

A PILOT STUDY,
TO INVESTIGATE THE RELATIONSHIP
BETWEEN PERSONALITY AND POSTURE

Thesis for the Degree of M. A.
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Gail S. Molot
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ABSTRACT

A PILOT STUDY: TO INVESTIGATE THE RELATIONSHIP BETWEEN PERSONALITY AND POSTURE

By Gail S. Molot

The Problem

It was the purpose of this study to investigate the relationship between personality and posture. Two objective posture tests; the Massey Technique and the Howland Alignometer and a subjective rating was used to measure posture and the Bill's Index of Adjustment and Values was administered to measure personality.

Forty-one college women between the ages of 18 and 20 were selected for the study.

Bill's IAV furnishes two scores to be interpreted; a discrepancy score, which measures personal adjustment and a category score, which measures social adjustment. Both of these scores were treated statistically in relation to the subjects' posture.

The range, mean, standard deviation and median were used to describe the subjects. Reliability of the two

objective posture tests were determined by the Mann Whitney reliability test and the coefficient of concordance was used to determine the reliability of the subjective rating. The Pearson Product Moment correlation was the statistical tool used to determine the correlations between the posture tests and between the Massey Technique and the discrepancy score of the Bill's IAV. Differences between groups in terms of social adjustment on the Bill's IAV and postures of the Massey Technique were determined by means of analysis of variance. "t tests" were employed to further determine where the greatest differences occurred.

Conclusions

Upon a statistical analysis of the data collected, the following conclusions have been drawn:

1. The Massey Technique posture test and the Howland Alignometer posture test have been found to be reliable at the 5% level of confidence and the subjective rating has been found to be reliable at the 00001% confidence level.

2. The Massey Technique and the subjective rating correlated significantly at the 1% confidence level ($r = -.4366$). No significant correlation was noted

between the Massey Technique and the Howland Alignometer or between the Howland Alignometer and the subjective rating.

3. When comparing Massey's letter grade distribution on the basis of one-sixth of the range between one standard deviation above and below the mean with the grade distribution in the present study, it was found that there was only a difference of one degree in all the grade distributions. Therefore, it would seem to indicate that the Massey Technique posture scores obtained in this study on college women are comparable to the norms established by Massey for men.

4. There was no significant correlation between the subjects' posture rating and their personal adjustment score (discrepancy score), as measured by the Bill's IAV and the Massey Technique.

5. The results on the "t test" indicated that the ++ vs. the -+ groups and the ++ vs. the -- groups were significantly different at the 5% level of confidence. Therefore, individuals who are socially well adjusted exhibit better posture than individuals with poor social adjustment.

6. The results of the "t test" on self-rejecting and peer-rejecting individuals indicated that there was significant difference between the ++ vs. the (-+) (--) group at

the 2% level of confidence and no significant difference between the ++ vs. the (+-) (--) groups. Therefore, self-accepting and peer-rejecting individuals (+-) have better posture than the group of individuals that reject themselves and accept peers (-+).

Recommendations

1. Posture norms for women should be set up, by means of a feasible posture test with a random sample of 100 to 200 subjects.

2. A study of this kind should be done with the same tools as used in this study but with a larger number of subjects randomly selected to substantiate the direction of findings.

3. A similar study should be undertaken in conjunction with a trained psychologist in order to probe more deeply into an individual's personality and a sociologist to throw further light on the social interaction and adjustment of each subject.

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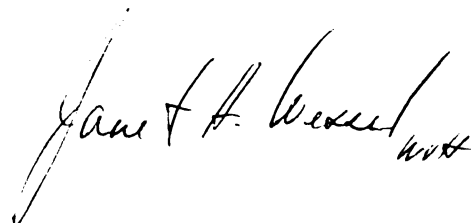
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A handwritten signature in cursive script, reading "Janet A. Wesel" with a small mark at the end.

G 22320
3/28/62

DEDICATION

Dedicated to my mother and dad without whose encouragement and understanding this thesis would not have been possible. Thank you.

ACKNOWLEDGMENTS

I wish to sincerely thank Dr. Janet A. Wessel for her assistance and guidance throughout the preparation of this thesis.

Gratitude is also extended to Dr. Karl Hereford for his guidance in the use of the Bill's Index of Adjustment and Values.

G. S. M.

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CHAPTER I

INTRODUCTION

Much of the work pertaining to a relationship between personality and posture has been purely theoretical without concrete evidence to justify significance. If no correlation exists between the two, then the hypothesized statements from the 19th century on, bearing out significant relationships are unfounded. If however, there is a significant relationship, workers in the field might well consider the total self as well as the structural state of muscles and joints in developing and implementing posture programs for preventive and corrective purposes.

Many authors are of the opinion that a definite relationship exists between personality and posture. Numerous statements have been made exemplifying such. Cowell states that, "attractive and effective posture has long been associated with desirable personality traits. A well conditioned body makes possible good posture, the emotional concomitants of which might well be self-respect, pride, self-confidence and courage."¹

¹C. C. Cowell, "Bodily Posture as a Mental Attitude," Journal of Health and Physical Education, 1:14-15, May, 1930.

Bickel is of the opinion that the body is considered equivalent to our entire existence, including the self. He feels that nothing can take place in the body without some modification of the self. No inner experience is conceivable without some change of condition of the bodily state.²

On the other hand, there are others, Rogers, for example, who believes that personality and postures have no significant relationship. He emphasizes that, "no evidence whatsoever exists that the style of carriage we happen to have been born with can be changed to a straighter model. There is no evidence of a relation of mentality or morality to carriage unless it be from some underlying cause affecting both mental and physical condition. There is ample evidence, like all our other features physical and mental, posture is an inherited trait bound up with the complicated physique handed down through millions of years and not to be tampered with highly for artistic purposes."³

²Lothar Bickel, The Unity of Body and Mind (New York: Philosophical Library, 1959), p. 48.

³J. F. Rogers, "The Long and Short of the Carriage Business," Journal of Health and Physical Education, 3:13. December, 1932.

Purpose of the Study

The primary purpose of the pilot study was to investigate the relationship between body poise (standing posture) and personality (acceptance of self and others).

Two secondary purposes of the study were to determine: (1) the reliability of the Massey Technique and the Howland Alignometer, and (2) the relationship between the Massey Technique, the Howland Alignometer and the subjective posture rating.

Definition of Terms

Personality - "Personality can be thought of in terms of the person's awareness of himself and his conception of his relation to the world."⁴

Self Concept - The way in which one perceives oneself.

Bill's Index of Adjustment and Values - Self concept questionnaire used to measure personal adjustment and social adjustment. (Instructions for administering the questionnaire and complete questionnaire form may be found in Appendix B.)

Standing Posture - The way in which the principle segments of the body are balanced over the base of support when the

⁴ John Anderson, The Psychology of Development and Personal Adjustment (New York: Henry Holt and Co., 1949), p.410.

individual is in a vertical position. (As measured by the Massey Technique and the Howland Alignometer--see Chapter III.)

Good Posture - "The principle segments of the body balanced evenly over the base of support."⁵

Poor Posture - Characterized by the degree of deviation from the vertical position, for example, forward head, round shoulders.

Subjective Rating - The subjects were subjectively rated on a ten point scale: A = 10, A- = 9, B+ = 8, B = 7, B- = 6, C+ = 5, C = 4, C- = 3, D+ and D = 2, and D- and F = 1. Four judges were selected to rate the subjects on their posture from a front and side view picture of each subject.

Limitations of the Study

1. Techniques Used

One of the limitations in this study was the measurement of personality. The total personality structure was not evaluated, but one phase of personality, the person's awareness of himself and his conception of his relation to the world was investigated.

⁵Wayne W. Massey, "A Critical Study of Objective Methods for Measuring Anterior Posterior Posture with a Simplified Technique," Research Quarterly, 14:3, March, 1943.

In the two objective posture tests that were administered, the subject assumed her normal natural standing posture. This may be questioned since the subject might be trying to assume a better posture than is normal for her, but it will measure what she thinks is good posture. A subject who has had poor posture all her life will not know what correct posture feels like and will not be able to assume it. Body sway is another limitation in the measuring of posture.

Postural expression, bodily attitude and poise, is not static, but dynamic in different situations and with different people.

2. Sample Used

The subjects for this study were not randomly selected.

They were subjectively selected solely on the basis of exhibiting good and poor posture as determined by the investigator. It was hoped by the selection to obtain extremes in postures.

There were only forty-one subjects used in the study.

They ranged in age from 18-20. It is not known whether postural patterns and characteristics and personality characteristics are fully developed or set by this age.

Norm tables are available for the Massey Posture Technique for men, but no norm tables exist for women.

CHAPTER II

REVIEW OF THE RELATED LITERATURE

A review of related literature concerning the relationship between personality and posture will be discussed herein. Some of the things that have been said will be considered and then some of the things that have been done will be reviewed.

1. Statements favoring a Relationship Between Personality and Posture.

Lillian Drew states that, the individual who is efficient is the one whose social influence is desirable, who expresses an abundance of health--in fact, the one who is well poised physically and mentally. She claims that these attributes are attained through correct bodily mechanics, otherwise known as, "good posture," better termed poise, and she would go as far as to say personality. The ultimate tribute which can be paid to an individual implying mental and physical fitness is that he or she is well poised. We can at once visualize such an individual having an upright

bearing, ease of manner, erect head; a mentally and physically controlled organism, ready to face the world.¹

Drew points up the relationship between Dr. Jekyll and Mr. Hyde as an excellent illustration of posture versus personality. Here were two personalities--Jekyll, erect in bearing, expressing health, respected socially, with noble aspirations; and the opposite, Hyde, the groveling, crouching posture expressing his personality--and absolute antithesis.²

Cowell discusses one's mental attitude toward life, work, friends and self and the fact that these factors are strongly colored by his state of health. He feels that bodily posture is one of the determining factors of physiological state. With our increasing knowledge of elements influencing behavior, posture becomes important to the study of mental attitudes, since poise concerns the entire body. An organism must be considered as a whole. Therefore physical poise must be related to mental poise; motor attitude to mental attitude.³

¹Lillian C. Drew, "Ways and Means of Overcoming Inefficient Posture," American Physical Education Review, 28:3-4, January, 1923.

