

AN ABSTRACT OF THE THESIS OF

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Title: Relationship Between Height of Human Figure

Drawing and Depression

Abstract approved:

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Little research has been established concerning human figure drawing height as a measure of depression. Furthermore, of the limited research that has been done, controversy exists concerning the Draw-A-Person Test assumption that a significant relationship does exist between small human figure drawing height and depression.

The purpose of this study was to determine if there was a significant difference in the height of human figures drawn by male and female subjects, who were either depressed inpatients, nondepressed inpatients, or nondepressed nonpatient subjects.

The sample consisted of 180 subjects between the ages of 18 and 61 ($M = 30.7$), residing in Kansas. Each of the three groups contained an equal number of

females and males that were randomly selected. Two groups of subjects were inpatients in a state psychiatric hospital. The third group consisted of employees at the same state hospital.

The instrument used to determine the depth of depression in the inpatient subjects was the D scale score on the Minnesota Multiphasic Personality Inventory. The Beck Depression Inventory was the instrument used to determine nondepression in the nonpatient group. The Draw-A-Person Test provided a human figure height measurement.

A 2x3 between-subjects analysis of variance was used to analyze the data. The results indicated that there were no significant differences at the .05 level of confidence between the sexes or between the three groups.

RELATIONSHIP BETWEEN HEIGHT OF HUMAN
FIGURE DRAWING AND DEPRESSION

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TABLE OF CONTENTS

	Page
LIST OF TABLES.....	vi
Chapter	
1. INTRODUCTION.....	1
THEORETICAL FORMULATION.....	1
THE PROBLEM.....	4
Statement of the Problem.....	5
Statement of the Hypotheses.....	5
Assumptions of the Study.....	5
Purpose of the Study.....	6
Significance of the Study.....	6
DEFINITION OF TERMS.....	7
Inpatient.....	7
Nonpatient.....	7
Personality.....	7
Depression.....	8
Projective Method.....	8
Draw-A-Person Test (DAP).....	8
LIMITATIONS OF THE STUDY.....	9
2. REVIEW OF RELATED LITERATURE.....	10
Depression in General.....	10
Minnesota Multiphasic Personality Inventory (MMPI).....	11

Chapter

	Page
MMPI D Scale.....	13
Beck Depression Inventory (BDI).....	16
Correlations Between the BDI and the MMPI D Scale.....	19
Draw-A-Person Test (DAP).....	20
Heights of Human Figure Drawings....	21
Investigations of the Small-Height- Depression Interpretation.....	23
Possible Variables Other Than Depression Resulting In Small Human Figure Height.....	27
3. METHODS AND PROCEDURES.....	30
POPULATION AND SAMPLING.....	30
MATERIALS AND INSTRUMENTATION.....	31
DESIGN OF THE STUDY.....	36
DATA COLLECTION.....	36
DATA ANALYSIS.....	38
4. ANALYSIS OF DATA.....	40
5. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS..	
SUMMARY.....	44
CONCLUSIONS.....	45
RECOMMENDATIONS.....	48
BIBLIOGRAPHY.....	49

	Page
APPENDIXES	57
A. HOSPITAL HUMAN RIGHTS COMMITTEE APPROVAL TO USE HOSPITAL PSYCHOLOGICAL TEST FILE DATA AND EMPLOYEE SAMPLING.....	58
B. A. T. BECK APPROVAL TO USE THE BDI IN THIS STUDY.....	62
C. BDI AND DAP QUESTIONNAIRE DISTRIBUTED TO HOSPITAL EMPLOYEES.....	64

LIST OF TABLES

Table	Page
1. Summary Table: Two-Way Between-Subjects ANOVA...	41
2. Raw Score Data of Human Figure Drawing Heights..	42
3. Analysis of Variance Summary Table.....	43

Chapter 1

INTRODUCTION

This chapter contains sections on the theoretical formulation, the problem, definition of terms, and the limitations of the study. Through these sections the problem and hypotheses are stated along with the purpose and significance of the study. Basic terms that are critical to the study are defined in an effort to create a common ground of understanding. Limitations encountered in the course of this study are also explained.

THEORETICAL FORMULATION

Psychoanalytic theory assumes that psychodynamics and symbolic expression are interrelated and that a knowledge of either, for any given individual, will allow one to predict the other. In line with this reasoning, in her monograph, Personality Projection In the Drawing of a Human Figure, Machover proposed that an individual's drawing of the human figure, as produced in the Draw-A-Person Test (DAP) reveals many central characteristics of one's personality.¹

¹A. Pepitone and D. M. Gray, "Effect of Self-Esteem on Drawings of the Human Figure", Journal of Consulting Psychology, 28: 452, 1964.

Machover wrote her monograph on the basis of extensive clinical use of the DAP which convinced her that it was a valuable instrument. This "clinical evidence" needs to be considered. With the exception of "self-sex drawn first", Machover's hypotheses have not been overwhelmingly supported. Some studies clearly conflict with Machover, and many of her hypotheses have never been tested. Evidence to support Machover's hypotheses has not been impressive.² Research findings on the validity of the personality interpretation of various aspects of figure drawings, DAP, as reviewed by Swenson, indicated that many of the usual interpretations of human figure drawing are of doubtful validity.³ Sunberg reported the DAP to be the second most used diagnostic tool by American clinical psychologists next to the Rorschach.⁴ Increased use of this test has demonstrated the need for experimental analysis of certain hypotheses often employed in clinical interpretations.

The purpose of the present study was to test one such interpretation, namely, that persons in a depressed state are likely to draw human figures that are smaller in height than those of persons not in such a state.

²Pepitone and Gray, loc. cit.

³C. H. Swenson, "Empirical Evaluations of Human Figure Drawings", Psychological Bulletin, 54: 431-466, 1957.

⁴N. Sunberg, "The Practice of Psychological Testing in Clinical Services in the United States", American Psychologist, 16: 80, 1961.

Machover stated that, "Micrographic figures are encountered frequently in the deeply repressed and neurotically depressed individuals".⁵ In The DAP Catalogue for Interpretative Analysis, Urban stated that, "Diminutive or micrographic size in human drawings suggests that the individual is deeply depressed".⁶ This hypothesis was suggested by previous findings of reduced productivity in depression.⁷ Lewinsohn's research empirically supports the impression of Rapaport, Gill, and Schafer, and Machover that persons in a depressed state are likely to draw human figures that are smaller than those of persons not in such a state.^{8, 9, 10} Similar findings were found between drawings of depressed and non-

⁵K. Machover, Personality Projection in the Drawing of the Human Figure (Springfield, Illinois: Charles C. Thomas, Publisher, 1949), p. 91.

⁶William H. Urban, The Draw-A-Person Catalogue for Interpretative Analysis, (Los Angeles, California: Western Psychological Services, 1968) p. 55.

⁷D. Rapaport, M. Gill, and R. Schafer, Diagnostic Psychological Testing, (Chicago, Illinois: Yearbook Publications, 1966).

⁸Peter M. Lewinsohn, "Relationship Between Height of Figure Drawings and Depression in Psychiatric Patients", Journal of Consulting Psychology, 28: 380-381, 1964.

⁹Rapaport, Gill and Schafer, loc. cit.

¹⁰Machover, loc. cit.

depressed females in a study by Roback and Werbersinn.¹¹ However, similar findings were not found of depressed and nondepressed males. This finding revealed an inconsistent relationship between depression and height of human figure drawings in males, and did not support those of Lewinsohn. This inconsistency suggested that more research with the small-height-depression interpretation is needed.

THE PROBLEM

Little research has been established concerning human figure drawing height as a measure of depression. Furthermore, of the limited research that has been done, controversy exists concerning the DAP hypothesis that a significant relationship does in fact exist between small height and depression. In order to come to a more definite conclusion and gain more knowledge in this area, the present study was conducted.

This study was specifically aimed at testing for a relationship between human figure drawing height and depression. Depression in the two inpatient groups was determined by T scores on the D scale of the MMPI. Depression in the nonpatient group was determined by scores on the Beck Depression Inventory (BDI). The DAP offered a measure of human figure drawing height.

¹¹H. Roback and A. Webersinn, "The Size of Figure Drawings of Depressed Psychiatric Patients", Journal of Abnormal Psychology, 71: 416, 1966.

Statement of the Problem

This study dealt with the height of human figure drawing as a diagnostic indicator of depression. This study is presented to show the relationship between the height of human figure drawings made by depressed inpatients, nondepressed inpatients, and nondepressed non-patient subjects.

Statement of the Hypothesis

(Null Form)

There is no significant difference between height of human figure drawings when the sex of the subject is male or female.

There is no significant difference between the height of human figure drawings drawn by depressed inpatients, nondepressed inpatients, and nondepressed non-patient subjects.

