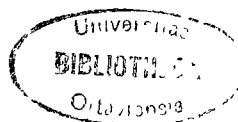
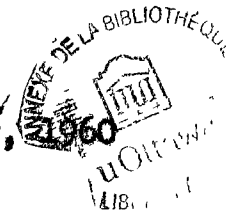


ASSESSMENT OF THE BODY ATTITUDES
OF NORMAL INDIVIDUALS BY DIRECT
AND INDIRECT MEASURES.

Thesis presented to the School of Psychology
and Education of the University of Ottawa as
partial fulfillment of the requirements for
the degree of Master of Arts in Psychology.

Ottawa, Ontario, 1960



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CURRICULUM STUDIORUM

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INTRODUCTION

One of Allport's theories¹ is that normal individuals do not differ on direct and indirect test performance. A direct measure is one where the final score represents a sum or pattern of conscious choices on the part of the subject. An indirect or projective measure is one in which the subject is not aware of what his responses mean. This study, within the realm of body attitudes, is an attempt to validate Allport's thinking.

Allport's theory stands out in bold relief from many of the contemporary theories of motivation which stress the unconscious influences in human activity. Allport believes that the normal individual behaves in terms of conscious, rational reasons known to himself.

The importance of Allport's thinking is to be found primarily in his realistic and "common sense" view of human behavior and recognition of man's rational nature in human action. From a practical point of view, Allport's theory has considerable influence on the approach of the psychodiagnostician. The writer feels that a research which can provide reliable support to Allport's thinking will necessarily share in the importance of the latter.

1. G. Allport, "The Trend in Motivational Theory", in American Journal of Orthopsychiatry, Vol. 23, issue of Jan. 1953, p. 107-119.

The first chapter will set the problem of the thesis into its historical and theoretical framework. It will begin with an exposition of Allport's theory together with supportive studies. Then studies more pertinent to the hypothesis of this study are presented. The first chapter ends with a statement of the hypothesis.

The formulation of the hypothesis is followed by a description of the experiential design of the study. The population, tools and procedures will be fully described.

The final chapter is concerned with a presentation and discussion of the results of the experiment. The implications for subsequent research, are also indicated. In the appendices are found samples of the tools used.

CHAPTER I

REVIEW OF THE LITERATURE

For purposes of clarity, this survey of the literature has three sub-divisions. It begins with an exposition of Allport's theory of direct and projective test performance as well as studies which support his thinking. The second part is concerned with studies more relevant to the hypothesis of this paper. The third part of the survey leads the reader to the hypothesis itself.

1. Allport's Theory And Supportive Studies.

The past century has seen an unprecedented expansion in and development of indirect methods of assessing personality. Gordon Allport¹ suggests that the reason for this is to be found in the history of motivation theory, a history in which all tendencies seem to be in the unique direction of emphasizing the unconscious.

Allport² sees the beginnings of this history in the writings of Schopenhaur, Darwin, McDougall and Bergson. More recently, says Allport, it was the psychoanalytic theory of

1. Gordon Allport, "The Trend in Motivational Theory", in American Journal of Orthopsychiatry, Vol. 23, issue of Jan. 1953, p. 107.

2. Id., Ibid., p. 107.

Sigmund Freud that naturally led to an increased interest in instruments which seemed sensitive to unconscious motives and conflicts.

It was in the face of these trends, says Allport,³ that projective techniques became enormously popular, while techniques of self-report, including the interview and questionnaire, waned in their popularity.

It is Allport's feeling⁴ that modern theorizing in motivation has engendered a kind of contempt for the "psychic surface" of life. We are always looking for hidden dynamics, for unconscious motives. We seldom ask an individual anything directly. Instead we prefer to use projective techniques which supposedly get at real motives, real feelings, conflicts and tensions, real interests and attitudes.

Why this apparent distrust in the conscious report of the subject? Has he no right to be believed? Why should the individual's conscious report be rejected as untrustworthy?

Allport believes⁵ that psychodynamics in the normal individual are not hidden dynamics. It must be noted that Allport is speaking of normal individuals. He feels that there is far too much emphasis put on unconscious urges, instincts, and drives. There is too little consideration of what the

3. Id., Ibid., p. 107.

4. Id., Ibid., p. 108.

5. Id., Ibid., p. 113.

normal individual says himself. He feels that if you want to know something about the normal individual his attitudes, interests, and conflicts, etc..."just ask him".

Allport's position⁶ is based on his conviction that normal individuals behave in terms of known, reasonable motives.

