10	15	9	13	22	10	15	19	17	22	24	10	10	10
A-4	22	16	10	10	10	19	17	12	12	10	17	25	20	23	18	10
A-5	14	12	12	10	12	14	12	13	18	10	10	18	18	12	18	01
A-0	14	0 g	27	12	17	11	10	10	21	-7	18	13	27	6	9	12
A-7	12	16	10	12	11	17	21	2	15	1/1	16	18	12	19	12	12
A-0	7	19	11	13	5	23	18	15	12	10	21	22	14	13	4	10
A-10	10	16	15	13	14	11	12	18	13	19	16	17	14	14	8	13
A-11	14	10	7	12	22	15	14	5	11	16	7	23	20	18	16	12
A-12	15	13	19	13	11	17	17	6	21	16	9	22	10	12	9	13
A-13	8	16	8	13	3	21.	23	15	14	22	18	11	15	13	10	11
A-14	11	8	10	10	19	20	9	14	20	9	17	23	10	7	23	14
A-15	14	16	10	20	17	10	13	1	15	13	10	28	11	14	10	10
A-16	7	16	13	13	15	13	20	.9	-9	14	19	19	18	10	10	10
A-17	10	20	13	13	10	13	24	11	18	16	13	23	15	i	11	12
A-18	9	18	0	13	15	19	75	71.	15	12	18	24	3	23	9	14
A-19	29	17	15	10	15	16	18	12	15	25	17	12	24	10	6	12
A-20	D	10	12	10	15	21	20	1	15	10	ii	26	10	12	16	15
A-21	11	10	7	22	15	12	15	9	14	20	21	17	6	19	13	11
A-22#	10	12	11	16	9	20	19	12	17	12	19	11	11	25	6	7
A-21	7	17	7	11	14	19	22	13	12	8	11	19	12	22	16	10
A-25	10	23	15	12	4	20	10	9	13	16	8	18	23	24	5	12
A-26	14	13	5	9	10	17	13	15	6	23	23	21	18	15	0	13
A-27	16	12	7	13	8	19	12	16	14	16	21	20	17	24	20	10
A-28	14	15	18	17	15	13	15	8	15	10	20	76	18	12	0	12
A-29	9	16	14	8	6	16	21	11	11.	18	20	18	15	13	3	12
A-30	13	13	6	15	7	21	22	0	8	17	6	27	22	21	12	14
A-31	19	10	21	11	13	18	8	22	2	22	17	17	13	15	9	13
A-32	9	15	10	11	14	23	11	5	10	10	24	16	12	22	12	14
A-33	0	14	14	14	17	0	7	13	16	21	17	16	14	21	16	10
A-34	10	11	15	15	13	18	18	3	13	13	9	20	25	7	11	13
A-36	19	20	18	15	3	18	22	8	15	16	7	22	12	13	12	10

*Subject eliminated from study because of low consistency score.

TABLE XI (Continued)

Subject	Ach	Def	Ord	Exh	Aut	Aff	Int	Suc	Dom	Aba	Nur	Chg	End	Het	Agg	Con
A-37	7	17	15	9	16	14	3	5	23	16	13	25	15	22	10	14
A-38	18	13	11	13	10	23	13	9	11	7	22	17	13	25	13	11
A-39	16	11	6	17	14	20	-10	24	10	12	17	11	1)	18	12	8
A-40*	15	10	7	15	17	20	10	12	12	13	15	10	13	23	14	8
A-41*	11	14	7	15	14	10	23	17	8	11	11	20	13	26	11	15
A-42	15	-1	10	17	11	10	11	5	15	18	13	27	10	21	6	12
A-43	10	14	12	13	11	17	17	16	9	12	13	16	7	27	11	8
A-44*	14	12	2	12	10	22	12	15	16	7	22	14	15	28	11	15
A-45	10	15	20	19	8	19	9	8	16	9	18	17	12	19	11	12
A-40	16	3	L	-9	18	13	24	18	15	10	10	20	11	18	21	11
A-41 A-118	17	12	L	16	10	14	19	6	22	10	19	20	18	16	7	13
A-49	19	12	12	17	14	16	16	9	12	9	7	23	20	15		11
A-50	11	17	12	14	15	18	10	11	16	14	12	25	13	12	16	10
A-51	16	11	11	15	17	14	19	6	16	20	0	13	15	10	13	12
A-52	9	9	15	17	7	18	14	18	17	12	14	11	12	18	10	11
A-53	11	10	17	12	9	17	12	0	79	24	19	13	17	13	10	12
A-54	22	13	5	14	10	18	10	13	10	15	22	17		n ii	3	13
A-55	8	13	9	21	10	21	23	7	22	11	17	18	13	11	11	. 13