Assumptions of the Study

This study assumed that an estimate of an inpatient's ability to understand written and verbal English could be measured by the following intelligence tests: (Wechsler Adult Intelligence Scale (WAIS), Shipley Institute of Living Scale (Shipley), Ravens Standard Progressive Matrices (Ravens). It was also assumed that the nonpatient group, having an educational grade level of six or higher could understand the questions on the

BDI. It was assumed they answered the BDI truthfully and honestly. It was further assumed that these employees did not have knowledge of the small-human-figure-height-depression interpretation.

Not every patient taking the battery of psychological tests was given an MMPI and DAP. This was determined by the physician's psychological testing referral questions, by the psychologist's test preferences, and by the inpatient's ability to complete a valid MMPI and DAP. It was assumed that inpatients being given and producing valid MMPI's and DAP's were representative of a psychiatric inpatient population.

Purpose of the Study

The purpose of this study was to test the hypothesis that depressed inpatients would express their negatively toned feelings by drawing human figures which would be shorter in height than those drawn by nondepressed inpatients and by nondepressed nonpatient subjects. The study was presented to help gain more insight about human figure drawing height. In addition, sex differences were investigated.

Significance of the Study

Reviewing the literature has shown that very

little research has been published concerning human figure drawing height as an indicator of depression. Of the research that has been done, controversy existed. This investigation can add to the knowledge that is available. The results of this study can be used as a basis for further research and the forming of hypotheses.

DEFINITION OF TERMS

The meanings of the descriptive terminology relevant to this study are listed below.

Inpatient

A patient who is lodged and fed as well as treated in a hospital.¹² (For this study - psychiatric hospital).

Nonpatient

A person who is not an inpatient at a medical or psychiatric hospital.

Personality

The social-stimulus value of an individual, the sum of all traits which differentiate one individual from another, or the total behavior pattern of an individual. The inner organization or integration of conation,

¹²The Random House College Dictionary, Revised Ed., Jess Stein (New York: Random House, Inc., 1980) p. 687.

cognition, and effectivity.¹³

Depression

An emotional attitude involving a feeling of inadequacy and hopelessness, accompanied by a general lowering of psychophysical activity.¹⁴

Projective Method

Pertaining to, or noting a test or technique for revealing the hidden motives or underlying personality of an individual by the use of test materials that allow one to express oneself freely instead of restricting one to set responses.¹⁵

Draw-A-Person Test (DAP)

Machover's technique for personality diagnosis from interpretations of drawings of male and female figures as projections of mental conflicts and tensions (1949).¹⁶

¹³ Philip L. Harriman, Handbook of Psychological Terms (New Jersey: Littlefield, Adams & Co., 1974) p. 259.

¹⁴ James Drever, A Dictionary of Psychology (Baltimore: Penguin Book, 1952) p. 309.

¹⁵ Random House, op. cit. p. 1058.

¹⁶ Harriman, op. cit., p. 52.

LIMITATIONS OF THE STUDY

This study was limited by the choice of subjects from one geographical area in Kansas. Because data spread back several years, arrangements could not be made to interview subjects from the two inpatient groups; thus data were collected from psychological test files. The two inpatient groups and the nonpatient group were not tested under the exact same situations (place, time, examiner) and thus these variables must be considered. It is often difficult to exactly match subjects. An approach which used the subject as his own control would be an improvement in design. This study was limited to subjects ranging in age between 18 and 61 years. The employee group had the choice of not participating in the study and thus this factor must be considered.

CHAPTER 2

REVIEW OF RELATED LITERATURE

The literature related to this study was organized into nine main sections. The first section deals with depression in general. The next four sections deal with the two instruments used in this study to determine depth of depression: The MMPI; the MMPI D Scale, the BDI; and the correlation between the MMPI D Scale and the BDI. The fifth section deals with the instrument which provided human figure drawing height, the DAP. The sixth section discusses studies revealing height of human figure drawing. The seventh section presents research related to the small-figure-height-depression hypothesis. The last section explores literature concerned with variables other than depression which may result in small human figure height.

Depression In General

The study of depression poses a particularly difficult problem because its diagnosis is frequently missed.¹

¹B. M. Barraclough, B. Nelson, and P. Sainsbury, The Diagnostic Classification and Psychiatric Treatment of 25 Suicides (Fourth International Conference, Suicide Prevention center, Los Angeles, 1968).

Nielsen, et al., compared the routine records of 129 medical outpatients with independent ratings of depression on those patients. Depression was mentioned in only 3.9 percent of the charts, while 12 percent scored in the depressed range on the depression scale.² Because depression may often masquerade as another illness, it is understandable why the diagnosis is likely to be missed. The identification of depression often requires time-consuming interviews. Epidemiological studies reflect the fact that depression has a greater prevalence and incidence than is generally expected. Klerman estimated that one American out of every eight will suffer a depression sometime during their life.³ Lehmann estimated the prevalence of depression at 3-4 percent of the general population. Of these depressed people, he suggested that one in five is treated, one in 50 is hospitalized, and one in 200 commits suicide.⁴

Minnesota Multiphasic Personality Inventory (MMPI)

The Minnesota Multiphasic Personality Inventory

²A. Nielson, S. Secunda, R. Friedman and T. Williams, "Prevalence and Recognition of Depression Among Ambulatory Patients in a Group Medical Practice"; (Meeting of the American Psychiatric Association, 1972).

³D. Brand, "Beyond The Blues", Wall Street Journal, May 1, 1972.

⁴H. E. Lehmann, "Epidemiology of Depressive Disorders; In Fieve Depression in the 70's", (Amsterdam, Excerpta Medica, 1971).

(MMPI) is a standardized inventory designed to elicit a wide range of self-descriptions from each test subject and to provide in quantitative form a set of evaluations of his/her personality status and adjustment. Each subject is asked to answer 550 (399, shorter form) different items either true or false as they apply to the individual, although he/she may also indicate that some of the questions do not apply. Scoring of the inventory is objective and may be carried out by clerical workers, either by hand or with machine - scoring equipment. Standard scoring procedures generate a test profile, or psychogram, composed of four validity scales and ten clinical or personality scales, which have come to be known both by abbreviations of the scale name and by code numbers, used interchangeably. The Validity scales are as follows: (1) Cannot Say Score--?, (2) Lie - - L, (3) Infrequency - - F, and (4) Correction - - K. The Clinical scales are as follows: (1) Hypochondriasis - - Hs, (2) Depression - - D, (3) Hysteria - - Hy, (4) Psychopathic Deviate - - Pd, (5) Masculinity - Femininity - - MF, (6) Paranoia - - Pa, (7) Psychasthenia - - Pt, (8) Schizophrenia - - Sc, (9) Hypomania - - Ma, and (10) Social Introversion - - S.⁵

⁵G. W. Dahlstrom, G. S. Welsch and L. E. Dahlstrom, An MMPI Handbook, Volume I: Clinical Interpretation (Minneapolis: University of Minnesota Press, 1973), pp. 1-2.

MMPI D Scale

Lanyon reported that scale D was developed to measure depression as defined by a, "Clinically recognized, general frame of mind characterized by poor morale, lack of hope in the future, and dissatisfaction with the patients own status, generally".⁶ The scale was constructed from the following: The criterion group contained 50 patients, most of whom were in the depressed phase of a manic-depressive psychosis. Testing was done as close to the time of diagnosis of depression as possible. As far as could be determined, this represented relatively "pure" cases of depression. In constructing the scale, use was also made of the responses of 40 normal persons having a high score on a preliminary depression scale, and 50 patients who appeared not to be depressed but who also scored high on the preliminary scale.

Drake and Oetting reported that patterns with scale D coded high were indicative of unhappiness or depression by a study that was based on a pool of profiles from 2,634 male students from 1945-1957. The card form of the MMPI was used. For a scale to be coded high the T

⁶Richard I. Lanyon, A Handbook of MMPI Group Profiles (Minneapolis: Lund Press, Inc., 1968) p.6.

score had to be 55 or higher.⁷ Carson reported that scale D consists of 60 items relating to matters such as, "Worry, discouragement, self-esteem, and general outlook."⁸ He reported it to be the, "Best single - and a remarkably efficient - index of immediate satisfaction, comfort, and security; it tells something of how the individual evaluates himself and his role in the world".⁹ According to Gravitz the 60 test items comprising the scale reflect behavioral correlates of clinical depression, including item content which is concerned with, "Apathy, unhappiness, diminished external interests, physical accompaniments of depression, and hypersensitivity".¹⁰ While the D scale was derived from a group of Ss who were largely psychotic, it is nevertheless considered by Gravitz to, "Measure depressive mood and reaction independent of the underlying character structure or adjustment status of an individual".¹¹ Dahlstrom, Welsh and Dahlstrom reported that

⁷L. E. Drake and E. R. Oetting, An MMPI Codebook for Counselors (St. Paul: North Central Publishing Co., 1959) pp. 11, 18.