It must be pointed out, however, that Allport does not reject projective techniques completely. Nor does he mean to deny the existence of "infantile systems, repressions, or neurotic formations."⁷ He merely says that projective techniques should be used only with abnormals where the importance of the unconscious is supposedly to be found. Even in the case of Abnormals, he says, projective techniques must be used in conjunction with direct techniques. Only in this way can it be known that the dynamics are, indeed, unconscious. Essentially, Allport's theory is that normals will not differ on direct and indirect test performance. A projective or indirect test will be no more revealing than the self-report of the individual, whereas there may be considerable discrepancy between direct and indirect methods for the seriously maladjusted individual.

6. Id., Ibid., p. 114.

7. Id., Ibid., p. 114.

A survey of the literature revealed considerable evidence in support of Allport's thinking. In 1936, Sanford⁸ studied the need for food under natural but controlled conditions and observed the effects this might have on word association, and the interpretation of ambiguous pictures. The greater frequency of "food responses", that is, words associated with food, under the conditions of food abstinence as compared to normal conditions would imply that the imaginal processes were activated by an underlying need for food. He concluded that the need for food does indeed support this hypothesis that food responses do vary in frequency with the need for food. However, in a further experiment,⁹ where more rigorous controls and a more comprehensive approach was used, he found that the increase of food responses is not in direct ratio with the increase in abstinence time. In other words, as the period of fasting became longer than is normal, the number of food associations of the fasting subjects actually decreased so that they approached the average of the non-fasting control group.

8. R.N. Sanford, "The Effects of Abstinence from Food on Imaginal Processes: A Preliminary Experiment", in Journal of Psychology, Vol. 2, 1936, p. 129-136.

9. R.N. Sanford, "The Effects of Abstinence from Food upon Imaginal Processes: A Further Experiment", in Journal of Psychology, Vol. 3, 1937, p. 145-159.

An amplification of Sanford's work is found in a study by Levine et al¹⁰ in 1942 which resulted in somewhat similar findings. He presented eighty white cards (forty chromatic, forty achromatic) with simple pictures to appropriate experimental and control groups. The pictures were ambiguous and susceptible to various interpretations. The writers found that the number of food responses to the achromatic cards increased when the groups were tested after three and again after six hours of abstinence from food, i.e. within the limits of the normal "eating cycle". Thereafter, the number decreased. Similarly the number of food responses to the chromatic cards increased at the three hour test, but thereafter, decreased.

The trend of these studies by Sanford and Levine et al, is that on projective tests the explicit number of food associations actually declines in longer periods of fasting, "apparently because the motive itself gradually becomes completely conscious and is not repressed".¹¹

10. R. Levine et al., "The Relation of Intensity of a Need to the Amount of Perceptual Distortion", in Journal of Psychology, Vol. 13, 1942, p. 283-293.

11. G. Allport, "The Trend in Motivational Theory", in American Journal of Orthopsychiatry, Vol. 23, issue of Jan. 1953, p. 109.

Further evidence for Allport's theory is to be found in a study by Brozek et al.¹² In this study, thirty-six men were put on a semi-starvation diet in which they lost one quarter of their initial body weight in six months. Several projective tests were administered, including the Rorschach, the T.A.T., Rosenzweig's P-F Study, a free word association test and others. Brozek found that the most urgent and most compelling motive in life failed completely to reveal itself on these projective tests. Only one, the free association test, gave a small evidence of preoccupation with food. Yet the need for food was entirely accessible to conscious report.

The Allportian position is also confirmed by the research of Getzel¹³ in 1951. He gave a sentence completion test to a group of neurotics and normals. He found that the well-adjusted individuals gave identical responses to sentences of the first and third person, whereas the neurotics varied their responses. Getzel concluded that direct and projective test performance in normal individuals is all of a piece.

12. J. Brozek, H. Guelzkow and M. Vig Baldwin, "A Quantitative Study of Perception and Association in Experimental Semi-Starvation", in the Journal of Personality, Vol. 19, issue of March 1951, p. 245-254.

13. J.W. Getzel, "Assessment of Personality and Prejudice by the Methods of Paired Direct and Projective Questionnaires", Unpublished Thesis, Harvard, 1951, as Quoted by C. Allport, "The Trend in Motivational Theory", in the American Journal of Orthopsychiatry, Vol. 23, issue of Jan. 1953, p. 107-119.

All of these studies then, are testimony to the fact that in the case of normals psychodynamics are not hidden dynamics. The normal individual does not differ on direct and projective techniques because he behaves in terms of known reasonable motives.