²Ibid., p. 4.

³C. C. Cowell, "Bodily Posture as a Mental Attitude," Journal of Health and Physical Education, 1:14-15, May, 1930.

Mabel Todd states that postural patterns is composed of many parts moving definite distances in space with the exact amount of effort necessary to support the individual weights.⁴ Awareness of our own motion and position is not obtained from the outside world but rather from within the body.⁵

Todd further emphasizes that although posture attitudes of an animal are unconscious, man's are largely determined by preconceived notions as to how he should look.⁶ The command, "straighten up," implies integrity and self reliance. We often try to emulate someone brave and strong. The explorer and the pioneer stand up whereas the prisoner and the slave crouch. The mental and emotional equipment employed in self expression, such as temperament, personal experiences and prejudices influence and control the relation of the bodily parts to the whole.⁷

Deaver, in reviewing the literature on personality and posture, was astonished by the many statements on the

⁴Mabel Todd, The Thinking Body (Boston: Charles T. Branford Co., 1937), p. 22.

⁵Ibid., p. 26.

⁶Ibid., p. 34.

⁷Ibid., p. 35.

dire effects which result from poor posture and the physical and mental rewards for those who maintain good posture.⁸

The following statements are some of the many collected by Deaver from various articles:⁹

1. Posture expresses mental as well as physical states, and he who stands erect with a well poised, controlled and therefore graceful body will feel that he is master of himself and a leader of men.
2. Posture and efficiency go hand in hand.
3. Posture is an index of personality. A poised and upright bearing usually connotes strong mentality, health, self command and leadership. Almost, if not absolutely never, does a feeble-minded person stand erect.
4. Erect posture is an expression of intelligence and character. It is also an index of physical efficiency.

Deaver discusses the fact that it is difficult to get at the cause and effect between health and posture and personality and posture. Incorrect posture can be said to be a result of many ills or many ills can be the result of incorrect posture.¹⁰ Dr. Rice states that, "the careless

⁸G. G. Deaver, "Posture and its Relation to Mental and Physical Health," Research Quarterly, 4:221, March, 1933.

⁹Ibid., p. 221.

¹⁰Ibid., p. 222.

lounging chap with shuffling gait and hang dog manner is a whipped man. The poor posture may not be a cause of his inefficiency, but it may be the result of the factors that made him a failure.¹¹

Bickel states that, "all active and passive motions of our body, to the extent that they relate to, or stem from the totality of our power of existence--possess also an inner meaning or more correctly, they constitute this inner meaning, simultaneously viewed also externally."¹²

Bickel is of the opinion that the whole body constitutes the whole self.¹³

Mabel Todd stated that,

Psychology as a force and as an influence in behavior is now generally recognized, so that the psychological principles involved in better bodily adjustment might be stated in these terms, "We cannot think a thought without a muscle change." Therefore our thinking is of supreme importance in our behavior. Thinking is an act of the whole man and affects not only the whole man, but individual parts. These factors--mental concept, and emotional make-up and attitudes, are undeniable forces which we must study and guide if we are

¹¹Ibid., p. 222, citing T. B. Rice, "What is Good Posture?" Hygeia, June, 1931.

¹²Lothar Bickel, The Unity of Body and Mind (New York: Philosophical Library, 1959), p. 48.

¹³Ibid., p. 48.

to maintain balanced behavior of bodily parts. "As we think, so we are." We are not alone, "physical," not alone, "mental," not alone, "structural," but all three.¹⁴

"Courage is grace under pressure." This is a definition by Ernest Hemingway, possibly drawn from his observation of bullfighters. It gives us an inkling of what courage is, but allows us to furnish our own mental picture of grace. We all do however, have such a picture in our mind's eye, even if we have not achieved it in our bodily reactions.¹⁵

Lillian Drew states that good posture reacts upon an individual in an increase of self-respect, and gives one the needed confidence to make a presentable appearance before his or her neighbors. The relationship between the mental, physical and spiritual natures is too close to ever be ministered alone.¹⁶

Drew also believes that posture is expressive of mental states and relaxation of posture implies mental

¹⁴Mabel Todd, "Basic Principles Underlying Postures," Journal of Health and Physical Education, 2:13, October, 1931.

¹⁵Justus Schifferes, Healthier Living (New York: John Wiley and Sons, Inc., 1954), p. 590.

¹⁶Lillian Drew, Individual Gymnastics (Phil: Lea and Febiger, 1945), p. 42-43.

relaxation also. People are often unaware that they are expressing themselves this way. Emerson says, "What you are, speaks so loudly that I cannot hear what you say."¹⁷ The assumption of an attitude which is expressive of a particular emotion often tends to produce that very emotion. Depression may be expressed by a lowered head, a flattened chest and a walk lacking in buoyancy. An erect posture, may be the result of mental and physical freedom.¹⁸

"Posture is an index of personality," says Drew. There are exceptions to broad rules and so one may find a noble physique without many of the above mentioned characteristics, but a feeble-minded person will rarely be seen standing upright, an unhealthy person is seldom straight, and the quiet, timid, self conscious individual is not commanding in bearing.¹⁹

John Anderson emphasized that from the standpoint of personal relationships with others, we must be cautious of forming judgments of other people solely on the basis of

¹⁷ Ibid., p. 43, citing Emerson.

¹⁸ Ibid., p. 43.

¹⁹ Ibid., p. 44.

their physical appearance, but we must care for our own appearance because other people will tend to pass judgments on the basis of our appearance.²⁰

Bliss Carman said, "Fine poise and posture is the basis of fine personal influence, the foundation of enduring beauty, the centre from which powerful impressiveness must radiate. A large part of this strange personal potency which we call magnetism is primarily a spiritual power and has its source in the soul, it yet must find its avenues of expression through the body."²¹

Carman also feels that a well poised body expresses a well poised character and reacts on that character to help and enrich the whole personality. "To bear oneself with grace and kindly dignity is to foster and breed graciousness and self-respect, as well as to disseminate them."²²

Lillian Drew is a firm believer of the fact that exercises performed two or three times a week given by the

²⁰John Anderson, The Psychology of Development and Personal Adjustment (New York: Henry Holt and Co., 1949), p. 81.

²¹Bliss Carman, The Making of Personality (Boston: Colonial Press, 1908), p. 97.

²²Ibid., p. 100.

physical education teacher is not the only answer in overcoming inefficient posture. The major problem rests within the individual and this is the only way results can be effective. Interest should be aroused so that there will be a resultant desire to accomplish an end, the end of self improvement. If instructors talked more about poise and personality and less about posture, we would probably reach the goal more surely. If individuals could become aware of the fact that poise (posture) is the outward expression of personality, we shall have taken long strides forward in the solution of the difficulty.²³

Barlow, in his discussion of psychosomatic problems in postural re-education, states that a basic point is being greatly overlooked in remedial work and that it is behavior rather than structure which determines the mechanics of the body. By behavior, he means all the habitual motor responses with which we react to the world and the manner in which we adapt to its various stresses. These behavior patterns can take place within certain anatomical and

²³Lillian Drew, "Ways and Means of Overcoming Inefficient Posture," American Physical Education Review, 28:4-5, January, 1923.

physiological framework; but as in the game of chess, which has fixed laws, Barlow points out that an almost infinite number of variations of behavior is possible.²⁴

Irma Dovey is also of the opinion that posture reflects a mental state and that for the mental state which leads to erect and graceful handling of the body, a child very often depends upon the way his world treats him. Adults do the same thing. When someone has said a kind word to us, we walk proudly, and when we are dejected for some reason, we slump. Bobby's old sweater may be pretty well worn, but if teacher compliments Bobby on it, he will carry himself proudly. Dovey considers that posture represents a state of mind and Bobby's emotional attitude should be made to be one of assurance and happiness rather than telling him to straighten up. If this goal can be accomplished, his posture will take care of itself.²⁵

Feldenkrais states that, "the posture and attitudes are acquired features fitting the environment and therefore

²⁴W. Barlow, "Psychosomatic Problems in Postural Re-Education," Lancet, 2:661-662, July-December, 1955.

²⁵Irma Dovey, "Posture Gives You Away," Instructor, 65:89, May, 1956.

come up under the heading of learning. Any activity that has needed apprenticeship may be used to investigate the process of learning in an individual. The partial analysis of one or the other domain of activity has misled many to think that they thus analyze the whole personality. Only all of them together are a valid assessment of personality. With a proper technique, it is possible to analyze a personality solely by a study of his muscular behavior, in the same way and with the same results as by an analysis of his mental processes alone. A judicious use of both insures a greater number of successful treatments. Re-education of the whole personality takes place; the physical body and the mental function are attacked directly and simultaneously."²⁶

It is evident that many statements have been made favoring a relationship between personality and posture; however, there are some opposing views.

²⁶M. Feldenkrais, Body and Mature Behavior (New York: International Universities Press Inc., 1949), p. 34.

2. Statements and Studies Emphasizing the Physical Nature of Postural Patterns.

T. K. Cureton stated that most authorities in corrective work are of the opinion that poor posture is caused by an unbalanced pull of muscles, inadequate muscular tone and a low energy level. Extremely strong and short pectorals may well cause round shoulders, unusually strong and short psoas iliacus muscles will cause lordosis and weak rib elevators will cause poor chest posture.²⁷

Cureton further emphasized that the inherited shape of bones is an important consideration. He feels that short clavicles may be the cause of round shoulders, frail vertebrae, the cause of exaggerated spinal curves, femoral torsion the cause of lordosis and foot stance, pelvic type predetermining spinal lumbar curvatures and uneven leg lengths causing lateral deviations of symmetry.²⁸

Coppock²⁹ observed that proof of a relationship existing between round shoulders and tightness of the pectoral

²⁷ T. K. Cureton, "Bodily Posture as an Indicator of Fitness," Research Quarterly, 12:361, May, 1941.