⁸R. Carson, "Interpretive Manual to the MMPI" MMPI: Research Development and Clinical Applications, ed. J. Butcher (New York: McGraw-Hill, 1969), p. 286.

⁹Ibid.

¹⁰M. A. Gravitz, "Self-Described Depression and Scores on the MMPI Scale in Normal Subjects", Journal of Projective Techniques and Personality Assessment, 32: 88, 1968.

¹¹Ibid.

scale D of the MMPI measures the degree of a person's depression.¹² Wiggins stated that the D scale measures, "Sadness, despair, pessimism, futility, loneliness, guilt and expectation of punishment, worrying and brooding, sensitivity, anxiety and psychomotor retardation".¹³ Duckworth and Duckworth stated that, "Scale D measures the degree of pessimism and sadness the person feels at the time the MMPI is administered".¹⁴ Carson stated that the 60 item D scale is concerned with, "Poor self-concept, sadness, pessimism and lack of hope".¹⁵ According to Lanyon, "Peak scores on the D and Pt scales suggest neurosis with depression and anxiety".¹⁶ Carson stated that, "High scale D people tend to be silent and retiring, perhaps withdrawn, and are seen by others as aloof, evasive, timid, and more or less inhibited".¹⁷ Carson agreed with Lanyon that, "Peaks on scale D and scale Pt in psychiatric patients, reflect the self-devaluation, intropunitiveness, tension, and nervousness character-

¹²Dahlstrom, Welsch, Dahlstrom, op. cit., p. 189.

¹³J. S. Wiggins, "Content Dimensions in the MMPI", in J. Butcher, MMPI: Research Developments and Clinical Applications (New York: McGraw-Hill, 1969).

¹⁴Jane Duckworth and Edwin Duckworth, MMPI Interpretation Manual for Counselors and Clinicians (Indiana: Accelerated Development, Inc., 1975), p. 56.

¹⁵Carson, op. cit., p. 285.

¹⁶Lanyon, op. cit., p. 7. ¹⁷Carson, loc. cit.

istic of this group as a whole".¹⁸

Beck Depression Inventory (BDI)

In attempting to measure the construct depression, Beck defined it as, "An abnormal state of the organism manifested by signs and symptoms such as low subjective mood, pessimistic and nihilistic attitudes, loss of spontaneity and specific vegetative signs".¹⁹

The BDI was developed in 1961 by Beck to fill the need for a reliable, valid, self-report measure of depression. This self-rating questionnaire method takes into account 21 items relevant to various aspects of the depressive syndrome, each of which is represented by four or five sentences in a quantifying hierarchy. For each symptom, the person is allotted a score between zero and three for the choice of sentence which most accurately reflects his present state. The inventory takes 10-15 minutes to complete.

The items in the BDI were primarily clinically derived. In the course of psychotherapy with depressed patients, Beck made systematic observations and records of their characteristic attitudes and symptoms. He selected

¹⁸Ibid.

¹⁹A. T. Beck, Depression: Clinical, Experimental, and Theoretical Aspects (New York: Harper & Row, 1967).

a group of these attitudes and symptoms that appeared to be specific for these depressed patients and which were consistent with descriptions of depression contained in the psychiatric literature. The items were chosen on the basis of their relationship to the overt behavioral manifestations of depression and do not reflect any theory regarding the etiology or the underlying psychological processes in depression. The symptom-attitude categories were:

- | | |
|-------------------------|------------------------------|
| 1. Mood | 11. Irritability |
| 2. Pessimism | 12. Social withdrawal |
| 3. Sense of failure | 13. Indecisiveness |
| 4. Lack of satisfaction | 14. Distortion of body image |
| 5. Guilty feeling | 15. Work inhibition |
| 6. Sense of punishment | 16. Sleep disturbance |
| 7. Self-dislike | 17. Fatigability |
| 8. Self-accusations | 18. Loss of appetite |
| 9. Suicidal wishes | 19. Weight loss |
| 10. Crying spells | 20. Somatic preoccupation |
| | 21. Loss of libido |

Reliability and validity studies of this 21-item inventory were based on an initial sample of 997 psychiatric inpatients and outpatients. The proportions among the major diagnostic categories were: psychotic disorder 41 percent, psychoneurotic disorder 43 percent, personality disorder 16 percent. The BDI was found to have a high degree of internal reliability, correlated well with clinician's ratings of depression, and was

highly sensitive to change over time.^{20, 21} Numerous studies by other investigators as reported by Beck have confirmed the relatively high concurrent validity of this inventory.²²

Schwab et al., found that a cut off point on the BDI of 13 is appropriate to detect depression among psychiatric patients. For screening depression among medical patients a cutting score of 10 was appropriate.²³

In Beck's 1967 study he used 115 outpatient and inpatient subjects and found that a mean score of 10.9 indicated nondepression. Mild depression was indicated by a BDI score of 18.7; moderate, 25.4; and severe, 30.0. For purposes of comparison, means of a similar study in England by Metcalfe and Goldman using an N of 32 are as follows: 5.4, 14.3, 24.2 and 29.5, respectively. Metcalfe and Goldman's lower score in the nondepressed group may

²⁰A. T. Beck, C. H. Ward, M. Mendelson, J. Mock, and J. Erbaugh, "An Inventory for Measuring Depression", Archives of General Psychiatry, 4: 561-571, 1961.

²¹M. Metcalfe, and E. Goldman, "Validation of an Inventory for Measuring Depression", British Journal of Psychiatry, 111: 240-242, 1965.

²²A. T. Beck, and R. W. Beck, "Screening Depressed Patients in Family Practice: A Rapid Technique", Post-graduate Medicine, 52: 81-85, 1972.

²³J. J. Schwab, M. Bialow, J. M. Brown, and C. E. Holzer. "Diagnosing Depression In Medical Inpatients", International Medicine, 67: 695-707, 1967.

be explained by the fact that their entire sample consisted of depressives who were psychiatrically well when they recovered. Beck's nondepressed group, however, consisted of patients diagnosed as having schizophrenia, anxiety reaction, etc., hence, it could be expected that even in the absence of depression, a certain amount of this pathology could be reflected in their scores on the inventory.²⁴

Correlations Between the BDI and the MMPI D Scale

Nussbaum et al., found initial and final correlations between the MMPI D scale and BDI to be 0.75 and 0.69, respectively. It was felt this may be attributed to similarity in the type of measure and to some similarities in item content. It was thought that perhaps both instruments might be affected in a similar way by extraneous factors such as response set. However, since the BDI also correlated fairly highly with clinical ratings, it didn't seem likely that its validity was substantially reduced by response set.²⁵ In separate studies at three different research centers, employing different samples and different types of psychiatric procedures, the BDI showed significant correlations with other tests of depression. It correlated more highly with

²⁴Beck, loc. cit., 1967.

²⁵Beck, op. cit. pp. 199, 200, 1967.

the MMPI D scale and with the Lubin Check List than the latter tests correlated with each other.²⁶

Draw-A-Person Test (DAP)

The DAP Test has appeared as a particularly advantageous test because of its simplicity and economy of time and administration, its applicability to subjects who have difficulty with verbal tasks, and its disguised meaning which makes malingering difficult. There are few quantitative scoring systems and interpretation is usually based on a series of hypotheses and assumptions.²⁷

The basic procedure of administering the DAP Test consists in presenting the individual with a moderately soft pencil and a blank, unlined sheet of paper approximately 8.5 by 11 inches in size. The paper should be in a pile within arms reach so that the individual may select the sheet and place it in any position he/she prefers. There should be an adequate flat desk surface and sufficient illumination. The individual must be comfortably seated (facing the desk), with sufficient room for arms and legs. The examiner says: "Will you please draw a person". In response to the possible class of questions relating to the kind of drawing, the

²⁶Beck, op. cit., p. 201, 1967.

²⁷R. M. Suinn and S. Oskamp, The Predictive Validity Measures (Springfield, Illinois: Charles C. Thomas, Publisher, 1969), p. 85.

examiner states, "Draw whatever you like in any way you like". In response to possible expressions of doubt about artistic competence the examiner says, "That's all right, we're not interested in how well you draw as long as you draw a person". If the individual draws a head only, he/she is asked to take another sheet and draw a complete person. If the first figure is a male, the examiner now says, "This is a male figure; now please draw a female". If the first figure is a female, the examiner now says, "You drew a female figure, now please draw a male".²⁸

Heights of Human Figure Drawings

Levy and Hammer both reported that the average drawing of a full figure is approximately 17.78 cm, seven inches long, or two thirds of the available space.²⁹ Urban stated that the average size of a figure is also about seven inches.³¹ Lehner and Gunderson discovered that the mean height of 446 figures drawn by 121 males

²⁸Sidney Levy, "Figure Drawing as a Projective Test", Projective Psychology, eds. L. E. Abt and L. Bellak (New York: Knopf, 1950), pp. 260-262.