A-56	9	.9	7	18	10	10	17	11	16	23	13	17	15	15	5 8	15
A-57	8	12	10	10	10	16	21	8	14	18	14	20	17	6	10	14
A-58	0	20	21	15	10	16	18	7	14	11	18	20	19) 6	5 6	13
A-59	10	19	6	15	17	15	12	7	27	14	10	20) L	1 2]	- 21	1 11
A-61	12	q	8	12	13	14	15	10	13	19	17	22	25		1 1	12
A-62	7	11	9	15	13	9	16	11	17	20	22	10		1 1	1	1 10
A-63	11	10	7	16	21	. 12	17	4	15	15	9	22		1 1/		12
A-64	11	17	15	18	5	21	14	15	13	20		76	1	7 10	5	1 12
A-65	18	17	11	. 12	9	16	16	13				11		1	3 2	3 15
A-66	17	7	16	20) 13	18	14	1 10		1	21	17	2	1 1	3 1	7 13
A-67	13	13	13	17	15		20		12		20	11	1 19	5 1	+ !	9 12
A-68	15	5 8	5 5	15	17	21	1 17		16	21	18	3 11	4 5	5 1	2 1	4 14
A-69	1		3 10			16	18		19	12	2 13	3 22	2 1	1 1	5 1	5 14
A-70	13	1	2 2	14	17	12	18	3 0	11	1 23	1 12	2 1	1 1	8 1	5 1	
A-71	-	1	1 10	10	5 10	E	10	1	1 18	3 12	2 12	2 19	9 1	2 2		
A-72*	1.			20	1 17	19	12	1	18	3 8	3 12	2 19	9	7 2		
B-1	10	1 1		1	3 19	25	16	1	3 8	3 20	22	2 19	9 10		7 1	2 11
B-2	T	3 1	5 1	3 10	5 20) 11	20) 1	+ 1	1		4 21	1 1	6 1	1 -	9 13
B-h		2 1	1	3 12	2 8	3 22	2 20) 13	3 6	21	4 2.	5 T	A T(-	

*Subject eliminated from study because of low consistency score.

TABLE XI (Continued)

B-5 15 15 15 12 3 18 20 12 9 23 20 13 18 7 10 10 B-6 12 17 12 15 10 11 19 8 16 19 9 19 19 12 9 12 B-7 12 16 16 12 10 13 23 7 15 11 15 12 13 8 12 13 8 14 16 10 14 16 20 23 8 19 15 14 16 10 14 16 20 23 8 19 15 11 15 14 10 18 17 22 10 13 16 16 14 10 12 14 13 17 14 13 17 14 13 15 11 15 14 14 14 13 14 14 14 15 16 14 14 14 15 16 </th <th>Subject</th> <th>Ach</th> <th>Def</th> <th>Ord</th> <th>Exh</th> <th>Aut</th> <th>Aff</th> <th>Int</th> <th>Suc</th> <th>Dom</th> <th>Aba</th> <th>Nur</th> <th>Chg</th> <th>End</th> <th>Het</th> <th>Agg</th> <th>Con</th>	Subject	Ach	Def	Ord	Exh	Aut	Aff	Int	Suc	Dom	Aba	Nur	Chg	End	Het	Agg	Con
B-6 12 17 12 15 10 14 19 8 16 19 9 19 12 9 14 B-7 12 16 16 12 10 13 23 7 15 11 15 24 13 8 12 11 B-8 11 7 18 15 11 22 10 13 16 19 18 11 16 12 14 13 27 14 15 11 19 18 11 15 17 22 10 19 18 11 16 19 14 13 17 14 15 11 19 10 12 14 13 27 14 15 11 10 12 14 13 27 14 15 11 10 15 11 10 10 12 12 11 13 14 14 14 14 14 15 11 10 10 12 12 11 <td< td=""><td>B-5</td><td>15</td><td>15</td><td>15</td><td>12</td><td>3</td><td>18</td><td>20</td><td>12</td><td>9</td><td>23</td><td>20</td><td>13</td><td>18</td><td>.7</td><td>10</td><td>10</td></td<>	B-5	15	15	15	12	3	18	20	12	9	23	20	13	18	.7	10	10
B-7 12 16 16 12 10 13 23 7 15 16 8 15 21 22 10 15 16 8 19 5 11 B-9 15 16 11 16 12 15 16 22 10 15 16 19 15 9 11 15 16 19 15 9 11 15 16 10 13 16 19 15 16 10 13 16 15 9 11 15 16 10 12 14 13 27 14 15 11 15 9 11 15 11 15 16 11 13 16 11 13 16 11 13 16 11 13 13 17 14 13 16 11 13 10 13 16 11 14 13 16 11 14 13 11 14 14 11 11 11 11 11 12<	B-6	12	17	12	15	10	14	19	8	16	19	.9	19	19	12	9	15