Still another study lending validatory support to Allport's theory is that by Secord¹⁴ in 1953. He constructed a homonym word association test. This list of the homonyms had meanings pertaining either to bodily parts or processes, and in addition had non-bodily meanings. Words like "colon" and "graft" are examples. Body responses to these words might be; colon - intestine, graft - skin; whereas non-bodily responses could be, colon - comma, graft - politics. It was postulated that the greater the number of bodily associations given, the greater the implied concern about one's body. Secord found that this homonym test is significantly correlated with a direct measure of body attitude. The direct measure was a forty item rating scale called a Body Cathexis Test. It required the individual to rate forty of his body parts in terms of his feelings of satisfaction or dissatisfaction for each part on a five-point scale ranging from strong positive to strong negative feelings.

14. P.F. Secord, "Objectification of Word Association Procedures by the Use of Homonyms: a Measure of Body Cathexis", in the Journal of Personality, Vol. 21, issue of June 1953, p. 479-495.

This is the same Body Cathexis Test which is used in the present study. Further reference will be made to this research.

2. Studies Pertinent To The Hypothesis.

The present study drew its impetus from Allport's theory but also from two other sources. One is a book by Cleveland and Fisher.¹⁵ The second is the studies of Secord and Jourard¹⁶ with the Body Cathexis Test.

A unique contribution of Cleveland and Fisher was the Barrier score. Barrier does not refer to obstacle or obstruction. The Barrier score is the result of reference, in response to the Rorschach, to the positiveness or definiteness of boundaries, or the assigning of definite surface qualities to the bounding peripheries of things. Each such reference is given a weight of one. An individual's Barrier score is simply the summation of such responses. This scoring is not based on, and makes no use of the conventional Rorschach interpretation. The plates are used merely as stimuli. When the responses to the cards are obtained the protocols are scored according to the criteria established by Cleveland and Fisher.¹⁷ In a test

15. S. Cleveland and C.P. Fisher, Body Image and Personality, New Jersey, Van Nostrand, 1958, xi-420 p.

16. These will be cited as necessary in the development to follow.

17. Id., Ibid., p. 58-61.

of the reliability of the scoring system,¹⁸ a number of Rorschach protocols was scored by five different individuals. The average correlation of the five scorers was .92 .

The authors also checked the Barrier score for possible influence by such Rorschach correlates as verbal productivity, intelligence and Rorschach determinants.¹⁹ No appreciable influence was found.

It was the Rorschach records of an arthritic population which gave Cleveland and Fisher the initial insights into the possible meaning of the Barrier score. When the arthritics gave an unusual number of unique Rorschach responses, they speculated that these responses had something to do with the way the arthritic perceived his body.²⁰ For this reason Cleveland and Fisher chose the "body-image" frame of reference to interpret the Barrier scale. "Body-image"²¹they say, simply refers to "the image of his body which the individual evolves through experience." It refers to the body as a psychological experience and "focuses on the individuals feelings and attitudes towards his body."

18. Id., Ibid., p. 64.

19. Id., Ibid., p. 68-70.

20. Id., Ibid., p. 72.

21. Id., Ibid., p. x.

While the body image basis of the Barrier score was developed with arthritic and other psychosomatic groups, Cleveland and Fisher did the greater part of their work with normals. They list several studies validating the body-image basis of the Barrier dimension. Their researches led the authors to conclude that, "the data lends support to the idea that the Barrier score is basically a function of attitude toward and feelings about one's body".²²

One, among the many validating studies of the Barrier score was done by Secord.²³ It has already been mentioned above that Secord developed a word association technique to measure the degree of concern an individual has about his body. Secord concluded from his studies that individuals giving a large number of bodily associations were abnormally concerned with their bodies.

Secord assumed that the individual with more definite boundaries would reflect the act that he felt more secure about his body by giving relatively fewer bodily associations to the homonyms. He tested this assumption utilizing a sample of 62 college students, (33 female, 29 male). The group Rorschach was administered and scored for the Barrier variable.

22. Id., Ibid., p. 101.

23. P.F. Secord, "Objectification of Word Association Procedures by the Use of Homonyms: A Measure of Body Cathexis", in the Journal of Personality, Vol. 21, issue of June 1953, p. 479-495.