²⁹Levy, op. cit., p. 270.

³⁰Emanuel F. Hammer, The Clinical Application of Projective Drawings (Springfield, Illinois: Charles C. Thomas, 1958), p. 101.

³¹Urban, loc. cit.

and 91 female introductory psychology students was 16.10 cm, 6.34 inches.³² Craddick tested 121 college males between the ages of 17 and 24 years of age ($M = 19.3$), who were sophomores in an introductory psychology class. They were asked to draw a picture of a man, and from these students, 20 were randomly selected and considered for a control group. He found that the mean height of the drawings from this "normal" group was 13.40 cm, 5.36 inches ($SD = 4.26$).³³ Gravitz tested 100 normal (i.e. nonpsychopathological) applicants for a wide variety of vocational positions. None exhibited obvious signs of emotional disturbance during pretest interviews. The Henmon Nelson Test of Mental Ability was routinely administered to all Ss. The subjects were required to draw a human figure within five minutes on a sheet of white paper. A space of 221 x 202 (8.84 x 8.08 inches) was available for the drawing. He found that the mean height of the male drawings was 13.61 cm, 5.36 inches ($SD = 36.2$). For females the mean height was 13.36 cm, 5.26 inches ($SD = 41.5$). Total mean height for both sexes was 13.49 cm, 5.31 inches ($SD = 38.9$) which was 60 percent of the

³²G. F. Lehner and E. K. Gunderson, "Height Relationships In The DAP Test, Journal of Personality, 21: 392-396, 1953.

³³R. A. Craddick, "DAP Characteristics of Psychopathic Prisoners and College Students", Perceptual and Motor Skills, 15: 12, 1962.

available space of the test form.³⁴ Lehner and Gunderson discovered that results obtained from 241 figures drawn by 121 introductory psychology male students and 205 figures drawn by 91 introductory psychology female students indicated that mean figure height drawn by males was 15.77 cm, 6.21 inches, while it was 17.20 cm, 6.77 inches for females.³⁵ Reznikoff and Nicholas found that the mean figure drawing size of 31 paranoid patients was 16.15 cm, 6.36 inches while 30 patients judged entirely free of paranoid characteristics produced drawings which averaged 14.63 cm, 5.76 inches.³⁶

Investigations of the Small Height-Depression Interpretation

Little is stated explicitly in the literature regarding figure drawing interpretation and in the clinical setting this technique of personality analysis is, "A rather intuitive procedure based partially on a kind

³⁴M. A. Gravitz, "The Height of Normal Adult Figure Drawings", Journal of Clinical Psychology, 24 (1): 75, 1968.

³⁵Lehner and Gunderson, loc. cit.

³⁶M. Reznikoff and A. Nicholas, "An Evaluation of Human Figure Drawing Indicators of Paranoid Pathology", Journal of Consulting Psychology, 22 (5): 395-397, 1958.

of human figure drawing lore"³⁷ The most detailed and explicit exposition of human figure drawing analysis published to date is Machover's Personality Projection in the Drawing of the Human Figure.³⁸ Since her publication in 1949, the Draw-A-Person Test (DAP) has become an instrument, "Used routinely by many clinical psychologists".³⁹ Machover inferred that, "Micrographic figures are encountered frequently in the deeply repressed and neurotically depressed individuals".⁴⁰ Pepitone and Gray stated, "Swenson found no clear-cut support for any hypothesis upon which the interpretation of the DAP is based; at best the evidence was equivocal".⁴¹ In The DAP Catalogue for Interpretive Analysis, Urban stated that, "Diminutive or micrographic size in human drawings suggests that the individual is deeply depressed".⁴² There is little empirical evidence to support Urban's statement.

Lewinsohn's research empirically supports the impression of Machover that persons in a depressed state are likely to draw human figures that are smaller than those of persons not in such a state.⁴³ This difference

³⁷S. Fisher and R. Fisher, "Test of Certain Assumptions Regarding Figure Drawing Analysis", Journal of Abnormal and Social Psychology, 45: 727, 1950.

³⁸Ibid.

³⁹Machover, loc. cit.

⁴⁰Machover, loc. cit.

⁴¹Pepitone and Gray, loc. cit.

⁴²Urban, loc. cit.

⁴³Lewinsohn, loc. cit.

has been attributed to the, "Reduced productivity and minimal energy expenditure that characterizes depressed persons".⁴⁴ In Lewinsohn's study the two independently obtained measures of feelings of depression (physician's rating, Lorr Factor A-retarded depression versus manic excitement scores) were found to be negatively related to height of figure drawings. In the study using the physician's ratings, human figure drawings of 50 depressed patients (25 males, 25 females) were found to be significantly shorter ($p < .01$) than those of 50 nondepressed patients. The mean height of figures drawn by depressed males was 15.14 cm or 5.96 inches; nondepressed males 17.17 cm or 6.76 inches; depressed females 14.53 cm or 5.72 inches; and nondepressed females 17.07 cm or 6.72 inches.⁴⁵

Utilizing the MMPI D scale as the measure of depression, Roback and Webersinn's research revealed a significant difference ($p < .01$) in the height of human figure drawings between depressed (D scale score of $T > 67$) and nondepressed ($T < 67$) female patients. The depressed females had the smaller drawings. However, similar findings were not found between human figure drawings of depressed and nondepressed males. The findings of this

⁴⁴Rapaport, Gill and Schafer, loc. cit.

⁴⁵Lewinsohn, loc. cit.

study, which revealed an inconsistent relationship between depression and size of human figure drawing in males, did not support those of Lewinsohn.⁴⁶ Findings from the second study (N of 46) by Roback and Webersinn using the patient's physician's ratings to indicate depression did not reveal a significant difference in the height of human figure drawings between depressed and nondepressed female and male patients.

In Cramer-Azima's study of the drawings of a man under ACTH treatment for berylliumdust poisoning, it was noted that when the patient was meek and depressed at the beginning of treatment, he drew a human figure drawing that was 8.26 cm, 3.25 inches high. After 21 days of treatment the patient was showing signs of euphoria and later became grandiose. At this time, his human figure drawing was 21.59 cm, 8.50 inches tall. After the discontinuation of treatment, when the patient's behavior became less euphoric and expansive he drew a figure 16.51 cm, 6.50 inches tall. In this case, the size of the figure seemed to increase as the subject became more euphoric, and the figure became smaller as he became less euphoric. Gutman noted that patients who improved in therapy tended

⁴⁶Roback and Webersinn, loc. cit.

to draw figures that were more than 10.16 cm, 4.00 inches tall.⁴⁷

Possible Variables Other Than Depression Resulting In Small Human Figure Height

It may be that variables other than depression result in small figure drawings. For example, Gray and Pepitone found that subjects with low self-esteem drew small figures although they were not depressed.⁴⁸ Lakins hypothesized that institutionalized aged subjects would have lower self-esteem than non-institutionalized aged, and therefore would draw smaller drawings. His hypothesis was confirmed.⁴⁹ There is some evidence to suggest that the size of the figure reflects self-esteem, but the evidence is not consistent.⁵⁰ Anxiety producing intrapsychic processes activated by drawing the human figure and the laboratory stress situation should be considered as variables affecting the size of drawings. The effect of client-examiner relationship on the projective productions may be a variable that effects figure size.

⁴⁷Swenson, op. cit., p. 464, 1957.

⁴⁸Roback and Webersinn, loc. cit.

⁴⁹M. Lakin, "Formal Characteristics of Human Figure Drawings by Institutionalized and Non-institutionalized Aged", Journal of Gerontology, 15: 75, 1960.

⁵⁰C. H. Swenson, "Emperical Evaluations of Human Figure Drawings: 1957 - 1966", Psychological Bulletin, 70: 30, 1968.

Sinnett and Eglash analyzed the variation in the size of drawn figures with manipulation of the examiner-subject relationship. They concluded that the size of the figure may very well be of importance in the analysis of the client's relationship with the examiner.⁵¹ In a similar experiment, but using four experienced clinical judges, Holtzman concluded that no variations in the drawings could be attributed to the examiners personality, sex or physical appearance.⁵² The possible influence of age on figure drawing size should be considered. Lehner and Gunderson found that men tend to draw smaller figures beyond the age of 30, and women tend to draw smaller figures beyond the age of 40.⁵³ Studies in this area are contradictory. A variety of other studies found size related to such things as: father being present in a

⁵¹E. R. Sinnett and A. Eglash, "The Examiner-Subject Relationship As A Variable in the DAP Test" (Paper presented at the Midwestern Psychological Association Meeting, Detroit, Michigan, 1950).