B-8 14 11 7 16 15 11 22 10 19 18 19 5 11 B-10* 13 5 4 18 19 18 14 7 21 5 17 22 10 19 18 14 B-10* 13 5 4 18 19 15 13 7 14 15 17 722 10 19 18 17 13 15 14 14 14 13 27 14 15 11 15 9 12 14 13 27 14 15 11 15 9 12 14 13 27 14 15 11 14 16 14 14 13 16 14 14 13 16 14 14 13 16 14 14 13 16 14 14 14 13 16 14 14 14 14 14 13 16 14 14 14 14 <td< td=""><td>B-7</td><td>12</td><td>16</td><td>16</td><td>12</td><td>10</td><td>13</td><td>23</td><td>10</td><td>15</td><td>16</td><td>15</td><td>19</td><td>24</td><td>28</td><td>12</td><td>13</td></td<>	B-7	12	16	16	12	10	13	23	10	15	16	15	19	24	28	12	13
$\begin{array}{c} \textbf{B-9} \\ \textbf{B-10} \\ \textbf{B-10} \\ \textbf{B-11} \\ \textbf{B-12} \\ \textbf{B-22} \\ \textbf{12} \\ \textbf{B-22} \\ \textbf{12} \\ \textbf{B-22} \\ \textbf{12} \\ \textbf{B-22} \\ \textbf{12} \\ \textbf{13} \\ \textbf{14} \\ \textbf{14} \\ \textbf{14} \\ \textbf{17} \\ \textbf{16} \\ \textbf{22} \\ \textbf{11} \\ \textbf{11} \\ \textbf{11} \\ \textbf{12} \\ \textbf{22} \\ \textbf{12} \\ \textbf{11} \\ \textbf{11} \\ \textbf{12} \\ \textbf{22} \\ \textbf{21} \\ \textbf{11} \\ \textbf{11} \\ \textbf{12} \\ \textbf{22} \\ \textbf{11} \\ \textbf{11} \\ \textbf{12} \\ \textbf{22} \\ \textbf{21} \\ \textbf{11} \\ \textbf{11} \\ \textbf{12} \\ \textbf{22} \\ \textbf{21} \\ \textbf{11} \\ \textbf{11} \\ \textbf{12} \\ \textbf{22} \\ \textbf{21} \\ \textbf{11} \\ \textbf{11} \\ \textbf{22} \\ \textbf{22} \\ \textbf{11} \\ \textbf{11} \\ \textbf{22} \\ \textbf{21} \\ \textbf{22} \\ \textbf{21} \\ \textbf{21} \\ \textbf{22} \\ \textbf{22} \\ \textbf{21} \\ \textbf{21} \\ \textbf{22} \\ \textbf{22} \\ \textbf{21} \\ \textbf{22} \\ \textbf{22} \\ \textbf{21} \\ \textbf{22} \\ \textbf{22} $	B-8	14	11	1	10	15	11	13	10	15	16	20	23	28	19	12	13
B-10* 16 19 16 19 16 19 15 9 11 B-11 16 19 15 12 14 13 27 14 15 11 16 B-12* 9 16 9 13 12 19 16 10 12 14 13 27 14 15 11 16 14 16 10 12 14 13 27 14 15 11 16 16 14 17 14 13 27 14 15 11 16 16 14 17 14 13 16 16 14 14 17 12 23 15 13 16 15 16 15 16 15 16 15 17 14 15 13 13 17 14 23 15 13 13 14 14 14 16 15 16 15 16 15 15 14 13 14 14 15 16 15	B-9	15	10	11	10	10	18	1)		21	10	17	22	10	19	18	7
p=11 $p=11$ $p=12$	B-10*	18	13	11	16	10	10	16	0	21	10	13	16	19	15	9	ii
B-123 16 15 6 13 9 15 20 12 16 18 16 14 14 14 16 18 16 13 16 15 16 16 16 18 16 13 16 15 16 13 16 13 16 15 16 13 17 12 18 17 23 6 13 16 15 16 13 17 12 18 10 9 17 22 12 11 20 8 11 19 9 17 22 12 16 13 13 13 13 13 13 13 13 13 13 13 13 13 13 14 10 17 16 20 7 14 13 11 13 10 11 13 11 13 11 13 11 13 11 13 11 13 11 13 11 13 11 13 11 13 11	B-11	10	16	11	13	12	19	16	10	12	14	13	27	14	15	11	6