The homonyms were read to the group at the rate of one every five seconds. The subjects were asked to write down the first word which occurred to them after each homonym was read. He found that those subjects with above median Barrier scores gave a median of sixteen bodily associations, while the below median Barrier subjects gave a median of twenty such associations. A chi-square test of the difference in number of bodily associations between the above and below median Barrier scores was significant at the .001 level. This is well in the predicted direction. It supports Secord's thinking that the individual who is concerned about his body will tend to have a significantly lower Barrier score than the individual who is not so concerned.

Both the Barrier score and the homonym association score are indirect or projective measures of body attitudes. Indeed, Cleveland and Fisher say²⁴ that while the Barrier score is basically a function of attitude toward and feelings about one's body, "it does not reflect any of the individuals usually consciously verbalized attitudes." On the contrary, they say, it "presumably taps basic concepts and feelings about one's body."²⁵

24. S. Cleveland and S.N. Fisher, Body Image and Personality, New Jersey, Van Nostrand, 1958, p. 113.

25. Id., Ibid., p. 113.

3. Development Of The Hypothesis.

It is precisely this last remark, which, in the light of Allport's theory led to the formulation of the hypothesis of this study. "De iure" the work of Cleveland and Fisher permits no further interpretation. But "de facto" they do not really know whether or not these bodily feelings or attitudes can be discovered by a direct method.

In 1953, Secord and Jourard²⁶ developed a Body Cathexis Test. This same Secord is the author of the homonym test, which has already been mentioned. The Body Cathexis Test is a self rating scale. It asks an individual to indicate his satisfaction or dissatisfaction with forty-six of his body parts or processes on a five point scale. "Cathexis" here, then, is not the psychoanalytic term which indicates the amount of instinctual energy invested in an object. Here it refers to a continuum of feeling ranging from strong positive to strong negative.

The authors interpret the score on the Body Cathexis Test, as did Secord for his homonym test, as an indicator of anxiety and concern about the body. It will be recalled²⁷ that an individual's score on the Body Cathexis test was

26. R.F. Secord and S.M. Jourard, "The Appraisal of Body Cathexis: Body Cathexis and the Self", in the Journal of Consulting Psychology, Vol. 17, 1953, p. 343-347.

27. See above page:-7.

found to be significantly related to his score on the homonym association test.

In this study, the writer is assuming, as did Secord with his homonym test, that the individual with more definite boundaries, that is, a higher Barrier score, would reflect the fact that he felt more secure and less concerned about his body, by giving a lower Body Cathexis score to the Body Cathexis Test.

If this happens to a significant degree, the result would be, a response identification between a direct measure of body attitude and an indirect or projective measure. This would lend validatory support to Allport's theory that normals show no difference between direct and projective test performance.

In summary, then, both the Barrier score and the Body Cathexis score are measures of attitude toward and feelings about one's body. Secondly, the demonstrated relationship between the Barrier score and the Homonym Test, and between the Body Cathexis Score and the Homonym Test would lead one to consider the possibility of a relationship between the Barrier score and the Body Cathexis score.

For the above reasons the writer has formulated the hypothesis in null form as follows: There is no significant inverse relationship between a normal individual's direct

performance score on the Body Cathexis Test and his Barrier score on the Rorschach test.

The next chapter presents the experimental design used to test the hypothesis.

CHAPTER II

THE EXPERIMENTAL DESIGN

To test the hypothesis developed in the preceding chapter, it was necessary to find a suitable experimental group and a satisfactory procedure. This chapter will describe the sample, the tools used and also set forth the experimental procedures.

1. The Sample.

The sample was made up of 140 college students, 78 males and 62 females. Of the males, 21 were students at the University of Ottawa Teachers College and 10 were registered in the graduate school of Education. The remaining 49 were registered in the Faculty of Arts of the same University. Twenty-nine of the latter were in second year, 12 in third year and 8 were registered in the fourth year of Arts. The mean age of the males was 20.95 .

Forty of the females were registered in the University of Ottawa Teachers College. Of the remaining twenty-two, 17 were registered in second year Arts, four in third year and two in the social Sciences. The mean age of the females was 20.63 .

Such a sample was chosen not merely for convenience. The work of Secord and Jourard¹ shows that such a population tends to be "body conscious", that they have quite definite attitudes to many of their body parts. Since this is an exploratory study, it was felt that such a group might provide significant findings.