⁵²W. H. Holtzman, "The Examiner As A Variable in the DAP Test", Journal of Consulting Psychology, 16: 148, 1952.

⁵³Lehner and Gunderson, op. cit., p. 399.

boy's home;⁵⁴ presence of brain tumor;⁵⁵ mental age;⁵⁶ and being a well-adjusted child.⁵⁷

This review of the literature related to height of human figure drawing and depression has considered: depression in general; the MMPI; the D Scale; the BDI; correlation between the D Scale and the BDI; the DAP; studies revealing height of human figure drawings; research related to the small-human-figure-height-depression hypothesis; and finally this chapter explored literature concerned with variables other than depression which may result in small human figure height. Much of the available research related to the small-human-figure-height-depression hypothesis is inconsistent and further investigation is needed.

⁵⁴ M. Lawton and L. Sechrest, "Figure Drawing By Young Boys From Father-Present and Father-Absent Homes", Journal of Clinical Psychology, 18: 304-305, 1962.

⁵⁵ M. Mabry, "Serial Projective Drawings in a Patient With a Malignant Brain Tumor", Journal of Projective Techniques, 28: 206-209, 1964.

⁵⁶ G. H. Zuk, "Relation of Mental Age to Size of Figures on the Draw-A-Person Test", Perceptual and Motor Skills, 14: 410, 1962.

⁵⁷ E. Koppitz, "Emotional Indicators on Human Figure Drawings of Children: A Validation Study", Journal of Clinical Psychology, 22: 313-315, 1966.

CHAPTER 3

METHODS AND PROCEDURES

This chapter presents the procedures followed in this study. Included in the chapter are the population and sampling, materials and instrumentations, design of the study, data collection, and data analysis.

POPULATION AND SAMPLING

Data for two of the groups of subjects used in this study came from male and female inpatients at a state psychiatric hospital in Kansas. Age range was 18-61 years (M = 28.9). The subjects were voluntarily admitted for hospitalization or were referred by the court or their families. The criterion for diagnostic classification of the status "patient" was the established psychiatric diagnosis made by the hospital staff, based on the classificatory nomenclature of the Diagnostic and Statistical Manual of Mental Disorders, second edition (DSM II)¹. Because of the limited number of valid MMPI's and valid DAP's, data for these two inpatient groups were

¹American Psychiatric Association, Diagnostic and Statistical Manual of Mental Disorders. Second edition. (Washington, D.C.: American Psychiatric Association, 1968).

collected from psychological test files from 1980 and previous years. Data from 120 files were used (60 males and 60 females). The nonpatient subjects comprising the third group were 60 volunteer hospital employees (30 males, 30 females) who were employed at this same psychiatric hospital. Age range was 18-61 years ($M = 34.5$). Their mean educational grade level was 12.8. The group included both nursing and non-nursing personnel.

MATERIALS AND INSTRUMENTATION

The inpatients received the MMPI and DAP as part of the admission battery of psychological tests. These were given individually or in a group. They were administered and scored by hospital psychometric technicians or psychologists who had no knowledge of the hypothesis being tested and therefore were free of experimental bias. These tests were then filed at the hospital. Permission was obtained from the hospital Program Evaluation and Human Rights Committee to collect data for this study from these files (See Appendix A).

The instrument utilized to measure depression in the two inpatient groups was the MMPI (booklet or Form R, 399 items, taped versions included). The MMPI is a standardized inventory designed to elicit a wide range of self-descriptions from each subject and to provide in

quantitative form a set of evaluations of his/her personality status and adjustment. To complete the MMPI, patients were asked to answer the 399 different items either true or false as they apply to them. The answers to the MMPI were placed on a separate answer sheet. There was no time limit for the test. Because of questionable reading ability on the MMPI, a profile with an estimated I.Q. of less than 80 (Wais, Shipley, Ravens equivalent) was considered invalid and data from such a file was not used for this study. There are 13 scoring keys for the MMPI, one for each of the 10 clinical scales and three for the validity scales. The Cannot Say Scale (?) is obtained by adding up all the unanswered items. Invalid MMPI's which were not used for this study were defined as having a Cannot Say (?) validity scale of 15 or more, T scores on either the K or L validity scales of 70 or above, or an F validity scale of 100 or above. Specifically, the clinical scale of depression (D scale) was checked to determine depression. The 60 items comprising the D scale, "Reflect behavioral correlates of clinical depression, including item content which is concerned with apathy, unhappiness, diminished external interest, physical symptoms, denial of personal worth, poor morale, inability to work, moodiness, feelings of

hopelessness and sorrow".^{2, 3} The depressed inpatient group was determined by inpatient status and T scores on the D scale between 80-100 on valid MMPI's (booklet or Form R, 399 items, taped versions included). The non-depressed inpatient group was determined by inpatient status and T scores on the D scale between 45-60 on valid MMPI's (booklet or Form R, 399 items, taped versions included).

The DAP was utilized as the test instrument offering a measurement of human figure drawing height. The administration of the DAP was given to the inpatient subjects during administration of routine psychological testing. In most instances the DAP was administered individually. Standard directions and materials were given. Only valid DAP's were used for the study. The height of each figure was measured along the vertical axis including any ornamentation, such as hats, or hairstyle that fell on this axis. To insure uniformity, the same ruler was used for all the measuring. Each figure

²S. R. Hathaway and J. C. McKinley, "Scale 2 (Depression)," in G. S. Welsh and W. G. Dahlstrom, Basic Reading on the MMPI in Psychology and Medicine. (Minneapolis: University of Minnesota Press, 1956) pp. 73-80.

³M. A. Gravitz, "Self-Described Depression and Scores on the MMPI Scale in Normal Subjects", Journal of Projective Techniques and Personality Assessment, 32: 88, 1968.

height was measured to the nearest centimeter. If a testing file contained two figures, the first figure drawn was measured. Only valid DAP's were measured. They had to include a full length drawing of a person, to include a head, body, legs and feet. Also, for data to be used, the DAP and MMPI had to have been completed within two weeks of one another.

Because of the time factor involved in taking the 399 item MMPI, the 21-item BDI was chosen to be given to the non-patient group to determine depression. The group of nondepressed, nonpatient subjects was determined by nonhospitalized patient status and a score of seven or lower on the 21-item BDI. The BDI is a self-rating measurement of depression developed by Beck in 1961. Permission was obtained to use this inventory for this study, (See Appendix B). Numerous studies have confirmed the high concurrent validity of this inventory.⁴ Employees volunteered to participate. Twenty-seven of these employees were administered the BDI and DAP in one large group setting. The rest of the employees were administered the two tasks in small groups of two to four. They were instructed to leave their names and/or identifying factors off. This was done to maintain confidentiality.

⁴A. T. Beck and R. W. Beck, "Screening Depressed Patients in Family Practice: A Rapid Technique, Post-graduate Medicine", 52: 81-85, 1972.

Also, it was hoped more honest responses would be elicited. Age, sex, race, and highest educational grade reached was requested. Data from employees with a sixth grade education or lower were discarded because it was felt that the BDI would not have been understood.

To provide an opportunity for completion of both the BDI and DAP in one setting, directions for both were given on a two page questionnaire (See Appendix C). Two white, unlined typing sheets, 8.5 x 11 were used. Written directions were provided as follows: "Read each group of statements. Circle the number to indicate which statement best describes the way you feel today. When you've answered all 21 statements, turn to the back of the first page and draw a picture of a person". The time required to complete the BDI and DAP varied with each employee. Time for completion ranged from 10 to 15 minutes. Obtaining a total score on the BDI was accomplished by adding up the numbers corresponding to the chosen statements. Those employees choosing to participate read and signed a hospital consent-for-research form which was turned into the hospital. Human figure drawings from employees having a score of seven or lower on the BDI were measured. The measurement was taken with the same ruler and in the same manner as heights in the inpatient groups. Only drawings of a full length person, which included a head, body, legs and feet were measured.

DESIGN OF THE STUDY

This study was aimed toward determining whether or not a significant relationship existed between the height of human figure drawing and depression. The three groups used in this study were: depressed inpatients, non-depressed inpatients, and nondepressed nonpatient subjects. The sample consisted of 180 subjects between the ages of 18 and 61 ($M = 30.7$), residing in Kansas. Each of the three groups contained an equal number of females and males and were randomly selected. Two groups of subjects were inpatients in a state psychiatric hospital. The third group consisted of employees at this state hospital.

The instrument used to determine the depth of depression in the inpatient subjects was the D scale score on the MMPI. The BDI was the instrument used to determine nondepression in nonpatient group. The DAP provided a human figure height measurement.