B-11 10 18 6 13 16 11 B-15 15 11 15 7 10 19 23 9 13 13 17 21 18 10 9 10 B-15 15 11 15 7 10 19 23 9 13 13 17 21 18 10 9 10 B-16 14 11 10 20 8 18 13 17 14 23 15 13 13 14 20 7 14 B-17 12 20 14 11 16 19 17 7 13 10 17 16 20 7 14 23 15 16 19 11 7 13 14 18 10 18 18 15 20 5 9 1 13 14 13 14 13 14 13 14 13 14 13 14 14 14 12 23 <td< td=""><td>B-13</td><td>16</td><td>15</td><td>6</td><td>16</td><td>6</td><td>13</td><td>9</td><td>15</td><td>20</td><td>12</td><td>16</td><td>18</td><td>18</td><td>16</td><td>14</td><td>13</td></td<>	B-13	16	15	6	16	6	13	9	15	20	12	16	18	18	16	14	13
B-14 10 15 7 10 19 23 9 13 13 17 21 18 10 9 14 B-16 14 11 10 20 8 18 11 19 9 17 22 12 11 20 8 13 B-16 14 11 10 20 8 18 11 19 9 17 22 12 11 13 15 13 15 7 14 B-17 12 20 14 11 5 16 13 17 16 20 9 13 13 17 16 20 9 13 13 17 16 21 13 14 14 12 13 13 14 13 14 13 14 13 14 13 14 13 14 13 14 13 14 13 14 13 14 13 14 13 14 13 14 13 14 <td< td=""><td>B-1)</td><td>10</td><td>18</td><td>6</td><td>15</td><td>11</td><td>19</td><td>16</td><td>10</td><td>12</td><td>18</td><td>17</td><td>23</td><td>6</td><td>13</td><td>16</td><td>12</td></td<>	B-1)	10	18	6	15	11	19	16	10	12	18	17	23	6	13	16	12
B-16 11 11 10 20 8 16 11 19 9 17 22 12 11 20 8 13 B-17 12 20 11 11 5 18 13 17 11 23 15 13 15 7 14 B-18 7 13 10 17 12 22 15 8 7 15 20 23 14 20 7 14 B-19 17 16 20 9 11 19 20 6 18 15 9 18 19 11 13 14 13 14 14 14 14 14 14 14 14 14 14 14 14 14 14 14 15 16 15 16 15 16 14 14 14 15 15 16 14 14 14 14 14 14 14 14 14 14 14 14 14 15 <td< td=""><td>B-15</td><td>15</td><td>11</td><td>15</td><td>7</td><td>10</td><td>19</td><td>23</td><td>9</td><td>13</td><td>13</td><td>17</td><td>21</td><td>18</td><td>10</td><td>9</td><td>10</td></td<>	B-15	15	11	15	7	10	19	23	9	13	13	17	21	18	10	9	10
B-17 12 20 14 11 5 18 13 17 14 23 15 13 13 15 7 14 B-18 7 13 10 17 12 22 15 8 7 15 20 23 14 20 7 14 B-19 17 16 20 9 11 19 17 8 8 11 15 16 19 17 16 24 13 4 13 14 13 14 13 14 13 14 14 14 17 14 21 11 13 10 18 18 15 10 15 18 8 14 13 14 18 12 7 8 10 22 14 23 23 23 8 11 14 16 13 14 14 14 14 16 15 16 11 17 14 15 16 11 17 14 16 16 </td <td>B-16</td> <td>14</td> <td>11</td> <td>10</td> <td>20</td> <td>8</td> <td>18</td> <td>11</td> <td>19</td> <td>9</td> <td>17</td> <td>22</td> <td>12</td> <td>11</td> <td>20</td> <td>8</td> <td>12</td>	B-16	14	11	10	20	8	18	11	19	9	17	22	12	11	20	8	12
B-16 7 13 10 17 12 22 15 8 7 15 20 23 14 20 7 14 B-19 17 16 20 9 11 19 17 8 8 11 15 16 19 17 7 13 4 B-20* 18 19 11 14 7 20 13 8 13 13 17 16 24 13 4 B-20* 16 19 10 9 18 16 19 20 6 18 15 9 18 19 11 13 14 B-21 2 16 11 17 14 21 11 13 10 18 18 15 16 14 14 B-22 12 16 13 6 16 18 8 12 21 12 14 14 B-23 15 10 15 10 17 17 9	B-17	12	20	14	11	5	18	13	17	14	23	15	13	13	15	7	10