2. Tools.

The two tools used were the Rorschach Test and the Body Cathexis Test. The Rorschach test was used according to the modification of Cleveland and Fisher outlined in the previous chapter. The Body Cathexis Test is a rating scale.² It asks the individual to rate his feelings of satisfaction or dissatisfaction with forty-six of his body parts or processes on a five point scale, ranging from strong positive to strong negative feelings. The forty-six item scale was used rather than the forty item scale developed later by Secord and Jourard³ because it was felt that perhaps some of the items they eliminated would strengthen the possibility

1. P.F. Secord, and S.M. Jourard, "Body Size and Body Cathexis", in the Journal of Consulting Psychology, Vol. 18, 1954, p. 184-193.

2. A copy of this test is found in Appendix 2.

3. P.F. Secord and S.N. Jourard, "Body Size and Body Cathexis", in Journal of Consulting Psychology, Vol. 18, 1954, p. 184.

of a significant relationship between the Barrier score and the Body Cathexis Test.

3. Procedure.

It was not possible to test the entire group at one time. The testing was done in three sessions, during which the testing situation was held constant. The location for the three sessions was always the same bright and well ventilated classroom. The test materials and sharpened pencils were distributed after all the subjects were comfortably seated. The test material consisted of two sheets on which the subjects wrote their responses for the Rorschach together with the Body Cathexis Test. These were neatly stapled together.

The group Rorschach was administered first. This was done because the Body Cathexis Test is a self-rating questionnaire and it was felt that introducing this test first might make the subjects "body conscious" and also suspicious and defensive.

The group Rorschach was administered by projecting slides of the ten plates onto an elevated and clearly visible 5' x 7' screen. A Graphex Constellation slide projector, catalogue No. 3501 with both automatic and manual controls was used. One minute was allowed for each response required. Prior to projecting the first slide, the directions appearing

at the top of the first page on which the responses were to be written were read.⁴

Cleveland and Fisher⁵ point out that the Barrier score is significantly related to response total. For this reason, the subjects were held to a fixed number of responses to each card and the total number of responses was 25.

Upon completion of the group Rorschach, the Body Cathexis Test was administered. The actual taking of this test was preceded by the following standardized comments of the administrator.

1. Be serious about this test.
2. Don't copy.
3. Be as objective as possible.
4. Be sure to answer each item. If you can't answer one, skip it and return to it later.

It was also made clear to the subjects that their names would not appear on the test so that it would remain anonymous.

These remarks were made to encourage frankness on the part of the subjects, to create the proper "mental set" and also to preclude the possibility of any misunderstanding of the instructions which appear on the test itself.

Attention will now be turned to the results of the experiment.

4. A copy of this form is found in Appendix 1.

5. S. Cleveland, and S.N. Fisher, Body Image and Personality, New Jersey, Van Nostrand, 1958, p. 65.

CHAPTER III

PRESENTATION AND DISCUSSION OF RESULTS

This chapter is concerned with the results of the experiment. In the first part the results will merely be presented with a minimum of discussion. The second part will consist of a discussion and interpretation of the findings, together with recommendations for further study.

1. Presentation of Results.

The first step in the analysis of the data was to score the Rorschach protocols for the Barrier score according to the scoring system of Cleveland and Fisher already described. The results are presented in Table I. From this Table it can be seen that the range of the Barrier scores for the entire group was from zero to ten. The mean Barrier score was 3.91, the median 3.69. The males had a range of zero to ten, with a mean and median of 3.97 and 3.076 respectively. The Barrier score range for the females was from zero to nine, with a mean of 3.83 and a median of 3.375.

The second step in the analysis was to score the Body Cathexis Tests. The Body Cathexis scores are simply the summation of the ratings of each individual for the forty-six items. Table I shows that the range of the Body Cathexis

TABLE I:- Range, Mean and Median Barrier and Body Cathexis Scores.

GROUP	<u>Barrier Score</u>			<u>Body Cathexis Score</u>		
	R	M	Md	R	M	Md
Males	0-10	3.84	3.08	79-167	115.97	114.50
Females	0-9	3.96	3.38	79-168	119.42	119.00
Combined	0-10	3.90	3.60	79-168	117.50	116.61

scores was from 79 to 169, with a mean of 117.5 and a median of 116.61. Because Secord and Jourard¹ indicate that there are sex differences in ratings in the Body Cathexis Test, the results of the males and females were analyzed separately. The males had a range of 79 to 167, with a mean of 115.97 and a median of 114.50. The scores of the females ranged from 79 to 168 with a mean and median of 119.42 and 119 respectively. To eliminate any Body Cathexis Test with "response set", the formula established by Secord and Jourard² was used. Its application resulted in the rejection of the test records of two subjects.

Before proceeding to look for a relationship between the Barrier score and the Body Cathexis score it was decided to check the reliability of the two scores.