²⁸ Ibid., p. 362.

²⁹ Doris E. Coppock, "Relationship of Tightness of Pectoral Muscles to Round Shoulders in College Women," Research Quarterly, 29:146-153, May, 1958.

muscles has not been established and so conducted a study to determine the degree of relationship between round shoulders and tightness of the pectoral muscles.

All the girls enrolled in McPherson College, Kansas, in 1953-54 were selected for the study.

The palm test, measurement of the distance between the scapulae, the shoulder line test and the chest angle measurement were tests used to determine round shoulders. The pectoral stretching test was used to measure the degree of forced extension when arms are in an abducted position, and the table test was used to measure the degree of pectoral muscle tightness with passive hanging of the arms.

Coppock concluded that tightness of the pectoral muscles did not correlate significantly with round shoulders.

Some authorities believe that weakness of the abdominal muscles is one of the important causes of certain postural faults, particularly, downward tilting of the pelvis, hollow and sway back and over carriage.

Fox³⁰ conducted a study, the purpose of which was to determine the relationship of abdominal muscle strength to the above posture faults.

³⁰Margaret Fox, "Relationship of Abdominal Strength to Selected Posture Faults," Research Quarterly, 22:141-144, May, 1951.

Subjects were selected on the basis of anterior-posterior posture pictures. Subjects judged to have a faulty pelvic tilt or to be sway backed were chosen from the women enrolled at the State University of Iowa. The control group was composed of students randomly selected. Abdominal strength was tested.

The following conclusions were drawn from this study:

1) Faulty pelvic tilt was not associated with any significant weakness in abdominal musculature, and 2) Sway back was not associated with weakness of the abdominal muscles.

3. Studies Investigating the Relationship Between Personality and Posture.

William James,³¹ studying the expressions of bodily posture, stated that the natural expression is a total made up of a certain facial expression, certain gestures and a bodily posture. There is no guarantee, however, that expression cannot be based upon a single aspect of the total. James believed that the separation of its

³¹William T. James, "A Study of the Expression of Bodily Posture," Journal of General Psychology, 7:405-437, 1932.

components for study was justified, since in no other way can the relation of the parts in the total expression be understood.

"The purpose of this study is threefold, 1) to determine in how far bodily posture may be expressive and 2) if it is expressive, to determine the relative expressive values of the various parts of the total posture and 3) to determine whether or not there is in the experience of the observer a correlated attitudinal or emotional pattern."³²

Three hundred forty-seven different postures were obtained by photographing a human manikin on a 35 mm. film, and projecting the postures on a white screen in a dark room one at a time. The figure was clad in white athletic shorts and shirt and wore a dark mask so as not to have any influence from facial expression.

"These were the instructions, 'After the signal, ready, I shall show you a photograph of a bodily posture. Characterize briefly 1) what the posture signifies, for example, what attitude is expressed, and 2) say if you can, whether any part of the total posture is especially significant and if so in what way.'"³³

³²Ibid., pp. 406-407.

³³Ibid., p. 413.

The greatest number of reports show that the observers found an expression of a mental state or function (thought or emotion) in the various postures. All of the expressions were reported by every observer, and no expression was accepted as characteristic of the posture unless it occurred several times in the report of separate observations.

The postural expressions were placed into two groups, the generic and the specific, related to each other as genus and species. The postures were taken as a total, but for the most part the observers were able to indicate one factor of the posture as most significant for the expression given.

James mentioned the relation of the posture as an expression of an idea or an emotion to the total movement of which the posture may be regarded as a phase. The human organism, attains its posture by way of movement and it may be argued that the movement as a whole is expressive, but the posture taken by itself is an abstraction. It may be true that in some cases the total movement would be less equivocal than any of its phases, but a single phase is sufficient for expression. He gives the example of the animal ready to spring upon its prey, the startled animal

that seeks safety in motionlessness, a child at prayer and goes on to say that in all of these and many others, the phase of the total movement is all that is necessary for expression, and it does not make the least difference by what movements the posture is reached or what movement will follow.

James was forced to conclude that the postural expression, as a rule, is not specific but general.

Deaver³⁴ conducted a study, the purpose of which was to attempt to discover what relationship existed between personality and posture. He wanted to answer such questions as, "Is posture an index of personality? Does he who stands erect feel that he is master of himself and a leader of men? Does self command and leadership have any relationship with posture?"³⁵

Three tests were given the students; the personality Schedule, the Allport Ascendancy-Submission Reaction Test and the Harvard Posture Test. The Harvard System was the method of judging posture. Each man removed all his

³⁴G. G. Deaver, "Posture and its Relation to Mental and Physical Health," Research Quarterly, 4:221-228, March, 1933.

³⁵Ibid., p. 226.

clothing and stood behind a white sheet. An electric light was placed so that a silhouette of his body was thrown on the sheet. The individual was asked to take his normal standing position and his posture was rated on the basis of the similarities to the silhouettes in the Harvard charts which show ratings of good, fair and very poor. The Thurstone Personality test seemed to indicate various emotional and personality traits. It is supposed to reveal a well adjusted emotional life as well as those maladjusted emotionally. The Allport Ascendancy-Submission Reaction test was administered to discover the disposition of the individual to dominate his fellows or be dominated by them in the various relationships of everyday life.

It was concluded that there was no relationship between posture and personality integration when taking the entire group into consideration. When taking only the two extreme groups, of very good and very poor, there were significant differences between the means of the two groups in regard to posture and personality integration. It was found that those with very good posture, were on the average less stable than those with very poor posture. This was contrary to the expected results. Some of the

reasons for this might be attributed to the fact that the study was conducted with a select group of physical education majors and secretarial students. The percentage of those having very poor posture was considerably less than would be found in a random sampling.

Deaver does not feel that this would be conclusive evidence against the hypothesis that posture relates to personality.

Gessell defines posture as "the positions assumed by the body, as a whole or by its members in order to execute a movement or to maintain an attitude."³⁶

Deutsch³⁷ found that on the basis of a controlled study, the motor behavior of patients seen during analysis can be observed to be motivated by underlying and coordinated psychological processes.

Certain postural attitudes that developed independently finally became integrated with each other, and became consistent with one another when the personality

³⁶Arnold Gessell, Infant Development (New York: Harper and Brothers Publishers, 1952), p. 65.

³⁷F. Deutsch, "Analysis of Postural Behavior," Psychoanalytic Quarterly, 16:195-213, 1947.

was fully developed, thus presenting the characteristic expressive acts of the adult. Behind the whole immanent talent organized structure of the integrated system, the specific expressive nature of a posture or movement is invisibly enacted.

Deutsch observed that random observation justified a more systematic investigation. He recorded all postures and changes of posture during successive analytical hours on a posturogram.

Each patient has his characteristic postural pattern illustrating the integrated response of his motor apparatus to unconscious psychological complexes. As psychological changes occurred during treatment, the postural pattern became transitorily or permanently changed. The correlation of psychological (verbal) with postural expression indicated that in states of instinctual conflict, the defenses and the repressed emotions were easily reflected in bodily behavior.

Deutsch concluded that, "there are definite motivations for the postural behavior of every patient. Postural attitudes reflect or substitute, precede or accompany the verbal expression of unconscious material."³⁸

³⁸Ibid., p. 211.

He is of the opinion that the analyst is furnished with additional clues to psychoanalysis by observing postural patterns. The better acquainted he is with the basic postural patterns of a patient, the more significant will deviation from this pattern become to him.

Moriarty³⁹ conducted a study on the relationship of certain physical and emotional factors to habitual poor posture among school children.

Williams and Brownell indicated that fear, self-consciousness, fatigue and other physiological states have been reflected in postural patterns.⁴⁰

In Moriarty's study boys and girls from 23 different elementary schools from seven different communities in Massachusetts were selected. There were 250 cases of good and poor posture recommended from intermediate grades including approximately 4,000 children. The Iowa Posture Test was administered to each of the 250 children. Only the children with very good and very poor posture were used.

³⁹ Mary Moriarty, "A Study of the Relationship of Certain Physical and Emotional Factors to Habitual Poor Posture Among School Children," Research Quarterly, 23:221-225, May, 1952.

⁴⁰ Jesse Feiring Williams & Clifford Brownell, The Administration of Health and Physical Education (Philadelphia: W. B. Saunders Co., 1947), p. 167.

The medical examination, the check list, and the information data sheet were the sources of data explored. Specific physical and emotional factors were studied. A medical record card was constructed and a special examination was made of each child and recorded. The check list was constructed so that the classroom teacher could record observations. The seven areas that were included were: impaired vision, impaired hearing, speech difficulties, fatigue, clothing, deformities and other characteristics. Space was also provided for information concerning any home or school conditions indicative of emotional disturbances.

The reported differences indicated that the emotional factors of self-consciousness, fidgeting, restlessness and timidity were conclusive at the 1% level of significance.

Moriarty concluded that a significant association between poor posture and certain physical and emotional characteristics were found. These characteristics were: fatigue, self-consciousness, fidgeting, hearing defects, restlessness, timidity, underweight, heart defects and asthma.

As can be seen from the above literature, there is a paucity of scientific studies both qualitative and

quantitative to justify the many comments and statements made concerning the significance of the relationship between personality and posture.

4. Methods Selected for Measuring Personality and Posture.

Posture Tests. The Howland Alignometer was one of the objective posture tests used.

"The relationship between the sternopubic line formed by the two body landmarks of the alignment technique and each of the five body landmarks of the traditional criterion of body posture was determined by computing the linear distances between them."⁴¹ It was found that when the point of the sternum and the point of the pubis formed a straight line parallel to the long axis of the body in a vertical position, structural alignment of the trunk occurred.

The technique was validated by use of radiographs and photographs and the objectivity of the technique was determined by the test-retest method which resulted in a correlation of .923.

⁴¹Ivalclare Howland, Body Alignment in Fundamental Motor Skills (New York: Exposition Press, 1953), p. 80.