B-19 17 16 20 9 11 19 17 8 8 11 15 16 19 17 4 B-20* 18 19 11 14 7 20 13 8 13 13 17 16 24 13 4 B-21 9 10 9 18 16 19 20 6 18 15 20 5 9 1 B-22 12 16 11 17 14 21 11 13 10 18 18 15 20 15 12 16 1 16 16 16 16 15 18 8 11 1 11 13 14 14 23 12 11 14 14 14 15 16 14 14 14 15 15 16 14 14 15 15 15 15 15 15 15 16 14 14 14 14 14 15 16 14	B-18	7	13	10	17	12	22	15	8	7	15	20	23	14	20	1	12
B-20* 18 19 11 14 7 20 13 8 13 13 17 16 14 15 14 15 14 15 14 15 19 11 13 11 $B-21$ 9 10 9 18 16 19 20 6 18 15 20 5 9 1 $B-22$ 12 13 13 14 8 22 19 11 7 20 16 15 18 8 14 14 $B-23$ 12 13 14 18 12 7 8 10 22 14 23 12 21 16 14 14 $B-24$ 8 12 13 9 11 12 14 23 12 11 14 14 23 12 15 16 11 14 16 14 16 16 11 15 12 12 14 14 14 14 12 14 14 <td>B-19</td> <td>17</td> <td>16</td> <td>20</td> <td>9</td> <td>11</td> <td>19</td> <td>17</td> <td>8</td> <td>8</td> <td>11</td> <td>15</td> <td>10</td> <td>19</td> <td>12</td> <td>í.</td> <td>12</td>	B-19	17	16	20	9	11	19	17	8	8	11	15	10	19	12	í.	12
B-21 9 10 9 18 16 19 20 6 16 15 18 15 20 5 9 1 $B-22$ 12 16 11 17 14 21 11 13 10 18 18 15 20 5 9 1 $B-23$ 12 13 13 14 8 22 19 11 7 20 16 15 18 8 11 1 $B-24$ 8 12 13 14 18 12 7 8 10 12 14 21 15 12 15 16 14 19 17 16 16 15 16 15 16 11 17 17 9 11 12 14 8 19 17 1 17 18 13 19 14 15 12 12 17 1 17 11 17 12 12 12 12 12 12 12 12 <td< td=""><td>B-20*</td><td>18</td><td>19</td><td>11</td><td>14</td><td>7</td><td>20</td><td>13</td><td>8</td><td>13</td><td>13</td><td>17</td><td>10</td><td>10</td><td>11</td><td>13</td><td>11</td></td<>	B-20*	18	19	11	14	7	20	13	8	13	13	17	10	10	11	13	11
B-22 12 16 11 17 14 21 11 15 10 16 15 18 8 14 $B-23$ 12 13 13 14 8 22 19 11 7 20 16 15 18 8 14 23 12 21 16 1 $B-24$ 8 12 13 14 18 12 7 8 23 23 8 11 1 $B-24$ 8 12 17 8 23 23 23 8 11 1 $B-25$ 14 16 13 6 16 13 9 24 21 15 16 11 17 14 14 14 21 22 7 12 14 15 16 11 11 17 14 16 15 16 11 12 12 12 14 14 14 14 14 14 14 14 14 14 14 14	B-21	9	10	9	18	16	19	20	12	10	19	18	15	20	5		12
B-23 12 13 14 0 22 19 11 1 23 12 21 16 1 B-24 8 12 13 14 18 12 7 8 10 22 14 23 12 21 16 1 B-24 8 12 17 8 23 22 15 16 1 11 12 14 23 12 21 16 1 16 13 9 11 12 14 23 12 17 16 11 11 11 12	B-22	12	16	11	17	14	21	10	11	10	20	16	15	18	8	14	9
B-24 8 12 15 11 10 12 7 8 23 23 8 11 1 B-25 14 17 16 13 6 16 18 8 12 17 8 23 23 8 11 1 B-25 14 17 16 13 9 17 17 9 11 12 14 21 22 7 12 1 B-26 9 16 7 11 9 17 17 9 11 12 14 8 19 17 1 B-27 18 15 10 15 10 17 12 21 14 8 25 7 1 B-28 15 15 7 15 12 20 18 14 14 22 26 9 14 14 B-30 14 15 3 13 12 14 14 14 14 12 12 13 12 </td <td>B-23</td> <td>12</td> <td>13</td> <td>13</td> <td>14</td> <td>10</td> <td>12</td> <td>19</td> <td>8</td> <td>10</td> <td>22</td> <td>11</td> <td>23</td> <td>12</td> <td>21</td> <td>16</td> <td>12</td>	B-23	12	13	13	14	10	12	19	8	10	22	11	23	12	21	16	12