The three groups were compared to determine the relationship between human figure height and depression. Gender differences were also compared. A 2x3 ANOVA between subjects design was used.

DATA COLLECTION

Permission was obtained from a psychiatric hospital Program Evaluation and Human Rights Committee to

collect inpatient data for this study from inpatient psychological test files. Confidentiality was maintained. The investigator went through every psychological test file A-Z dating from 1958 to November, 1980, and checked for files containing both a valid MMPI and DAP that were completed within two weeks of one another, and whose profiles showed I.Q.'s of 80 or above. Profiles of inpatients aged 17 or younger were not used. MMPI D scale scores were recorded and DAP figure heights were measured. Age, sex, I.Q. and date of testing were also recorded. Two groups (depressed, nondepressed) were made from the usable files. These two groups were divided into males and females. The male depressed group was assigned consecutive numbers from zero to 34 as was the male nondepressed group. The female depressed group was assigned consecutive numbers from zero to 34 as was the female nondepressed group. Random numbers were then selected from a Table of Random Digits, consecutively, beginning at the top of the first vertical column downward, then from the beginning of the top of the second vertical column downward, and so on.⁵ The data were selected whose assigned numbers matched the random digits.

⁵ Edward W. Minium, Statistical Reasoning in Psychology and Education, (New York: Wiley & Sons, 1970) p. 454.

Upon obtaining permission from the same committee, 77 BDI's and DAP's were obtained from employees at the same hospital who volunteered to participate. Assurances of confidentiality were given. Data were obtained from a level I psychiatric aide class of 27. Other smaller gatherings of employees were also utilized from the following departments; maintenance, security, and nursing (evening and night shifts from four psychiatric adolescent units, six psychiatric adult units, one youth rehabilitation unit, and two adult chemical dependency units). Of these 77, data from seven subjects were discarded on the basis of failure to answer all 21 items; having a score of above seven on the BDI; invalid DAP's and/or educational grade levels of six or lower. Also, data from employees aged 17 or younger were not used. From the remaining employee data, two groups (male, female) were made. Data from 30 males and 30 females were randomly selected using the Table of Random Digits in the same way as data were selected from the inpatient groups.

DATA ANALYSIS

In order to test whether the means of the three groups and the means of the two sexes were significantly different, a 2x3 ANOVA between subjects analysis of variance

(ANOVA) was used (See Table 1).⁶ The .05 level of confidence was used to determine statistical significance. The following diagram illustrates the design used:

HUMAN FIGURE DRAWING HEIGHTS

	Depressed Inpatients	Nondepressed Inpatients	Nondepressed Nonpatients
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SEX			
Male			
Female			

⁶M. Linton and P. Gallo, "The Practical Statistician: Simplified Handbook of Statistics. (California: Brooks (Cole Publishing Co., 1975) pp. 145-155.

CHAPTER 4

ANALYSIS OF DATA

The purpose of this chapter is to present the analysis of data. Included in this chapter are the results of the two-way between-subjects analysis of variance (ANOVA) on the height of human figure drawings.

The analysis of variance of the cell means for human figure height (See Tables 1, 2, 3) showed no significant difference at the .05 level. An F of 1.19 was obtained when the heights of human figures drawn by the three groups of subjects classified according to the amount of depression they were experiencing (Factor A) were compared. An F of .04 was obtained when the heights of human figures drawn by males were compared to human figure heights drawn by females (Factor B). When the heights of human figures drawn by the three groups were compared to gender (AxB) an F of .03 was obtained. This indicated that there were no significant differences between human figure heights drawn by male and female subjects, or between heights drawn by depressed inpatients, nondepressed inpatients, and nondepressed nonpatient subjects.

Table 1
 Summary Table: Two-Way Between-Subjects ANOVA
 (Linton and Gallo, 1975)

Source	df	Sum of Squares (SS)	Mean Square (MS)	F
Factor A	a - 1	$SS_A = \frac{\sum_{A=1}^a T_A^2}{n} - \frac{G^2}{N}$	$MS_A = \frac{SS_A}{a - 1}$	$\frac{MS_A}{MS_{Error}}$
Factor B	b - 1	$SS_B = \frac{\sum_{B=1}^b T_B^2}{n} - \frac{G^2}{N}$	$MS_B = \frac{SS_B}{b - 1}$	$\frac{MS_B}{MS_{Error}}$
A X B	(a - 1)(b - 1)	$SS_{AB} = \frac{\sum_{AB=1}^{ab} T_{AB}^2}{n} - \frac{G^2}{N} - SS_A - SS_B$	$MS_{AB} = \frac{SS_{AB}}{(a - 1)(b - 1)}$	$\frac{MS_{AB}}{MS_{Error}}$
Error	N - ab	$SS_{Error} = SS_{Total} - SS_A - SS_B - SS_{AB}$	$MS_{Error} = \frac{SS_{Error}}{N - ab}$	

Total	N - 1	$SS_{Total} = \sum X^2 - \frac{G^2}{N}$		

Table 2
Raw Score Data of Human Figure Drawing Heights

		NONDEPRESSED NONPATIENTS (A ₁)			NONDEPRESSED PATIENTS (A ₂)			DEPRESSED PATIENTS (A ₃)			
MALE (B ₁)		8.1	9.8	12.6	22.7	14.3	14.0	12.8	15.5	9.0	\bar{X} Total = 12.86
		6.5	21.5	16.3	18.5	4.6	21.5	8.1	19.5	10.8	
		12.5	18.6	6.5	7.3	10.5	11.6	7.5	12.7	6.5	
		10.3	21.2	4.3	6.0	6.0	8.7	18.0	12.6	19.4	
		14.3	17.3	17.4	8.4	20.6	16.0	13.0	7.0	11.5	
		10.8	9.8	8.9	7.2	20.8	12.2	5.3	16.0	19.0	
		12.6	9.0	4.6	18.3	6.8	10.0	9.4	13.0	7.0	
		10.1	17.1	4.5	23.5	14.4	14.0	25.3	22.0	8.5	
		8.0	20.8	5.0	19.0	16.5	8.0	24.7	21.0	10.2	
		17.5	16.0	12.1	22.1	8.3	10.1	4.3	14.0	7.7	
		$\bar{X}=12.13$	$X^2=5213.40$		$\bar{X}=13.40$	$X^2=6364.77$		$\bar{X}=13.04$	$X^2=6093.45$		
FEMALE (B ₂)		13.0	4.4	17.3	9.5	6.4	16.0	11.8	7.3	25.3	\bar{X} Total = 13.23
		8.6	7.9	15.6	14.6	10.0	13.4	20.0	6.5	18.7	
		22.5	3.0	13.5	8.7	22.3	11.0	9.5	7.5	19.4	
		18.0	13.1	18.3	10.0	13.0	20.0	14.5	11.0	11.2	
		5.4	7.2	27.9	19.7	24.0	2.4	11.6	21.3	22.7	
		6.5	10.6	12.9	5.5	8.0	18.0	3.5	18.0	8.7	
		10.3	16.5	8.1	13.0	12.3	11.2	7.0	11.0	12.3	
		15.4	12.5	16.6	15.5	19.0	19.5	15.0	13.0	17.5	
		9.8	11.0	7.0	12.0	13.0	15.0	8.2	22.0	12.4	
		12.1	10.3	9.0	12.4	26.0	13.5	11.5	14.9	11.8	
		$\bar{X}=12.14$	$X^2=5288.27$		$\bar{X}=13.83$	$X^2=6608.25$		$\bar{X}=13.50$	$X^2=6338.63$		
		\bar{X} Total=12.14				\bar{X} Total=13.62				\bar{X} Total=13.27	

Table 3
Analysis of Variance Summary Table

Source	df	SS	MS	F	p
A (classification of subjects)	2	71.59	35.80	1.19	NS
B (sex of subjects)	1	4.08	4.08	.14	NS
A x B	2	1.71	.86	.03	NS
Error	174	5370.38	30.13		

Total	179	5447.76			

SUMMARY

The 2x3 between-subjects analysis of variance found no significant differences at the .05 level of confidence. Therefore, the null hypotheses were retained as follows: there was no significant difference in human figure heights drawn by male and female subjects; there was no significant difference between the height of human figure drawings drawn by depressed inpatients, nondepressed inpatients, and nondepressed nonpatient subjects.

CHAPTER 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter is divided into three sections designed to present an overview of the essential elements of the study, evaluate the results, and make recommendations for future research. Included in this chapter are the summary, conclusions, and recommendations sections.

SUMMARY

This study was an attempt to discern if there were significant differences in the height of human figures drawn: by male and female subjects; by depressed inpatients, nondepressed inpatients, and nondepressed nonpatient subjects.