The Massey Technique was the other objective posture test used. The results of a study conducted by Massey⁴² "indicated that in the erect position the segments, head, neck, trunk, hips, thighs, and legs form varying angles with each other and with the long axis of the body. The resulting angles, I (head-neck with trunk), II (trunk with hips), III (hips with thigh), IV (thigh with leg), when measured in terms of degrees deviation from a straight line, were found to be satisfactory as a measure of general and segmental poise."⁴³

Massey concluded that anterior-posterior posture may be measured objectively and accurately by the above method. The technique was validated by the subjective judgment of selected experts.

Personality Test. Ellis⁴⁴ concluded after a thorough review of 350 studies that group administered pencil and paper personality questionnaires are not very valuable in

⁴²Wayne W. Massey, "A Critical Study of Objective Methods for Measuring Anterior-Posterior Posture With a Simplified Technique," Research Quarterly, 14:3-22, March, 1943.

⁴³Ibid., pp. 20-21.

⁴⁴Albert Ellis, "The Validity of Personality Questionnaires," Psychological Bulletin, 43:385-440, September, 1946.

distinguishing between groups of adjusted and maladjusted individuals and that they are of much less value in the diagnosis of individual adjustments or personality traits.

Since personality can be thought of in terms of the person's awareness of himself and his conception of his relation to the world, and since personality inventories do not necessarily measure the particular traits one is measuring, the author has used the Bill's Index of Adjustment and Values, which is a self concept questionnaire.

Wylie⁴⁵ theorizes that a person's body characteristics as he perceives them to be might exert a significant influence on the development of his self concept. Self concept theorists agree on the general concept that body characteristics which are valued quite low by subjects may be expected to undermine their general self regard, while highly valued body characteristics should enhance self regard.

Considering the importance of this idea, Wylie is surprised to find that no controlled study explores this hypothesis directly.⁴⁶

⁴⁵Ruth C. Wylie, The Self Concept (Nebraska: University of Nebraska Press, 1961), p. 159.

⁴⁶Ibid., p. 203.

Bills, Vance and McLean⁴⁷ state that, "enhancement of psychological organization implies two characteristics; (1) that the individual has information relative to his present self-organization and (2) that the individual has a view of himself as he wishes to be. The former being called the "self concept" and the latter will be designated as the "concept of the ideal self."⁴⁸

The authors define maladjustment as any discrepancy between the concept of self and the concept of the ideal self. It may be assumed, they feel, that maladjustment exists when the discrepancy between the concept of self and the concept of the ideal self is great enough to cause unhappiness. They noted that this is a definition of personal maladjustment.

"The total of the discrepancies between the self concept and the concept of the ideal self would be a measure of adjustment."⁴⁹

⁴⁷ Bills, Vance & McLean, "An Index of Adjustment and Values," Journal of Consulting Psychology, 15:257-261, February, 1951.

⁴⁸ Ibid., p. 257.

⁴⁹ Ibid., p. 258.

The authors have concluded that the "Index of Adjustment and Values," is a reliable and valid instrument which should prove useful as a research tool.

Roberts⁵⁰ conducted a study to determine whether emotionality is involved in those traits which indicate a discrepancy between the concept of self and the concept of the ideal self.

Since the "Index of Adjustment and Values" consists of a list of 49 trait words it was adaptable to the technique of free association. Roberts compared emotionality as indicated by the self ratings on the Index with emotionality as indicated by a free-association test.

Reaction time as the main indicator of emotionality in free association verified the hypothesis by serving to separate certain types of responses on the index.

The results show that the self-ratings of the Index are valid indices of emotionality. Where a discrepancy was indicated for certain trait words between concept of self and concept of the ideal self, the reaction time was significantly longer. A significantly longer reaction

⁵⁰ Glen Roberts, "A Study of the Validity of the Index of Adjustment and Values," Journal of Consulting Psychology, 16:302-304, 1952.

time was found for words in which the subjects displayed a rejection of self in their present state. The results indicate that the concept of self is not an index of emotionality unless a rejection or discrepancy is indicated upon the same personality trait.

Bills related Rorschach tests to the "Index of Adjustment and Values." With respect to certain important personality characteristics, the high and low scorers on the IAV, as measured by the Rorschach, made up two different personality groups. He concluded that the IAV can separate groups with different personality characteristics.⁵¹

Bill's⁵² "IAV" requires that a subject make three ratings on a five point scale for each of 49 traits. The ratings are arranged in three columns as concept of self, acceptance of self and the concept of the ideal self. A fourth score called discrepancy, is achieved by totaling the differences between concept of self and concept of the ideal self.

⁵¹Robert Bills, "Rorschach Characteristics of Persons Scoring High and Low in Acceptance of Self," Journal of Consulting Psychology, 17:36-38, 1953.

⁵²Robert Bills, "A Validation of Changes in Scores on the Index of Adjustment and Values as Measures of Changes in Emotionality," Journal of Consulting Psychology, 17: 135-138, 1953.

To relate research findings on the Index to the larger body of research concerning "acceptance of self" as an important personality variable, it was established that acceptance of self as measured by the Index and by interviews were essentially the same. Bills ranked subjects according to acceptance of self shown by interview material and the IAV and the ranks were correlated to give an rho of .84. What a subject said about himself in an interview corresponded highly with the ratings he gave himself on the IAV.⁵³

The above literature concerning the Bill's IAV present conclusive evidence indicating the reliability and validity of this index as a measurement of one's self concept.

⁵³Robert Bills, "Acceptance of Self as Measured by Interviews and the Index of Adjustment and Values," Journal of Consulting Psychology, 18:22, December, 1954.

CHAPTER III

METHODOLOGY

The following methods were used to determine whether there was any relationship between personality and posture.

Sample

Forty-one college women attending physical education service classes on the Michigan State University campus between the ages of 18 and 20 were the subjects for the study.

The subjects were subjectively selected exhibiting good and poor posture.

All subjects were within 15 pounds of their normal weight range so that weight would not be an influential factor in the subjects' posture. The Pryor¹ Width-Weight Tables were used to determine normal weight range.

¹Helen Pryor, Width-Weight Tables (second edition: Stanford; California: Stanford University Press, 1940), p. 14.

Tests Used

Standing Posture

Two objective tests were used for measuring standing posture.

Howland Alignometer² - This instrument was devised to measure vertical body alignment. It consists of a perpendicular steel rod, with two sliding calibrated pointers attached to it. This rod is supported on a wooden plank. The present author had two additional pieces of wood placed in the center of the wooden plank to fit in between the feet of the subject and directly in front of the toes of the subject so that she would stand in the same place each time measured. Sliding pointers are located above and below the sliding pointer indicating the center of the sternum. The center of the sternum was found by measuring the half distance between the upper and lower pointers on the sternum. The other sliding pointer was used to locate the superior border of the symphysis pubis.

When the subject is in such a position so that the center of her sternum is directly over the symphysis, we

²Ivalclare Howland, Body Alignment in Fundamental Motor Skills (New York: Exposition Press, 1953), p. 79.

say that she is in balanced trunk alignment. The differences in readings between the calibrated pointers at the center of the sternum and the superior border of the symphysis pubis, would be zero. The poorer the trunk alignment, the greater the difference in readings between the two points.

Massey Technique³ - This instrument was devised to measure standing anterior-posterior posture. Five points were placed on the subject. They were located at the 1) tragon of the ear, 2) acromion process of the scapula, 3) greater trochanter of thigh, 4) styloid process of the fibula (mid-point of the knee joint), and 5) outer malleolus of the ankle.

A side view picture was then taken of the subject.

The angles were then recorded in terms of deviation in degrees from a straight line. The sum of these angles were then computed and a letter grade was given corresponding to the sum total of the angles. The higher the total, the poorer the anterior-posterior posture, and the lower the total, the closer the subject would be to assuming vertical alignment.

³Wayne W. Massey, "A Critical Study of Objective Methods for Measuring Anterior Posterior Posture With a Simplified Technique," Research Quarterly, 14:17, March, 1943.

Subjective Rating - The pictures of the subjects (side view and front view) were placed into random order and given to the judges to be rated. Each judge worked alone, not knowing the scores recorded by the other judges. The judges rated each subject on the following ten point scale: A = 10, A- = 9, B+ = 8, B = 7, B- = 6, C+ = 5, C = 4, C- = 3, D+ and D = 2, and D- and F = 1. This letter grade was indicative of the all-over posture of the subject.

Personality

Bill's Index of Adjustment and Values - Since personality inventories do not always measure what they purport to measure and since personality can be thought of in terms of the person's awareness of himself and his conception of his relation to the world, this index was used. This instrument was designed to measure personal and social adjustment.

Procedures

Height, weight, age and Pryor measurements were taken of the subjects to determine whether the subjects were suited for the study.

The Howland Alignometer and the Massey Technique were administered to the subjects at the second meeting. They were tested individually to avoid any feelings of self-consciousness. The subjects were told to assume their normal natural standing posture for both the Howland Alignometer and the Massey Technique. The subjects were clad in bra and pants. Their faces were covered by means of a cardboard attached to a string extending from the ceiling.

All measurements were taken by the investigator in an attempt to eliminate as much variance in measurement as possible.

Equipment. The pictures were taken with a Conteflex 16 mm. camera at a distance of 16 ft. with lights placed at a distance of 6 ft.

A celluloid protractor and a proportional divider were used in order to accurately measure angles from pictures for the Massey Technique.

First Step. The Howland Alignometer measurements were done three times for purposes of reliability.

Second Step. The Massey Technique was then administered.

Two anterior-posterior pictures for each subject were taken for the Massey Technique in order to determine reliability.

Third Step. A front and side view of each subject were taken for the subjective rating.

Fourth Step. The Index of Adjustment and Values was administered to several subjects at one time in a classroom situation.

The author read the instruction booklet (see appendix) aloud with each group of subjects to be sure instructions were clear.

Testing Period. The testing period for the posture procedures extended through a five week period.

The testing period for the Index of Adjustment and Values followed the posture testing period and covered a two week period.