B-25 14 17 16 15 0 10 10 12 12 15 12 15 12 15 12 15 12 17 17 17 19 11 12 14 21 22 7 12 11 B-26 18 15 10 15 10 17 17 17 19 11 12 14 8 19 17 1 B-27 15 15 16 8 12 21 8 17 16 20 14 8 25 7 1 B-28 15 15 7 15 12 20 18 14 14 6 20 14 1 1 12 26 7 14 1 B-30 14 15 3 13 13 21 17 8 14 16 25 16 13 14 14 14 15 12 13 14 14 14 14 13 1	B-24	0	12	13	12	10	16	18	8	12	17	8	23	23	8	11	12
B-20 9 10 1 11 17 17 9 11 12 14 21 22 7 12 11 B-27 16 15 10 15 10 17 17 9 11 12 14 21 22 7 12 11 B-28 15 15 15 16 8 12 21 8 17 16 20 14 8 25 7 11 B-29 15 15 7 15 12 20 18 14 14 6 20 14 8 25 7 14 14 B-30 14 15 3 13 13 24 11 14 9 5 23 26 7 19 14 1 B-30 14 15 12 11 14 22 20 18 18 19 14 1 14 14 15 16 11 12 14 14 16 1	B-25	14	16	10	11	0	17	26	13	9	24	21	15	12	15	6	13
B-27 10 15 10 15 16 8 12 21 8 17 16 20 14 8 19 17 1 B-28 15 15 16 16 8 12 21 8 17 16 20 14 8 25 7 1 B-29 15 15 7 15 12 20 18 14 14 6 20 14 8 25 7 1 B-30 14 15 3 13 13 24 11 14 9 5 23 26 7 19 14 1 B-30 16 12 13 9 11 16 25 16 13 12 1 B-31 16 12 13 24 11 17 5 20 9 22 18 18 19 14 1 1 1 1 1 1 1 1 1 1 1 1 <t< td=""><td>B-20</td><td>78</td><td>10</td><td>10</td><td>15</td><td>10</td><td>17</td><td>17</td><td>9</td><td>ú</td><td>12</td><td>14</td><td>21</td><td>22</td><td>7</td><td>12</td><td>11</td></t<>	B-20	78	10	10	15	10	17	17	9	ú	12	14	21	22	7	12	11
B-20 15 15 7 15 12 20 18 14 14 6 20 14 8 25 7 14 14 15 3 13 13 24 11 14 9 5 23 26 7 19 14 14 $B-30$ 14 15 3 13 13 24 11 14 9 5 23 26 7 19 14 14 $B-31$ 16 12 13 9 11 16 25 9 18 7 16 11 12 26 9 14 14 14 17 12 22 18 18 19 14 14 14 17 12 21 13 20 13 25 8 11 13 20 13 20 13 20 13 20 13 13 12 14 11 <td>B-21 B-28</td> <td>15</td> <td>15</td> <td>10</td> <td>16</td> <td>8</td> <td>12</td> <td>21</td> <td>8</td> <td>17</td> <td>16</td> <td>20</td> <td>14</td> <td>8</td> <td>19</td> <td>17</td> <td>13</td>	B-21 B-28	15	15	10	16	8	12	21	8	17	16	20	14	8	19	17	13
B-30 14 15 3 13 13 24 11 14 9 5 23 26 7 19 14 1 B-30 16 12 13 9 11 16 25 9 18 7 16 11 12 26 9 1 B-31 16 12 13 9 11 17 21 7 8 14 16 25 16 13 12 1 B-32 15 8 10 17 11 17 5 20 9 22 18 18 19 14 1 B-33 10 12 8 12 14 17 5 20 9 22 18 18 19 14 1 B-33 10 12 8 14 14 17 12 22 13 20 13 25 8 1 B-34 11 13 13 17 15 10 11 24<	B-20	15	15	7	15	12	20	18	14	14	6	20	14	. 8	25	-7	13
B-31 16 12 13 9 11 16 25 9 16 7 16 11 12 20 9 1 B-32 15 8 10 17 11 17 21 7 8 14 16 25 16 13 12 1 B-33 10 12 8 12 12 14 17 5 20 9 22 18 18 19 14 1 B-33 10 12 8 12 12 14 17 5 20 9 22 18 18 19 14 1 B-34 11 13 15 12 13 24 20 8 8 20 18 13 25 8 1 B-35 7 11 12 8 14 14 17 12 22 21 13 21 13 13 15 1 B-36 9 14 10 13 13<	B-30	14	15	3	13	13	24	11	14	9	5	23	26	7	19	14	10