Little research has been established concerning human figure drawing height as a measure of depression. Furthermore, of the limited research that has been done, controversy existed concerning the Draw-A-Person Test assumption that a significant relationship does exist between small human figure drawing height and depression.

The sample in this study consisted of 180 subjects between the ages of 18 and 61 ($M = 30.7$), residing in Kansas. Each of the three groups contained an equal

number of females and males that were randomly selected. Two groups of subjects were inpatients in a state psychiatric hospital. The third group consisted of employees at this state hospital.

The instrument used to determine the depth of depression in the inpatient subjects was the D scale score on the MMPI. The BDI was the instrument used to determine nondepression in the nonpatient group. The DAP Test provided a human figure height measurement. A 2x3 between-subjects analysis of variance was used to analyze the data.

CONCLUSIONS

Analysis of variance showed no significant difference at the .05 level of confidence between height of human figure drawings when the sex of the subject was male or female. Furthermore, there was no significant difference between the height of human figure drawings drawn by depressed inpatients, nondepressed inpatients, and nondepressed nonpatient subjects. Therefore, statistical analyses of the data in this study support the null hypotheses.

The results of this study suggest that there is no significant difference between male and female subjects in height of human figures drawn. Furthermore, this study suggests that persons in a depressed state are not

likely to draw human figures that are significantly shorter in height than those of persons not in such a state.

The results of the current study do not offer empirical evidence in support of Machover's or Urban's inferences that micrographic size in human drawings suggest that the individual is depressed. It could be speculated that Machover and Urban were referring to heights of human figure drawings of patients diagnosed neurotic depressive, excluding patients with other types of depression. The current study included patients with all types of depression. The difference between Machover's and Urban's inferences and the findings of this study could possibly be due to this inconsistency. The results of the current study also differ with Lewinsohn's research (physician's rating of depression), which supported the impression of Machover that persons in a depressed state are likely to draw human figures that are smaller than those persons not in such a state.¹

Roback and Webersinn utilized the MMPI D scale as a measure of depression and found a significant difference in the height of human figure drawings between depressed and nondepressed female patients but not between depressed and nondepressed male patients. The results of the current study differ with Roback and Webersinn concerning the results of

¹Lewinsohn, loc. cit.

the female patients but agree with the findings which revealed an inconsistent relationship between depression and size of human figure drawing by male patients. Depression was indicated by a cut-off on the MMPI D scale of $T > 67$ (nondepression = $T < 67$) in Roback and Webersinn's study. In the current study, depression was indicated by a T of 80-100 (nondepression = T of 45-60). Differences between the research findings of the female patients could possibly be due to this inconsistency.

The current study is in agreement with the findings from the second study by Roback and Webersinn using the patient's physician's ratings to indicate depression, which did not reveal a significant difference in the height of human figure drawing between depressed and nondepressed female and male patients.

And finally, Pepitone and Gray stated, "Swenson found no clean-cut support for any hypothesis upon which the interpretation of the DAP is based; at best the evidence was equivocal."² The results of the current study are in agreement with Swenson concerning the lack of support for the small-height-depression interpretation.

²Pepitone and Gray, loc. cit.

RECOMMENDATIONS

In view of the findings and conclusions of this study, the following recommendations are made:

1. Administering the same depth of depression test measurement to all the groups is suggested.

2. Administering the depth of depression test measurement and the DAP to all the subjects under the same environmental conditions (same time, place, examiner), would be an improvement in the design.

3. Collecting three human figure drawings (first person, opposite sex person, self-drawing), and obtaining an average height of the three is recommended.

4. An approach which used subjects as their own controls would enhance the validity for future research.

5. Additional research is needed to consider other factors which may affect height of human figure drawing such as: subject-examiner relationship, anxiety caused by laboratory stress, presence of a brain tumor, mental age, and low self-esteem.

6. Dividing a sample of patients according to types of depression, measuring each group's human figure drawing heights, and testing for relationships is suggested. The results could be beneficial in determining reasons for past inconsistencies among research findings and could aid in developing future study designs.

BIBLIOGRAPHY

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Books

- American Psychiatric Association, Diagnostic and Statistical Manual of Mental Disorders. 2nd edition. (Washington, D.C.: American Psychiatric Association, 1968).
- Beck, Aaron T. Depression: Clinical, Experimental, and Theoretical Aspects. New York: Harper & Row, 1967.
- Buros, O. K. The Seventh Mental Measurements Yearbook, Volume I. New Jersey: The Gryphon Press, 1972.
- Carson, R. "Interpretative Manual to the MMPI", in J. Butcher, MMPI: Research Development and Clinical Application. New York: McGraw-Hill, 279-296, 1969.
- Chaplin, J. P. Dictionary of Psychology. New York: Dell Publishing Co., Inc., 1968.
- Dahlstrom, G. W., Welsch, G. S. and Dahlstrom, L. E. An MMPI Handbook, Volume I: Clinical Interpretation. Minneapolis: University of Minnesota Press, 1973.
- Downie, N. M. and Heath, R. W. Basic Statistical Methods, 4th Edition. New York: Harper and Row Publishers, 1974.
- Drake, L. E. and Oetting, E. R. An MMPI Codebook for Counselors. St. Paul: North Central Publishing Co., 1959.
- Drever, James. A Dictionary of Psychology. Baltimore: Penquin Book, 1952.
- Duckworth, Jane and Duckworth, Edwin. MMPI Interpretation Manual for Counselors and Clinicians. Indiana: Accelerated Development Inc., 1975.
- Gilberstadt, Harold and Duker, Jan. A Handbook for Clinical and Acturial MMPI Interpretation. Philadelphia: W. B. Saunders, 1965.

- Graham, J. R. The MMPI: A Practical Guide. New York: Oxford University Press, 1977.
- Hammer, Emanuel F. The Clinical Application of Projective Drawings. Springfield, Illinois: Charles C. Thomas, 1958.
- Harriman, P. L. Handbook of Psychological Terms. New Jersey: Littlefield, Adams, and Co., 1974.
- Hathaway, S. R. and J. C. McKinley. "Scale 2 (Depression)", in G. S. Welsh and W. G. Dahlstrom, Basis Reading on the MMPI in Psychology and Medicine. Minneapolis: University of Minnesota Press, 73-80, 1956.
- Lanyon, Richard I. A Handbook of MMPI Group Profile. Minneapolis: Lund Press, Inc., 1968.
- Levy, Sidney. "Figure Drawing as a Projective Test", in L. E. Abt. and L. Bellak, Projective Psychology. New York: Knopf, 257-297, 1950.
- Linton, Marigold, and Gallo, Phillip S. The Practical Statistician: Simplified Handbook of Statistics. California: Brooks/Cole Publishing Co., 1975.
- Machover, Karen. Personality Projection in the Drawing of the Human Figure. Springfield, Illinois: Charles C. Thomas, 1949.
- Minium, Edward. Statistical Reasoning in Psychology and Education. New York: Wiley & Sons, 1970) p. 454.
- Pichot, P. Psychological Measurements in Psychopharmacology. Paris: Karger, Basel, 1974.
- Rapaport, D., Gill, M. and Schafer, R. Diagnostic Psychological Testing. Chicago, Illinois: Yearbook Publications, 1966.
- Swinn, R. M. and Oskamp, S. The Predictive Validity of Projective Measures. Springfield, Illinois: Charles C. Thomas, 1969.
- The Random House College Dictionary, Revised Ed. Jess Stein. New York: Random House, Inc., 1980.
- Urban, William H. The Draw-A-Person Catalogue for Interpretative Analysis. Los Angeles, California: Western Psychological Services, 1968.

Webster 3rd New International Dictionary, Unabridged Ed.
P. B. Cove. Massachusetts: G. & C. Merriam
Company, 1961.

Wiggins, J. S. "Content Dimensions in the MMPI", in J.
Butcher, MMPI: Research Developments and Clinical
Applications. New York: McGraw-Hill, 131-133,
1969.

Wolman, B. B. Dictionary of Behavioral Sciences. New
York: Van Norstrand Company, 1973.