CHAPTER IV

ANALYSIS OF DATA

Description of Subjects

The description of subjects is presented in Table I.

TABLE I
DESCRIPTION OF SUBJECTS*

Characteristics	Range	Mean	Standard Deviation	Median
Age (yrs.)	18.0 - 20.3	18.36	.557	18.7
Height (in.)	61 - 69.25	64.45	2.308	64.25
Weight (lbs.)	102 - 146.50	122.23	12.599	121
Deviation from stand- ard weight (%)	0.00 - 0.11	.04	3.153	.04
Deviation from stand- ard weight (lbs.)	0 - 14	5.58	3.923	5
Massey technique (degrees)	22 - 66	43	12.46	41
Howland alignometer difference between sternum and pubis (in.)	0.01 - 1.14	1.02	.395	0.16
Subjective rating (points)	7 - 37	19.48	9.32	16

*Calculated on the basis of forty-one subjects.

As was seen in Table I, the subjects were within 11% (14 pounds) of their normal weight range as determined by the Pryor Width-Weight Tables.

Description of the Angles

The description of the angles obtained in the Massey Technique are found in Table II.

TABLE II

DESCRIPTION OF ANGLES OBTAINED IN MASSEY TECHNIQUE

Characteristics		Range	Mean	Standard Deviation	Median
Angle I	(degrees)	11 - 31.5	21.13	4.977	21
Angle II	(degrees)	2 - 21	11.60	5.582	12
Angle III	(degrees)	1.5 - 15	5.91	3.968	4
Angle IV	(degrees)	.5 - 11	3.90	2.934	3.5

The means in Table II clearly indicated that the highest scores were found in angle I (head-neck with trunk). These were expected since the examiner's original selection of the subjects with poor posture was based primarily on the forward head and round shoulders.

Comparison of Massey's Distribution
of Total Degrees

A comparison of Massey's distribution of total degrees and letter grades with the distribution found in the present study are found in Table III. Each letter grade in Massey's study and in the present study represents approximately one-sixth of the range between one standard deviation above and below the mean.¹

TABLE III

COMPARISON OF MASSEY'S DISTRIBUTION OF TOTAL DEGREES
AND LETTER GRADES WITH FINDINGS IN PRESENT STUDY

Grade	Massey Technique ² Sum of Angles (I, II, III, IV) (Degrees)	Present Study Sum of Angles (I, II, III, IV) (Degrees)
A	8 - 22	7 - 21
B	23 - 36	22 - 35
C	37 - 51	36 - 50
D	52 - 65	51 - 64
E	66 - 78	65 - 79
F	79 - 93	

¹Charles H. McCloy and Norma D. Young, Tests and Measurements in Health and Physical Education (New York: Appleton-Century-Crofts, Inc., 1954), p. 269.

²Wayne W. Massey, "A Critical Study of Objective Methods for Measuring Anterior Posterior Posture with a Simplified Technique," Research Quarterly, 14:17, March, 1943.

As was seen in Table III, there was only a difference on one degree in all the grade distributions between Massey's figures and the figures in the present study. This would seem to indicate that the Massey Technique scores obtained in this study on college women are comparable to the norms established by Massey for men.

Findings in the Bill's Study and Present Study

The findings on the Bill's Index of Adjustment and Values in the present study can be seen in Tables IV, V, and VI as compared with Bill's own findings.

Since the negative trait scores in Columns I and III of Bill's study have been reversed (see questionnaire in Appendix B), and these traits have not been reversed in these columns in the present study, Bill's results are higher in almost all instances. Columns I and III are used to calculate the discrepancy score and has nothing to do with the category score for social adjustment. It was felt that it was not necessary to reverse the negative traits, since they remained constant throughout the study.

A greater similarity was noted when comparing the Column II of "self" and "others" in the present study with

TABLE IV
COMPARISON OF FINDINGS IN THE PRESENT STUDY AND IN BILL'S STUDY (SELF) *

Study	Column I				Column II				Column III			
	Range	Mean	S.D.	Me- dian	Range	Mean	S.D.	Me- dian	Range	Mean	S.D.	Me- dian
Present study	139-185	164.07	12.736	165	73-213	162.29	25.840	164	168-208	192.48	8.297	193
Bill's study	124-242	185.79	19.23	186	81-245	171.86	24.77	172	121-245	221.31	16.86	225

TABLE V
COMPARISON OF FINDINGS IN THE PRESENT STUDY AND IN BILL'S STUDY
(DISCREPANCY SCORE)

Study	Discrepancy Score (Difference Between Columns I and III)			
	Range	Mean	S.D.	Median
Present study	17 - 84	42.95	15.682	44
Bill's study	1 - 118	43.79	16.98	43

*The differences between Columns I and III between Bill's study and the present study are due to the fact that the negative traits were not reversed in the present study.

TABLE VI

COMPARISON OF FINDINGS IN THE PRESENT STUDY AND IN BILL'S STUDY (OTHERS) *

Study	Column I			Column II			Column III		
	Range	Mean	S.D.	Me- dian	Range	Mean	S.D.	Me- dian	Range
Present study	146-184	164.53	10.714	160	127-219	164.58	21.237	163	158-208
Bill's study	96-238	185.59	22.62	186	80-245	178.47	24.28	180	129-245

*The differences between Columns I and III between Bill's study and the present study are due to the fact that the negative traits were not reversed in the present study.

the Column II of "self" and "others" in Bill's study since the negative traits were not reversed in either study. The reason for this was that Column II was not in any way affected by the negative-positive nature of the traits.

Results of Reliability Tests

The Mann Whitney³ reliability tests were used on the two objective posture tests; the Massey Technique and the Howland Alignometer.

The two above tests were run on the null hypothesis that there was no difference between the first and second readings of each of the tests. The tests were run at the 5% level of confidence.

The Z score for the Massey Technique was $-.129$. Testing the null hypothesis at the 5% level of confidence, the resulting number did not show significance. Therefore, the above null hypothesis has been accepted and it has been concluded that the Massey Technique scores are reliable.

The Z score for the Howland Alignometer was $.0602$.

³H. B. Mann and D. R. Whitney, "On a Test of Whether One of Two Random Variables is Stochastically Larger Than the Other," Annals of Mathematical Statistics, 18:50-60, 1947.

Testing the same hypothesis at the 5% level of confidence, this number did not show significance. The null hypothesis for this test has also been accepted and it is concluded that the Howland Alignometer scores are reliable.

To determine reliability of the subjective rating, the coefficient of concordance⁴ was run to determine the amount of agreement between the four judges. The coefficient of concordance was .95. Agreement between judges is stated at the .00001 confidence level.

Results of Correlations

The Pearson Product Moment Correlations were run between all three of the posture tests.

Table VII indicates the correlation coefficients.

The test was run at the 5% confidence level on the hypothesis that the test was equal to zero, and the probability of getting a sample correlation greater than + or -.318 was .05. Therefore the Subjective Rating and the Massey Technique were the only two tests that correlated,

⁴Helen M. Walker and Joseph Lev, Statistical Inference (New York: Henry Holt and Co., 1953), pp. 283-286.

TABLE VII

CORRELATION COEFFICIENTS BETWEEN THE HOWLAND ALIGNOMETER,
THE SUBJECTIVE RATING AND THE MASSEY TECHNIQUE

		N	M x	M y	M z	r	Signi- ficance
x Howland Alignometer	y Subjective Rating	41	1.02	19.48		-.2863	.10
y Subjective Rating	z Massey Technique	41		19.48	43	-.4366	.01
z Massey Technique	x Howland Alignometer	41	1.02		43	.2204	.20

since the other correlations were not greater than + or -.318. The correlation between the Subjective Rating and the Massey Technique was significant at the 1% level of confidence. The correlations between the Massey Technique and the Howland Alignometer and the Howland Alignometer and the Subjective Rating was not great enough to indicate any significant correlations.

The Pearson Product Moment correlations were run between the Massey Technique and the discrepancy score (personal adjustment) of the Bill's Index of Adjustment and Values.

The correlation coefficient on the basis of the entire group was .0731 indicating no significant correlation between the Massey Technique and the discrepancy score of the Bill's IAV.

Correlations were also run on the extreme discrepancy scores with the Massey Technique. The 25% highest discrepancy scores and 25% lowest discrepancy scores were correlated with the Massey Technique.

The resulting coefficients are in Table VIII.

TABLE VIII
CORRELATION COEFFICIENTS BETWEEN 25% HIGH AND LOW DISCREPANCY
SCORES ON BILL'S IAV AND MASSEY TECHNIQUE POSTURE SCORES

		N	M x_1	M x_2	M Y	r
x_1	Y					
25% high discrepancy score	Massey Technique	10	63.7		42.1	.1782
x_2	Y					
25% low discrepancy score	Massey Technique	10		24.7	41.4	.3674

The discrepancy score which is an indication of personal adjustment on the IAV did not correlate significantly with the Massey Technique. Therefore no significant relationship exists between the subjects' postural attitude and their personal adjustment.

Social adjustment was measured in the Index of Adjustment and Values from a combination of the acceptance of self score of the "Self" Index and the Column II score of the "Others" Index. With these two scores, subjects were divided into four categories: ++, +-, -+, and --. The first of each of these signs refers to the Column II scores of the "Self" Index. The mean used in Bill's study was 172. On the basis of extensive research extending over a ten year period at Michigan State University with the Bill's IAV, it was found that 168 was more desirable mean to use when working with college women.* If this score is above the mean (168 or greater), the sign is +, but if it is below the mean (168 or less), it is -. The second sign of each pair is obtained from the Column II score of the "Others" Index. If this score is equal to

* Personal communications with Dr. Karl Hereford, College of Education, Michigan State University.

or greater than the "self" Column II score, it is +; if less, it is -. Therefore a ++ person has an above average self-acceptance score and an "Others" Column II score equal to or greater than his self-acceptance score, and a -- person has a below average self-acceptance score.⁵

Analysis of Variance

Analysis of variance was run on the four categories of the IAV: ++, +-, -+, and -- with the Massey Technique scores to test the null hypothesis that there were no differences between the groups, significant at the 5% level of confidence.