B-32 15 8 10 17 11 17 21 7 8 14 16 25 10 15 12 14 1 B-33 10 12 8 12 12 14 17 5 20 9 22 18 18 19 14 1 B-33 10 12 8 12 13 24 20 8 8 20 18 18 8 13 9 1 B-34 11 13 15 12 13 24 20 8 8 20 18 18 8 13 9 1 B-35 7 11 12 8 14 17 12 12 24 13 20 13 25 8 1 B-36 9 14 10 13 13 17 15 10 13 13 15 1 B-37 6 12 16 12 4 24 21 21 <td>B-31</td> <td>16</td> <td>12</td> <td>13</td> <td>9</td> <td>11</td> <td>16</td> <td>25</td> <td>9</td> <td>18</td> <td>7</td> <td>16</td> <td>11</td> <td>12</td> <td>20</td> <td>10</td> <td>12</td>	B-31	16	12	13	9	11	16	25	9	18	7	16	11	12	20	10	12
B-33 10 12 8 12 12 14 17 5 20 9 22 10 10 17 14 17 12 12 18 18 8 13 9 1 13 15 12 13 20 13 25 8 1 13 13 15 11 12 12 14 13 20 13 25 8 1 13 12 14 13 13 25 8 1 16 16 16 15 11 15 16 16 16 16 15 11 15 16 16 16 15 11 18 16 16 16 15 11 16 15 11 16 15 11 13 13 15 16	B-32	15	8	10	17	11	17	21	7	8	14	16	25	10	10	12	11
B-34 11 13 15 12 13 24 20 8 6 20 16 16 16 16 16 15 1 B-35 7 11 12 8 14 14 17 12 12 24 13 20 13 25 8 1 B-36 9 14 10 13 13 17 15 10 11 24 16 16 16 15 11 B-36 9 14 10 13 13 17 15 10 11 24 16 16 16 15 11 B-37 6 12 16 12 4 24 21 7 12 22 27 17 24 3 3 1 B-37 6 8 9 15 15 25 18 9 11 13 15 1 B-38 6 8 9 12 21 22 13 18 <td< td=""><td>B-33</td><td>10</td><td>12</td><td>8</td><td>12</td><td>12</td><td>14</td><td>17</td><td>5</td><td>20</td><td>9</td><td>22</td><td>10</td><td>10</td><td>13</td><td>14</td><td>12</td></td<>	B-33	10	12	8	12	12	14	17	5	20	9	22	10	10	13	14	12
B-35 7 11 12 8 14 14 17 12 12 24 15 16 16 15 11 B-36 9 14 10 13 13 17 15 10 11 24 16 16 16 15 11 B-36 9 14 10 13 13 17 15 10 11 24 16 16 16 15 11 B-37 6 12 16 12 4 24 21 7 12 22 27 17 24 3 3 1 B-38 6 8 9 15 15 25 18 9 14 13 13 15 1 B-39 11 9 9 12 21 22 13 14 14 15 16 15 1 B-40 10 13 13 10 13 19 16 3 13 16 16 14 <	B-34	11	13	15	12	13	24	20	8	0	20	10	20	13	25	8	13
B-36 9 14 10 13 13 17 15 10 11 24 10 17 24 3 3 1 B-37 6 12 16 12 4 24 21 7 12 22 27 17 24 3 3 1 B-37 6 12 16 12 4 24 21 7 12 22 27 17 24 3 3 1 B-38 6 8 9 15 15 25 18 9 14 13 13 27 10 13 15 1 B-39 11 9 9 12 21 22 13 9 11 16 26 15 9 15 1 B-40 10 13 13 10 13 19 16 26 15 19 15 1 B-41 4 13 10 15 10 19 18 12 13 <td>B-35</td> <td>7</td> <td>11</td> <td>12</td> <td>8</td> <td>14</td> <td>14</td> <td>17</td> <td>12</td> <td>12</td> <td>24</td> <td>16</td> <td>16</td> <td>16</td> <td>15</td> <td>11</td> <td>. 9</td>	B-35	7	11	12	8	14	14	17	12	12	24	16	16	16	15	11	. 9
B-37 6 12 16 12 4 24 21 7 12 13 13 27 10 13 15 1 B-38 6 8 9 15 15 25 18 9 14 13 13 27 10 13 15 1 B-38 6 8 9 15 25 18 9 14 13 13 27 10 13 15 1 B-39 11 9 9 12 21 22 13 9 11 18 19 24 11 16 5 1 B-40 10 13 10 13 19 16 3 13 19 16 26 15 9 15 1 B-41 4 13 10 15 10 19 18 8 12 13 16 13 16 14 6 5 1 B-42 18 8 9 13 12	B-36	9	14	10	13	13	17	15	10	12	22	27	17	24	3	3	11