Cleveland and Fisher³ report inter-scorer reliability coefficients for the Barrier variable between .82 and .97. With normal groups the mean Barrier score reported⁴ is consistently four. Since the mean Barrier score in this study was 3.9 it was felt it could be accepted as reliable.

1. P.F. Secord and S.M. Jourard, "The Appraisal of Body Cathexis: Body Cathexis and the Self", in the Journal of Consulting Psychology, Vol. 17, 1953, p. 345.

2. Id., Ibid., p. 345.

3. S. Cleveland and S.N. Fisher, Body Image and Personality, New Jersey, Van Nostrand, 1958, p. 64.

4. Id., Ibid., p. 70.

Because it was not feasible to check the reliability of the Body Cathexis Test by a retest, a coefficient of reliability was calculated by the split-half method. Secord and Jourard⁵ report split-half coefficients for the Body Cathexis scale ranging from .72 to .83 . In a later study, Johnson⁶ reports a test-retest reliability coefficient of .72 . The retest took place after an eight week interval. These studies indicate that the Body Cathexis Test is not only internally consistent, but also suggest that there tends to be a stability of attitude toward the body over a period of time.

Since the items of the Body Cathexis Test are not arranged in any particular order or pattern the odd-even dichotomy was used to split the test items. The resultant split-half reliability coefficient was .86 after correction by the Spearman-Brown formula. This coefficient is in the expected range and direction indicated by the earlier studies quoted above. It would seem to indicate that the Body Cathexis Test is internally consistent.

The reliability of the Body Cathexis Test having been satisfactorily established, the next step was to test the null hypothesis; that there is no significant inverse relationship

5. P.F. Secord and S.M. Jourard, "The Appraisal of Body Cathexis: Body Cathexis and the Self", in the Journal of Consulting Psychology, Vol. 17, 1953, p. 345.

6. Laverne Johnson, "Body Cathexis as a Factor in Somatic Complaints", in the Journal of Consulting Psychology, Vol. 20, 1956, p. 145-149.

between a normal individuals direct performance score on the Body Cathexis Test and his Barrier score on the Rorschach Test.

Since reduction to frequencies seemed the most satisfactory manner of treating the data, the chi-square technique, a general purpose statistical test of independence, was used to test the hypothesis.

In order to test the hypothesis then, a 2x2 chi-square was calculated, using as reference points the median Barrier and Median Body Cathexis scores. The median Barrier score is the point consistently used by Cleveland and Fisher in their work with the Barrier score because of its significance for the Barrier variable. After making certain that the theoretical frequencies were more than five⁷ the following formula⁸ was applied;

$$\chi^2 = \frac{N(AD - BC)^2}{(A+B)(C+D)(A+C)(B+D)}$$

7. Dayhaw, L.T., Manuel de Statistique, Ottawa, University Press, 1958, p. 389.

8. Id., Ibid., p. 389.

The results of the chi-square are to be found in Table II. From this Table, it can be seen that the resultant value of chi-square was .8049. The P corresponding to this value is between .50 and .30. The null hypothesis cannot, therefore, be rejected.

When this finding was obtained, it was felt that treating the scores of the males and females separately might provide more significant results. Using the same formula, and after checking that the theoretical frequencies would be more than five, distinct chi-squares were calculated for the males and females. The results are found in Table II.

The value of chi-square for the males was .82 . The P corresponding to this value is .50 to .30 . This is not different from the P obtained for the entire group. The chi-square for the females was 2.05 . The corresponding value of P is .20 to .10 . It was not deemed useful to calculate contingency coefficients for the values obtained for the entire group or for the males. The contingency coefficient for the females was + .16 .

In a final attempt to find some significance, it was decided to do an item analysis of the entire forty-six items of the Body Cathexis Test. Perhaps this might reveal one, or a small number of significant items. Medians were calculated for each item. Then forty-six chi-square were calculated,

Table II:- Results of Chi^2 , for Males, Females and Combined Group.

GROUP	N	Chi^2	P	Significance
Males	78	.82	.50 to .30	None
Females	62	2.05	.20 to .10	None
Combined	140	.805	.50 to .30	None

using as reference points the median rating of each item and the median Barrier score. The results of the item analysis are found in Table III. To be significant at the .05 level the value of chi-square must exceed 3.84.