The results may be seen in Table IX.

TABLE IX
ANALYSIS OF VARIANCE OF FOUR CATEGORIES OF BILL'S IAV AND MASSEY TECHNIQUE POSTURE SCORES

Source of Variation	Sum of Squares	Degrees of Freedom	Mean Square	F Ratio	Significance
Total	6220	40			
Group	1210.17	3	403.39	2.9792	.05
Error	5009.83		135.40		

⁵Robert E. Bills, Index of Adjustment and Values Manual (Auburn, Alabama: Department of Psychology, Alabama Polytechnic Institute), p. 13.

The null hypothesis was tested on the basis that there were no differences between the groups. Table IX indicated that there was significant difference between the groups at the 5% confidence level, therefore rejecting the null hypothesis.

"t tests"

Since significant differences have been determined, the "t test" was used to determine where the greatest variance occurred.

Results are shown in Table X.

TABLE X

"t TEST" SCORES OF FOUR CATEGORIES OF BILL'S IAV
AND MASSEY TECHNIQUE POSTURE SCORES

Categories	Mean	t Test Scores	Degrees of Freedom	Signi- ficant at 5% Level of Confi- dence
++ vs. +-	33 vs. 40	1.3962	16	2.12
++ vs. -+	33 vs. 46	2.3687	19	2.093*
++ vs. --	33 vs. 48	2.3708	10	2.228
+- vs. -+	40 vs. 46	1.4829	27	2.052
+- vs. --	40 vs. 48	1.3599	18	2.101
-+ vs. --	46 vs. 48	.3309	21	2.080

Table X indicated that the greatest amount of variance occurred between the ++ and -+ categories and the ++ and -- categories. This difference was significant at the 5% level of confidence.

When scoring the Massey Technique, it was noted that the sum total was derived from the sum of the angles and therefore the smaller the angles, the better the posture. As was seen from the means of the four categories in Table X, the ++ category had a mean score of 33, the -+ category, a mean score of 46 and the -- category, a mean score of 48. The ++ group indicated much lower posture scores with a mean of 33 than the -- group, which had a mean score of 48.

The socially well adjusted individuals (++), as determined by the Bill's IAV demonstrated better posture, as determined by the Massey Technique, than those people with poor social adjustment (--).

Two additional "t tests" were run on the groups to determine whether there was any significant difference between the self-rejecting individual (-+) and posture and the peer-rejecting individual (+-) and posture.

Table XI indicates the results.

TABLE XI
 "t TEST" ON SELF-REJECTING AND PEER-REJECTING INDIVIDUALS

Categories	Mean	t Test Scores	Degrees of Freedom	Significant at 2% Level of Confidence*
++ vs. (+-) (--)	33 vs. 43	1.8018	23	2.81
++ vs. (++) (--)	33 vs. 47	2.4944	26	2.479*

As was seen from Table XI, the difference between the two sets of "t tests" was the (+-), which is the peer-rejecting group and the (-+), which is the self-rejecting group. A greater difference in posture was seen in the ++ vs. (-+) (--) group, than in the ++ vs. (+-) (--) groups. The difference in the (-+) (--) and the posture was significant at the 2% confidence level. There was no significant difference in the (+-) (--) group.

When referring to the means, a bigger difference in posture scores was seen in the (-+) (--) groups than in the (+-) (--) groups.

Self-accepting and peer-rejecting (+-) individuals have better posture than the group of individuals that reject self and accept peers (-+).

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

It was the purpose of this study to investigate the relationship between personality and posture. Two objective posture tests; the Massey Technique and the Howland Alignometer and a subjective rating were used to measure posture and the Bill's Index of Adjustment and Values was administered to measure personality.

Forty-one college women between the ages of 18 and 20 were selected for the study.

Bill's IAV furnishes two scores to be interpreted; a discrepancy score, which measures personal adjustment and a category score, which measures social adjustment. Both of these scores were treated statistically in relation to the subjects' posture.

The range, mean, standard deviation and median were used to describe the subjects. Reliability of the two objective posture tests were determined by the Mann Whitney reliability test and the coefficient of concordance was used to determine the reliability of the subjective rating.

The Pearson Product Moment correlation was the statistical tool used to determine the correlations between the posture tests and between the Massey Technique and the discrepancy score of the Bill's IAV. Differences between groups in terms of social adjustment on the Bill's IAV and posture on the Massey Technique were determined by means of analysis of variance. "t tests" were employed to further determine where the greatest differences occurred.

Conclusions

Upon a statistical analysis of the data collected, the following conclusions have been drawn:

1. The Massey Technique posture test and the Howland Alignometer posture test have been found to be reliable at the 5% level of confidence and the subjective rating has been found to be reliable at the .00001 confidence level.
2. The Massey Technique and the subjective rating correlated significantly at the 1% confidence level ($r = -.4366$). No significant correlation was noted between the Massey Technique and the Howland Alignometer or between the Howland Alignometer and the subjective rating.

3. When comparing Massey's letter grade distribution on the basis of one-sixth of the range between one standard deviation above and below the mean with the grade distribution in the present study, it was found that there was only a difference of one degree in all the grade distributions. Therefore, it would seem to indicate that the Massey Technique posture scores obtained in this study on college women are comparable to the norms established by Massey for men.

4. There was no significant correlation between the subjects' posture rating and their personal adjustment score (discrepancy score), as measured by the Bill's IAV and the Massey Technique.

5. The results on the "t test" indicated that the ++ vs. the -+ groups and the ++ vs. the -- groups were significantly different at the 5% level of confidence. Therefore, individuals who are socially well adjusted exhibit better posture than individuals with poor social adjustment.

6. The results of the "t test" on self-rejecting and peer-rejecting individuals indicated that there was significant difference between the ++ vs. the (-+) (--) groups at the 2% level of confidence and no significant difference

between the ++ vs. the (+-) (--) groups. Therefore, self-accepting and peer-rejecting individuals (+-) have better posture than the group of individuals that reject themselves and accept peers (-+).

Recommendations

1. Posture norms for women should be set up, by means of a feasible posture test with a random sample of 100 to 200 subjects.

2. A study of this kind should be done with the same tools as used in this study but with a larger number of subjects randomly selected to substantiate the direction of findings.

3. A similar study should be undertaken in conjunction with a trained psychologist in order to probe more deeply into an individual's personality and a sociologist to throw further light on the social interaction and adjustment of each subject.

BIBLIOGRAPHY

BIBLIOGRAPHY

Books

- Anderson, John. The Psychology of Development and Personal Adjustment. New York: Henry Holt and Co., 1949.
- Bickel, Lothar. The Unity of Body and Mind. New York: Philosophical Library, 1959.
- Bills, Robert E. Index of Adjustment and Values Manual. Auburn, Alabama: Department of Psychology, Alabama Polytechnic Institute.
- Carman, Bliss. The Making of Personality. Boston: Colonial Press, 1908.
- Drew, Lillian. Individual Gymnastics. Philadelphia: Lea and Febiger, 1945.
- Feldenkrais, M. Body and Mature Behavior. New York: International Universities Press Inc., 1949.
- Gessell, Arnold. Infant Development. New York: Harper and Brothers Publishers, 1952.
- Howland, Ivalclare. Body Alignment in Fundamental Motor Skills. New York: Exposition Press, 1953.
- McCloy, Charles H., and Young, Norma D. Tests and Measurements in Health and Physical Education. New York: Appleton-Century Crofts Inc., 1954.
- Pryor, Helen. Width-Weight Tables. Second edition. Stanford, California: Stanford University Press, 1940.
- Schiffes, Justus. Healthier Living. New York: John Wiley and Sons Inc., 1954.
- Todd, Mabel. The Thinking Body. Boston: Charles T. Branford Co., 1937.

Walker, Helen M., and Lev, Joseph. Statistical Inference.
New York: Henry Holt and Co., 1953.

Williams, Jesse Feiring, and Brownell, Clifford. The
Administration of Health and Physical Education.
Philadelphia: W. B. Saunders Co., 1947.

Wylie, Ruth C. The Self Concept. Nebraska: University
of Nebraska Press, 1961.

Periodicals

Barlow, W. "Psychosomatic Problems in Postural Re-education," Lancet, 2:659-64, July-December, 1955.

Bills, Robert. "Rorschach Characteristics of Persons
Scoring High and Low in Acceptance of Self," Journal
of Consulting Psychology, 17:36-38, 1953.

_____. "A Validation of Changes in Scores on the Index
of Adjustment and Values as Measures of Changes in
Emotionality," Journal of Consulting Psychology, 17:
135-38, 1953.

_____. "Acceptance of Self as Measured by Interviews and
the Index of Adjustment and Values," Journal of Con-
sulting Psychology, 18:22, December, 1954.

Bills, Vance and McLean. "An Index of Adjustment and Values,"
Journal of Consulting Psychology, 15:257-61, February,
1951.

Coppock, Doris E. "Relationship of Tightness of Pectoral
Muscles to Round Shoulders in College Women," Research
Quarterly, 29:146-53, May, 1958.

Cowell, C. C. "Bodily Posture as a Mental Attitude,"
Journal of Health and Physical Education, 1:14-15,
May, 1930.

Cureton, T. K. "Bodily Posture as an Indicator of Fitness,"
Research Quarterly, 12:348-67, May, 1941.