B-38 6 8 9 15 15 25 10 9 11 18 19 24 11 16 5 1 B-39 11 9 9 12 21 22 13 9 11 18 19 24 11 16 5 1 B-40 10 13 13 19 16 3 13 19 16 26 15 9 15 1 B-41 4 13 10 15 10 19 18 8 12 13 18 24 15 22 9 1 B-41 4 13 10 15 10 19 18 8 12 13 18 24 15 22 9 1 B-42 18 8 9 13 12 21 18 22 15 13 26 10 14 6 5 1 B-43 8 15 7 11 15 20	B-37	6	12	16	12	4	24	18	0	11	13	13	27	10	13	15	11
B-39 11 9 9 12 21 22 13 19 16 26 15 9 15 1 B-40 10 13 13 19 16 3 13 19 16 26 15 9 15 1 B-40 10 13 13 19 16 3 13 19 16 26 15 9 15 1 B-41 4 13 10 15 10 19 18 8 12 13 18 24 15 22 9 1 B-42 18 8 9 13 12 21 18 22 15 13 26 10 14 6 5 1 B-43 8 15 7 11 15 20 24 9 16 6 24 23 12 10 10 1 B-43 8 15 7 11 15 13 17 13 15 16 </td <td>B-38</td> <td>6</td> <td>8</td> <td>9</td> <td>15</td> <td>15</td> <td>20</td> <td>13</td> <td>9</td> <td>11</td> <td>18</td> <td>19</td> <td>21</td> <td>11</td> <td>. 16</td> <td>5</td> <td>12</td>	B-38	6	8	9	15	15	20	13	9	11	18	19	21	11	. 16	5	12
B-40 10 13 15 10 15 10 19 18 8 12 13 18 24 15 22 9 1 B-41 4 13 10 15 10 19 18 8 12 13 18 24 15 22 9 1 B-42 18 8 9 13 12 21 18 22 15 13 26 10 14 6 5 1 B-43 8 15 7 11 15 20 24 9 16 6 24 23 12 10 10 1 B-43 8 15 7 11 15 20 24 9 16 6 24 23 12 10 10 1 B-43 8 15 7 11 17 13 15 16 12 23 11 10 10 1	B-39	11	9	9	12	21	10	16	3	13	19	16	26	15	9	15	11
B-41 4 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 10 15 13 26 10 14 6 5 1 B-42 18 8 9 13 12 21 18 22 15 13 26 10 14 6 5 1 B-43 8 15 7 11 15 20 24 9 16 6 24 23 12 10 10 1 B-43 8 15 7 11 15 20 24 9 16 6 24 23 12 10 10 1 B-43 8 15 7 14 13 17 13 15 16 12 23 11 10 10 1	B-40	10	13	13	10	10	19	18	8	12	13	18	21	1 15	22	9	10
B-42 10 0 11 15 20 24 9 16 6 24 23 12 10 10 1 B-43 8 15 7 11 15 20 24 9 16 6 12 23 11 10 10 1	B-41	4	1	10	12	12	21	18	22	15	13	26	10) 14	6	> 5	1
B-43 0 12 1 11 10 13 17 13 15 16 12 23 11 10 10 1	B-42	18	10	2 2	11	15	20	24	9	16	6	24	23	3 12	10		
	B-43	00	15	-	11	19	13	17	13	15	16	12	23	11	. 10) 10	11

*Subject eliminated from study because of low consistency score.

TABLE XI (Continued)

Subject	Ach	Def	Ord	Exh	Aut	Aff	Int	Suc	Dom	Aba	Nur	Chg	End	Het	Agg	Con
B-45	13	13	11	11	27	14	11	2	21	16	12	26	15	7	11	13
B-46	7	18	11	16	13	21	23	7	13	19	18	14	19	6	5	11
B-47	8	15	8	19	15	20	21	11	15	18	20	14	8	12	6	15
B-48	9	19	11	14	8	19	9	11	13	17	13	25	8	26	8	10
B-49	16	10	12	18	11	15	9	14	15	14	16	13	17	14	16	11
B-50	20	11	7	17	10	16	14	12	20	13	9	19	11	14	17	14
B-51	9	11	5	14	21	17	18	12	12	13	12	25	9	22	10	11
B-52	19	13	5	15	9	17	26	8	16	20	12	19	13	8	10	12
B-53	5	13	8	13	24	17	23	7	21	12	10	19	12	14	12	11

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