Only one item, "Muscular Strength" was found to be significantly related to the Barrier score. The value of the chi-square was 6.51. Allowing for one degree of freedom, the P corresponding to this value was .02 . At least two other items approached closely an acceptable level of significance, but the value of P was not great enough to attribute the results to true significance as opposed to chance. These two items, "Width of Shoulders" and "Knees" had P values between .10 and .05 .

2. Discussion of Results.

The value of P corresponding to the chi-square obtained from testing the hypothesis was not within the range of an acceptable level of confidence. Therefore, the null hypothesis proposed cannot be rejected and the obtained results can be attributed to chance.

This does not necessarily mean that no relationship exists between the Barrier score and the Body Cathexis score. Nor do the findings require the rejection of Allport's theory that normal individuals do not differ on direct and projective

Table III:- Results Of Item Analysis Of Body Cathoxis Test.

ITEM	Chi ²	P	Significance
Hair:	.171	.70	---
Facial complexion:	.937	.50	---
Appetite:	1.085	.30	---
Hands:	.782	.50	---
Distribution of hair over body:	.0058	.95	---
Nose:	.213	.70	---
Physical Stamina:	.071	.80	---
Elimination:	.676	.50	---
Muscular Strength:	6.51	.02	Yes
Waist:	.393	.70	---
Energy level:	.030	.90	---
Back:	.101	.80	---
Ears:	1.54	.30	---
Age:	.066	.80	---
Chin:	.471	.50	---
Body build:	.152	.70	---
Profile:	.448	.70	---
Height:	.387	.70	---
Keeness of Senses:	.442	.70	---
Tolerance for pain:	.268	.70	---
Width of shoulders:	3.16	.10	---
Arms:	2.064	.10	---
Chest (or Breasts):	2.210	.20	---

Table III:- Results Of Item Analysis Of Body Cathexis Test.
(Continued).

ITEM	Chi ²	P	Significance
Appearance of eyes:	.255	.70	---
Digestion:	.924	.50	---
Hips:	.494	.50	---
Resistance to illness:	2.45	.20	---
Legs:	.143	.70	---
Appearance of teeth:	.979	.50	---
Feet:	.024	.90	---
Sleep:	.036	.90	---
Voice:	.028	.90	---
Health:	1.05	.50	---
Knees:	3.74	.10	---
Posture:	1.32	.30	---
Face:	.016	.90	---
Weight:	.0015	.98	---
Sex organs:	.261	.70	---
Toes:	.157	.30	---
Skin texture:	.039	.95	---
Fingers:	.0004	.99	---
Lips:	.062	.80	---
Forehead:	.079	.80	---
Shape of head:	.917	.50	---
Ankles:	1.019	.50	---
Neck:	.409	.70	---

measures. It can only be said that this experiment does not support the theory.

It will be recalled that the value of P for the females approached more closely to significance than did the P for the males or the combined group. The contingency coefficient for the females was $\pm .18$. This means that the existing relationship is small, but positive. This, however, is in a direction opposite to that predicted. It has been shown in the development of the problem that an inverse relationship should result between the Barrier score and Body Cathexis score. A high Barrier score individual should have a low Body Cathexis score. In the light of the literature, this would reflect the fact that the individual felt more secure and less concerned about his body. The results of this experiment, however, reveal a small positive correlation between the two tests with the female group. Moreover, the one item "Muscular Strength" which was significant at the .02 level, and "Width of Shoulders" and "Knees" which were significant between .10 and .05 were all positively or directly related to the Barrier score. While the significance level was not high, it nevertheless indicates a trend in the direction opposite to that hypothesized. The implications of these findings should be investigated further.

When two curves were plotted for the Barrier and Body Cathexis scores, it was noticed that both were positively

skewed. The Body Cathexis curve was platykurtic. It was felt that these facts were important in accounting for their low correlation. The writer feels that if the rating categories of the Body Cathexis Test were more discriminating, they might tend to normalize the distribution. This could perhaps improve any relationship which may exist between the two measures.

SUMMARY AND CONCLUSIONS

An attempt was made, in the realm of body attitudes, to validate Allport's theory that normal individuals do not differ on direct and projective test performance. The null hypothesis could be neither accepted nor rejected. However, a weak trend suggesting the retention of the null hypothesis was found. This merits further investigation. It was recommended that a further study should use finer discrimination in the rating categories of the Body Cathexis Test.

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BIBLIOGRAPHY

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The author develops a homonym association test to measure body attitude. He validated it using Rorschach content and the Body Cathexis Score. It is a study which served as a stepping stone for this thesis.

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The Body Cathexis Test, as direct measure of body attitude, was developed by the authors. This same Body Cathexis Test was used in the present study.