- Deaver, G. G. "Posture and Its Relation to Mental and Physical Health," Research Quarterly, 4:221-28, March 1933.
- Deutsch, F. "Analysis of Postural Behavior," Psycho-analytic Quarterly, 16:195-213, 1947.
- Dovey, Irma. "Posture Gives You Away," Instructor, 65:89, May, 1956.
- Drew, Lillian. "Ways and Means of Overcoming Inefficient Posture," American Physical Education Review, 28:3-8, January, 1923.
- Ellis, Albert. "The Validity of Personality Questionnaires," Psychological Bulletin, 43:385-440, September, 1946.
- Fox, Margaret. "Relationship of Abdominal Strength to Selected Posture Faults," Research Quarterly, 22:141-44, May, 1951.
- James, William T. "A Study of the Expression of Bodily Posture," Journal of General Psychology, 7:405-37, 1932.
- Mann, H. B. and Whitney, D. R. "On a Test of Whether One of Two Random Variables Is Stochastically Larger Than the Other," Annals of Mathematical Statistics, 18:50-60, 1947.
- Massey, Wayne W. "A Critical Study of Objective Methods for Measuring Anterior Posterior Posture with a Simplified Technique," Research Quarterly, 14:17, March, 1943.
- Moriarty, Mary. "A Study of the Relationship of Certain Physical and Emotional Factors to Habitual Poor Posture Among School Children," Research Quarterly, 23:221-225, May, 1952.
- Rogers, J. F. "The Long and Short of the Carriage Business," Journal of Health and Physical Education, 3:11-13, December, 1932.

Roberts, Glen. "A Study of the Validity of the Index of Adjustment and Values," Journal of Consulting Psychology, 16:302-04, 1952.

Todd, Mabel. "Basic Principles Underlying Postures," Journal of Health and Physical Education, 2:13-15, October, 1931.

APPENDIX A

RAW DATA

TABLE XII
RAW DATA OF SUBJECTS

Sub- ject	Age (Years)	Height (Inches)	Weight (Pounds)	% De- viation from Standard Weight*	Pounds Deviation from Standard Weight*
Above Average (Good Posture)					
1	18.7	61.00	105.50	0.08	10
2	20.3	62.75	131.00	0.00	0
3	18.3	64.25	116.00	0.04	6
4	18.8	67.50	138.00	0.01	2
5	18.7	65.25	116.50	1.07	10
6	19.10	66.00	121.00	0.09	12
7	18.11	63.25	119.50	0.05	7
8	18.9	64.25	122.00	0.01	2
9	18.10	62.00	132.00	0.04	6
10	19.0	66.50	134.00	0.00	0
11	18.7	64.75	131.00	0.00	1
12	19.3	61.75	102.00	0.05	6
13	20.1	67.50	138.50	0.02	3
14	18.1	61.00	107.00	0.08	10
15	18.9	64.75	123.00	0.03	5
16	18.3	65.25	130.75	0.03	4
17	18.1	63.25	127.00	0.04	5
18	18.11	62.25	115.50	0.04	5
19	18.5	61.00	106.00	0.00	0
20	18.6	61.00	108.25	0.01	2
21	18.1	64.75	138.00	0.03	5

TABLE XII (Continued)

Sub- ject	Age (Years)	Height (Inches)	Weight (Pounds)	% De- viation from Standard Weight*	Pounds Deviation from Standard Weight*
Below Average (Poor Posture)					
22	18.4	65.00	115.50	0.08	11
23	18.9	63.75	106.50	0.01	2
24	19.5	64.00	107.00	0.07	9
25	18.6	67.00	121.50	0.09	13
26	19.1	69.00	138.25	0.03	5
27	19.3	64.00	109.00	0.06	7
28	18.9	66.75	135.50	0.02	4
29	18.6	65.50	124.00	0.01	2
30	18.0	62.25	146.50	0.04	6
31	18.0	62.00	119.00	0.00	0
32	18.6	64.00	121.00	0.03	4
33	19.2	63.75	110.50	0.09	12
34	18.11	66.75	143.50	0.00	0
35	18.6	65.50	113.00	0.11	14
36	18.2	69.00	139.50	0.01	2
37	19.4	65.00	117.75	0.05	7
38	18.3	61.25	104.50	0.05	6
39	19.2	61.75	108.00	0.10	11
40	18.4	69.25	130.50	0.05	7
41	18.1	63.75	138.00	0.04	6

*As determined by the Pryor Width-Weight Tables.

TABLE XIII
RAW DATA FOR POSTURE TESTS

Sub- ject	Massey Technique (Total Degrees)	Howland Alignometer (Inches) Difference Between Sternum and Pubis	Subjective Rating (Total Points)
Above Average (Good Posture)			
1	42	0.15	10
2	32	0.13	30
3	41	0.13	25
4	37	0.16	21
5	26	0.02	26
6	30	0.08	37
7	42	0.01	28
8	46	0.08	18
9	48	0.26	10
10	60	0.05	30
11	22	0.01	34
12	40	1.00	30
13	34	1.05	25
14	23	0.04	32
15	27	0.06	14
16	28	0.03	33
17	62	0.26	28
18	40	0.14	14
19	51	0.05	30
20	26	0.06	32
21	32	0.13	33

TABLE XIII (Continued)

Sub- ject	Massey Technique (Total Degrees)	Howland Alignometer (Inches) Difference Between Sternum and Pubis	Subjective Rating (Total Points)
Below Average (Poor Posture)			
22	45	0.31	16
23	63	0.16	10
24	55	1.10	8
25	49	0.13	15
26	51	0.10	7
27	36	0.29	9
28	54	0.21	22
29	35	1.04	22
30	59	0.23	10
31	41	0.28	12
32	50	1.07	16
33	38	1.11	15
34	55	0.22	9
35	58	0.15	24
36	60	1.04	15
37	58	0.10	9
38	66	1.14	7
39	35	0.22	12
40	41	1.04	12
41	25	0.24	9

TABLE XIV
RAW DATA OF INDIVIDUAL ANGLES OF MASSEY TECHNIQUE

Sub- ject	Angle I (Head-Neck with Trunk) (Degrees)	Angle II (Trunk with Hips) (Degrees)	Angle III (Hips with Thigh) (Degrees)	Angle IV (Thigh with Leg) (Degrees)
Above Average (Good Posture)				
1	24	5	3	9.5
2	18.5	2	6.5	5
3	21.5	12.5	3	4
4	21	13	2.5	.5
5	16.5	3.5	6	.5
6	14	3.5	10.5	1.5
7	20.5	12	6	3.5
8	25.5	14.5	4	1.5
9	23.5	18.5	2.5	2
10	18.5	17.5	15	8.5
11	11	7.5	1.5	2
12	21.5	11.5	2	4.5
13	15.5	8.5	6.5	3.5
14	14.5	4.5	2	1.5
15	15	6.5	3.5	2
16	13.5	11.5	2	.5
17	23.5	19.5	13.5	5
18	21	13.5	1.5	3.5
19	16.5	14.5	11.5	8.5
20	15.5	8	1.5	.5
21				

TABLE XIV (Continued)

Sub- ject	Angle I (Head-Neck with Trunk) (Degrees)	Angle II (Trunk with Hips) (Degrees)	Angle III (Hips with Thigh) (Degrees)	Angle IV (Thigh with Leg) (Degrees)
Below Average (Poor Posture)				
22	22.5	15.5	4	3
23	24.5	19.5	10.5	8
24	31.5	17.5	3	3
25	23.5	17	7	1
26	22.5	3.5	14	10.5
27	19.5	7.5	4	5
28	22	21	8.5	2.5
29	21	9	3.5	2
30	28	20	8.5	2.5
31	23.5	12	1.5	4
32	24	13	4	9
33	19.5	8.5	9	1
34	31	17.5	3	3.5
35	19	16	12	11
36	31.5	15.5	7	6
37	25.5	16	10.5	6
38	27	17	11.5	9.5
39	19	10	4.5	1.5
40	26.5	2.5	7	5
41	19.5	3.5	1.5	.5

TABLE XV
RAW SCORES OF SUBJECTIVE RATINGS BY FOUR JUDGES*

Subject	Judge I	Judge II	Judge III	Judge IV
Above Average (Good Posture)				
1	C	C-	D	D-
2	B	A	C	A-
3	B-	A-	B-	C
4	B-	B-	C+	C
5	C+	B	B-	B+
6	A	A	A	B
7	B-	A	C+	B
8	B-	C	C	C
9	C	D	C-	F
10	B	A	B-	B
11	B	A	B+	A-
12	B	A	B-	B
13	C+	B	B	B-
14	B+	B+	B	A-
15	C	C-	C+	D
16	A-	B	B	A
17	B	B	B	B
18	C	C	C+	D
19	B+	A	B	C+
20	B+	A	B	B
21	B+	A	B	B+

TABLE XV (Continued)

Subject	Judge I	Judge II	Judge III	Judge IV
Below Average (Poor Posture)				
22	C-	B-	C	C-
23	C-	D	C	F
24	D	D	C-	F
25	C	C	C+	D
26	D+	D	D	F
27	C	D	D+	F
28	C	B	B	C
29	C	B+	B-	C
30	C-	D	C	F
31	C-	C-	C	D
32	C-	B	C+	F
33	C+	C-	C	C-
34	C	D+	D	D-
35	B	C+	B+	C
36	C+	C-	C+	D
37	D	D	C-	D
38	D+	D	D	F
39	C-	C-	C	D
40	D+	C	C	D
41	C-	D+	C-	F

*The ten point scale for the letter grade is: A = 10, A- = 9, B = 7, B- = 6, C+ = 5, C = 4, C- = 3, D+ and D = 2, and D- and F = 1.