APPENDIX 1

RECORD FOR RORSCHACH RESPONSES

DIRECTIONS

1. You will be shown Ink-Blots on the screen.
2. Please place your responses in the blocks given below.
3. There are 10 blocks.
4. Give the number of responses called for in each individual block.
5. You will be given sufficient time for each response.
6. Write down the individual responses as you see them, superfluous description of each response is not desired.

1. THREE RESPONSES

(1)

(2)

(3)

3. THREE RESPONSES

(1)

(2)

(3)

2. THREE RESPONSES

(1)

(2)

(3)

4. TWO RESPONSES

(1)

(2)

5. TWO RESPONSES

(1)

(2)

8. THREE RESPONSES

(1)

(2)

(3)

6. TWO RESPONSES

(1)

(2)

9. TWO RESPONSES

(1)

(2)

7. TWO RESPONSES

(1)

(2)

10. TWO RESPONSES

(1)

(2)

APPENDIX 2

BODY CATHEXIS TEST

Faculty and Year _____ Age _____ Sex _____

Instructions:

Below there are listed 46 items followed by numbers from one to five. You are asked to encircle the number which best represents your feelings towards each of these items, according to the following scale.

1. I have strong positive feelings about my (... item).
2. I have moderate positive feelings about my (... item).
3. I have no feelings one way or the other about my (... item).
4. I have moderate negative feelings about my (... item).
5. I have strong negative feelings about my (... item).

Example:

Toes: 1 2 3 4 5

This person by encircling the 5, has indicated that he has strong negative feelings towards his toes.

Now you do the following:

Hair:	1	2	3	4	5
Facial complexion:	1	2	3	4	5
Appetite:	1	2	3	4	5
Hands:	1	2	3	4	5
Distribution of hair over body:	1	2	3	4	5
Nose:	1	2	3	4	5
Physical Stamina:	1	2	3	4	5
Elimination:	1	2	3	4	5
Muscular Strength:	1	2	3	4	5
Waist:	1	2	3	4	5
Energy level:	1	2	3	4	5
Back:	1	2	3	4	5
Ears:	1	2	3	4	5
Age:	1	2	3	4	5
Chin:	1	2	3	4	5
Body build:	1	2	3	4	5
Profile:	1	2	3	4	5

Height:	1	2	3	4	5
Keeness of Senses:	1	2	3	4	5
Tolerance for pain:	1	2	3	4	5
Width of shoulders:	1	2	3	4	5
Arms:	1	2	3	4	5
Chest (or breasts):	1	2	3	4	5
Appearance of eyes:	1	2	3	4	5
Digestion:	1	2	3	4	5
Hips:	1	2	3	4	5
Resistance to illness:	1	2	3	4	5
Legs:	1	2	3	4	5
Appearance of teeth:	1	2	3	4	5
Feet:	1	2	3	4	5
Sleep:	1	2	3	4	5
Voice:	1	2	3	4	5
Health:	1	2	3	4	5
Knees:	1	2	3	4	5
Posture:	1	2	3	4	5
Face:	1	2	3	4	5
Weight:	1	2	3	4	5
Sex organs:	1	2	3	4	5
Toes:	1	2	3	4	5
Skin texture:	1	2	3	4	5
Fingers:	1	2	3	4	5
Lips:	1	2	3	4	5
Forehead:	1	2	3	4	5
Shape of head:	1	2	3	4	5
Ankles:	1	2	3	4	5
Neck:	1	2	3	4	5

ABSTRACT OF

ASSESSMENT OF BODY ATTITUDES OF NORMAL
INDIVIDUALS BY DIRECT AND INDIRECT
MEASURES.¹

This study is an attempt to validate Allport's theory that normal individuals do not differ on direct and projective test performance by extending it to the area of body attitudes.

Two measures of body attitudes were used. The indirect measure was the Barrier score obtained from the Rorschach Test. The Body Cathexis Test, which asks subjects to rate forty-six of their body parts on a five-point scale was the direct measure. The subjects were students at the University of Ottawa. The chi-square was the statistical technique used to seek a significant relationship between the two measures.

The experiment did not show any relationship in the expected direction. On the contrary a small tendency in the opposite direction was indicated. It was suggested that this finding be investigated further. More specifically it was recommended that more discriminative categories in the Body Cathexis Test might produce clearer results.

1. Sergio J. Piccinin, master's thesis presented to the School of Psychology and Education of the University of Ottawa, Ontario, October 1960, vii-40 p.