TABLE XVI

RAW DATA OF INDIVIDUAL SCORES ON BILL'S INDEX
OF ADJUSTMENT AND VALUES (SELF)

Sub- ject	Column I Concept of Self	Column II Acceptance of Self	Column III Concept of Ideal Self	Discrepancy Score (Personal Adjustment) (Dif.between Cols.I & III)
Above Average (Good Posture)				
1	172	180	184	32
2	151	134	199	70
3	160	154	186	49
4	162	184	198	42
5	177	208	197	26
6	165	152	190	47
7	161	151	193	44
8	158	153	191	48
9	178	192	195	25
10	181	193	200	29
11	167	154	196	39
12	172	213	188	22
13	185	198	199	17
14	182	182	200	30
15	165	171	202	53
16	171	203	200	31
17	145	140	192	59
18	180	181	206	44
19	149	154	168	29
20	181	171	192	19
21	172	174	185	29

TABLE XVI (Continued)

Sub- ject	Column I Concept of Self	Column II Acceptance of Self	Column III Concept of Ideal Self	Discrepancy Score (Personal Adjustment) (Dif.between Cols.I & III)
Below Average (Poor Posture)				
22	149	141	181	52
23	166	147	191	35
24	161	165	196	51
25	151	149	185	48
26	150	131	191	55
27	154	164	202	66
28	183	169	208	49
29	172	171	198	42
30	149	121	197	84
31	147	144	183	61
32	143	134	177	54
33	139	73	201	76
34	164	161	195	45
35	177	180	191	29
26	150	167	179	35
37	170	158	183	23
38	174	144	187	39
39	170	168	200	46
40	172	171	192	28
41	152	154	194	59

TABLE XVII
 RAW DATA OF INDIVIDUAL SCORES ON BILL'S INDEX OF ADJUSTMENT
 AND VALUES (OTHERS) AND SOCIAL ADJUSTMENT
 CATEGORY SCORE

Sub- ject	Column I Concept of Self	Column II Acceptance of Self	Column III Concept of Ideal Self	Social Adjustment Category Score
Above Average (Good Posture)				
1	167	151	182	+-
2	155	127	206	--
3	171	167	194	-+
4	175	189	195	++
5	175	200	199	+-
6	160	141	183	--
7	159	130	192	--
8	173	168	195	-+
9	181	189	196	+-
10	183	188	202	+-
11	178	166	198	-+
12	169	219	177	++
13	184	186	199	+-
14	183	183	201	++
15	160	177	193	++
16	160	189	193	+-
17	157	178	180	-+
18	154	134	205	+-
19	183	193	195	-+
20	156	134	188	+-
21	157	143	184	+-

TABLE XVII (Continued)

Sub- ject	Column I Concept of Self	Column II Acceptance of Self	Column III Concept of Ideal Self	Social Adjustment Category Score
Below Average (Poor Posture)				
22	157	154	177	--+
23	156	138	187	--
24	154	162	173	--
25	157	154	191	--+
26	154	157	186	--+
27	164	180	191	--+
28	181	163	202	+--
29	172	170	208	+--
30	166	153	186	--+
31	156	154	180	--+
32	152	145	158	--+
33	172	193	200	--+
34	162	159	183	--
35	146	143	158	+--
36	153	154	170	--
37	175	176	177	--+
38	156	153	178	--+
39	164	172	188	++
40	152	150	171	+--
41	157	166	198	--+

APPENDIX B

SELF-CONCEPT QUESTIONNAIRE
INSTRUCTION BOOKLET AND
ANSWER SHEETS

THE INDEX OF ADJUSTMENT AND VALUES*

Directions (Adult Form)

This device is a way of helping you to state some of your beliefs about yourself. It tells nothing more than what you want it to say--there are no hidden scores or tricks. It will have value only if you are careful and do your best to give an accurate description of yourself as you see yourself.

On the separate sheet is a list of 49 trait words. You will be asked to answer three questions about yourself. These questions are: 1. How often are you this sort of person, 2. How do you feel about being this way, and 3. How much of the time would you like this trait to be characteristic of you?

Please make the three ratings for each trait before going to the next trait.

On the separate sheet is a list of 49 trait words and an example. Take each word separately and apply it to yourself by completing the following sentence:

*Instruction booklet is same for "self" and "others." The only exception is that for the "others," the words, "other people" replace "yourself" and "she is" replaces "I am."

I am a(an) _____ person.

The first word in the list is academic, so you would substitute this term in the above sentence. It would read: "I am an academic person." Then decide how much of the time this statement is like you, that is, is typical or characteristic of you as an individual, and rate yourself on a scale from one to five according to the following key:

1. Seldom, is this like me.
2. Occasionally, this is like me.
3. About half of the time, this is like me.
4. A good deal of the time, this is like me.
5. Most of the time, this is like me.

Select the number beside the phrase that tells how much of the time the statement is like you and insert it in Column I on the separate sheet. EXAMPLE: Beside the term ACADEMIC, number two is inserted to indicate that, "Occasionally, I am an academic person."

Now go to Column II. Use one of the statements given below to tell how you feel about yourself as described in Column I.

1. I very much dislike being as I am in this respect.
2. I dislike being as I am in this respect.
3. I neither dislike being as I am nor like being as I am in this respect.
4. I like being as I am in this respect.
5. I like very much being as I am in this respect.

You will select the number beside the statement that tells how you feel about the way you are and insert the number in Column II. EXAMPLE: In Column II beside the term ACADEMIC, number one is inserted to indicate that I dislike very much being as I am in respect to the term, academic. Note that being as I am always refers to the way you described yourself in Column I.

Finally, go to Column III, using the same term, complete the following sentence:

I would like to be a(an)_____ person.

Then decide how much of the time you would like this trait to be characteristic of you and rate yourself on the following five point scale.

1. Seldom, would I like this to be me.
2. Occasionally, I would like this to be me.
3. About half of the time, I would like this to be me.
4. A good deal of the time, I would like this to be me.
5. Most of the time, I would like this to be me.

You will select the number beside the phrase that tells how much of the time you would like to be this kind of a person and insert the number in Column III. EXAMPLE: In Column III beside the term ACADEMIC, number five is inserted to indicate that most of the time, I would like to be this kind of a person. Start with the word ACCEPTABLE and fill in

Columns I, II, and III before going on to the next word. There is no time limit. Be honest with yourself so that your description will be a true measure of how you see yourself.

Please complete the ratings for yourself before you make the ratings for "other people." Be certain that you use the answer sheet marked "SELF" in the upper right hand corner for yourself and the one marked "OTHERS" when making the ratings for other people.

"SELF"

ANSWER SHEET

Name _____ Address _____

Sex _____ Age _____ Student No. _____

	I	II	III		I	II	III
a. academic	_____	_____	_____	26. merry	_____	_____	_____
1. acceptable	_____	_____	_____	27. mature	_____	_____	_____
2. accurate	_____	_____	_____	28. nervous	_____	_____	_____
3. alert	_____	_____	_____	29. normal	_____	_____	_____
4. ambitious	_____	_____	_____	30. optimistic	_____	_____	_____
5. annoying	_____	_____	_____	31. poised	_____	_____	_____
6. busy	_____	_____	_____	32. purposeful	_____	_____	_____
7. calm	_____	_____	_____	33. reasonable	_____	_____	_____
8. charming	_____	_____	_____	34. reckless	_____	_____	_____
9. clever	_____	_____	_____	35. responsible	_____	_____	_____
10. competent	_____	_____	_____	36. sarcastic	_____	_____	_____
11. confident	_____	_____	_____	37. sincere	_____	_____	_____
12. considerate	_____	_____	_____	38. stable	_____	_____	_____
13. cruel	_____	_____	_____	39. studious	_____	_____	_____
14. democratic	_____	_____	_____	40. successful	_____	_____	_____
15. dependable	_____	_____	_____	41. stubborn	_____	_____	_____
16. economical	_____	_____	_____	42. tactful	_____	_____	_____
17. efficient	_____	_____	_____	43. teachable	_____	_____	_____
18. fearful	_____	_____	_____	44. useful	_____	_____	_____
19. friendly	_____	_____	_____	45. worthy	_____	_____	_____
20. fashionable	_____	_____	_____	46. broad-minded	_____	_____	_____
21. helpful	_____	_____	_____	47. businesslike	_____	_____	_____
22. intellectual	_____	_____	_____	48. competitive	_____	_____	_____
23. kind	_____	_____	_____	49. fault-finding	_____	_____	_____
24. logical	_____	_____	_____				
25. meddlesome	_____	_____	_____				

"OTHERS"

ANSWER SHEET

Name _____

(Complete this Index as you think the average person in your peer group would complete it for herself.)

	I	II	III		I	II	III
a. academic				26. merry			
1. acceptable	_____	_____	_____	27. mature	_____	_____	_____
2. accurate	_____	_____	_____	28. nervous	_____	_____	_____
3. alert	_____	_____	_____	29. normal	_____	_____	_____
4. ambitious	_____	_____	_____	30. optimistic	_____	_____	_____
5. annoying	_____	_____	_____	31. poised	_____	_____	_____
6. busy	_____	_____	_____	32. purposeful	_____	_____	_____
7. calm	_____	_____	_____	33. reasonable	_____	_____	_____
8. charming	_____	_____	_____	34. reckless	_____	_____	_____
9. clever	_____	_____	_____	35. responsible	_____	_____	_____
10. competent	_____	_____	_____	36. sarcastic	_____	_____	_____
11. confident	_____	_____	_____	37. sincere	_____	_____	_____
12. considerate	_____	_____	_____	38. stable	_____	_____	_____
13. cruel	_____	_____	_____	39. studious	_____	_____	_____
14. democratic	_____	_____	_____	40. successful	_____	_____	_____
15. dependable	_____	_____	_____	41. stubborn	_____	_____	_____
16. economic	_____	_____	_____	42. tactful	_____	_____	_____
17. efficient	_____	_____	_____	43. teachable	_____	_____	_____
18. fearful	_____	_____	_____	44. useful	_____	_____	_____
19. friendly	_____	_____	_____	45. worthy	_____	_____	_____
20. fashionable	_____	_____	_____	46. broad-minded	_____	_____	_____
21. helpful	_____	_____	_____	47. businesslike	_____	_____	_____
22. intellectual	_____	_____	_____	48. competitive	_____	_____	_____
23. kind	_____	_____	_____	49. fault-finding	_____	_____	_____
24. logical	_____	_____	_____				
25. meddlesome	_____	_____	_____				

ROOM USE ONLY

~~FEB 27 1964~~ FI

~~MAR 21 1964~~ FI

~~APR 1 1964~~ FI

~~MAY 30 1964~~ FI

~~JUN 21 1964~~ FI

~~JUL 3 1964~~ FI

~~AUG 20 1964~~ FI

~~SEP 10 1964~~ 275