Periodicals

- Arbit, J., Lakin, M. and Mathis, A. "Clinical Psychologists Utilization of Human Figure Drawing", Journal of Clinical Psychology, 15: 325-327, 1959.
- Beck, A. T., Ward, C. H., Mendelson, M., Mock, J., and Erbaugh, J. "An Inventory for Measuring Depression", Archives of General Psychiatry, 4: 561-571, 1961.
- Beck, A. T., and Beck, R. W. "Screening Depressed Patient in Family Practice: A Rapid Technique", Post-graduate Medicine, 52: 81-85, 1972.
- Craddick, R. A. "DAP Characteristics of Psychopathic Prisoners and College Students", Perceptual and Motor Skills, 15: 11-13, 1962.
- Fisher, S. and Fisher, R. "Test of Certain Assumption Regarding Figure Drawing Analysis", Journal of Abnormal and Social Psychology, 45: 727-732, 1950.
- Goldstein, A. P. and Rawn, M. L. "The Validity of Interpretive Signs of Aggression in the Drawing of the Human Figure", Journal of Clinical Psychology, 13: 169-171, 1957.
- Gravitz, M. A. "Normal Adult Differentiation Patterns on the Figure Drawing Test", Journal of Projective Techniques and Personal Assessment, 30: 471-473, 1966.
- Gravitz, M. A. "The Height of Normal Adult Figure Drawings", Journal of Clinical Psychology, 24 (1): 75, 1968.
- Gravitz, M. A. "Self-Described Depression and Scores on the MMPI Scale in Normal Subjects", Journal of Projective Techniques and Personality Assessment, 32: 88-91, 1968.
- Gunderson, E. K. and Lehner, G. F. "Reliability in Projective Test (D-A-P)", The American Psychologist, 4 (1): 387, 1949.
- Hammer, Emanuel F. "D-A-P: Back Against the Wall", Journal of Consulting and Clinical Psychology, 33: 151-156, 1969.

- Holzberg, J. D. and Wexler, M. "The Validity of Human Form Drawings as a Measure of Personality Deviation", Journal of Projective Techniques, 14: 343-361, 1950.
- Holtzman, W. H. "The Examiner As A Variable in the DAP Test". Journal of Consulting Psychology, 16: 145-148, 1952.
- Koppitz, E. "Emotional Indicators On Human Figure Drawings of Children: A Validation Study", Journal of Clinical Psychology, 22: 313-315, 1966.
- Lakin, M. "Formal Characteristics of Human Figure Drawings By Institutionalized and Non-institutionalized Aged", Journal of Gerontology, 15: 76-78, 1960.
- Lawton, M. and Sechrest, L. "Figure Drawings by Young Boys From Father-Present and Father-Absent Homes", Journal of Clinical Psychology, 18: 304-305, 1962.
- Lehner, G. F. and Gunderson, E. K. "Reliability of Graphic Indices in a Projective Test (DAP)", Journal of Clinical Psychology, 8: 125-128, 1952.
- Lehner, G. F. and Gunderson, E.K. "Height Relationship in the DAP Test", Journal of Personality, 21: 392-399, 1953.
- Lewinsohn, Peter M. "Relationship Between Height of Figure Drawings and Depression in Psychiatric Patient", Journal of Consulting Psychology, 28: 380-381, 1964.
- Lewinsohn, Peter M. "Psychological Correlates of Overall Quality of Figure Drawings", Journal of Consulting Psychology, 29 (6): 504-512, 1965.
- Mabry, M. "Serial Projective Drawings in a Patient With a Malignant Brain Tumor", Journal of Projective Techniques, 28: 206-209, 1964.
- Metclafe, M. and Goldman, E. "Validation of an Inventory for Measuring Depression", British Journal of Psychiatry, 111: 240-242, 1965.

- Pepitone, A. and Gray, D. M. "Effect of Self-Esteem on Drawings of the Human Figure", Journal of Consulting Psychology, 28: 452-455, 1964.
- Reznikoff, M. and Nicholas, A. "An Evaluation of Human Figure Drawing Indicators of Paranoid Pathology", Journal of Consulting Psychology, 22 (5): 395-397, 1958.
- Roback, H. and Webersinn, A. "The Size of Figure Drawings of Depressed Psychiatric Patients", Journal of Abnormal Psychology, 71 (6): 416, 1966.
- Schwab, J. J., Biglow, M., Brown, J. M. and Holzer, C. E. "Diagnosing Depression In Medical Inpatients", International Medicine, 67: 695-707, 1967.
- Swenson, C. H. "Empirical Evaluations of Human Figure Drawings", Psychological Bulletin, 54: 431-466, 1957.
- Swenson, C. H. "Empirical Evaluations of Human Figure Drawings; 1957-1966". Psychological Bulletin, 70: 20-44, 1968.
- Sunberg, N. "The Practice of Psychological Testing in Clinical Services in the United States", American Psychologist, 16: 79-83, 1961.
- Zuk, G. H. "Relation of Mental Age to Size of Figures on the Draw-A-Person Test", Perceptual and Motor Skills, 14: 410, 1962.

Unpublished Works

Barraclough, B. M., Nelson, B., and Sainsbury, P. "The Diagnostic Classification and Psychiatric Treatment of 25 Suicides". Fourth International Conference, Suicide Prevention Center, Los Angeles, 1968.

Lehmann, H. E. "Epidemiology of Depressive Disorders; in Fieve Depression in the 70's", *Excepta Medica*, Amsterdam, 1971.

Nielson, A., Socundra, S. Friedman, R., and Williams, T. "Prevalence and Recognition of Depression Among Ambulatory Patients in a Group Medical Practice". Meeting of the American Psychiatric Association, Dallas, 1972.

Sinnott, E. R. and Eglash, A. "The Examiner-Subject Relationship as a Variable in the DAP Test". Paper presented at the Midwestern Psychological Association Meeting, Detroit, Michigan, May, 1950.

APPENDIXES

APPENDIX A

Hospital Human Rights Committee
Approval to use Hospital Psycho-
logical Test File Data and
Employee Sampling.

MEMO TO: Jerilyn Wiederholt, Psychology Department

FROM: _____, Chairman of Program Evaluation
and Human Rights Committee, _____ State Hospital

DATE: June 25, 1980

SUBJECT: Use of hospital records to prepare thesis for Master of
Science Degree in General Psychology

The Program Evaluation and Human Rights Committee has approved your request to use hospital records to provide information for your thesis. However, if possible, the committee would prefer for you to use the records of discharged patients rather than records of in-resident patients.

Please advise the committee if you have any difficulty complying with this condition of approval.

MEMO TO: Jerilyn Wiederholt - Psychology Department

FROM: _____, Chairman of Program Evaluation
and Human Rights Committee, _____ State Hospital

DATE: July 30, 1980

SUBJECT: Use of in-resident patient records to complete sampling
for thesis

The Program Evaluation and Human Rights Committee was advised of your problem obtaining the necessary sampling for your thesis from only discharged patients' files. The committee approved your using in-resident patients' records with the understanding, of course, that in the final report there would be no way of identifying individual patients.

If the committee can be of any further assistance to you, please let me know.

MEMO TO: Jerilyn Wiederholt, Psychology Department

FROM: _____, Chairman of Program Evaluation
and Human Rights Committee, _____ State Hospital

DATE: August 27, 1980

SUBJECT: Permission for you to ask hospital staff members to complete
material in order to assist with your thesis

The Program Evaluation and Human Rights Committee has approved your request to ask hospital staff members to complete material in order to help you with your thesis.

Please continue to keep the committee advised of your progress and of any assistance that we can give you in your work.

APPENDIX B

A. T. Beck Approval to
use the BDI in this study.

CENTER FOR COGNITIVE THERAPY

AARON T. BECK, M. D., DIRECTOR

ROOM 602

133 SOUTH 36TH STREET

PHILADELPHIA, PA. 19104

TELEPHONE: (215) 243-4100

August 29, 1980

Trilyn Wiederholt

, Kansas

Dear Ms. Wiederholt:

Thank you for your recent letter and interest in our scales and research. Unfortunately, Dr. Beck is on sabbatical and thus is not available at this time. I am responding to your request on his behalf.

As requested I have enclosed a copy of the most recent version of the Beck Depression Inventory as well as a list of suggested references. You have Dr. Beck's permission for use and reproduction of the Beck Depression Inventory for your thesis research. In return I would like to request that you send us copies of any reports or publications you prepare detailing the results of studies in which the scale was employed. These reports will be catalogued in our library which serves as a central resource for other researchers and clinicians.

With regard to your request for information on norms for the BDI in a "normal" population, we do not have that information but I have enclosed several references which may be of assistance to you.

If you have any further questions feel free to contact me. I will look forward to your results.

Sincerely,



Betsy Mitchell
Coordinator for Continuing
Education
for Aaron T. Beck, M.D.

/l1

enclosures

APPENDIX C

BDI and DAP Questionnaire
Distributed to Hospital
Employees.

NO NAMES PLEASE

Age ____ Sex _____ Race _____ Highest Educational Grade
Reached _____

DIRECTIONS: Read each group of statements. Circle the number to indicate which statement best describes the way you feel today. When you've answered all 21 statements, turn to the back of the first page and draw a picture of a person. Thanks for your cooperation.

1. 0 I do not feel sad.
1 I feel sad.
2 I am sad all the time and I can't snap out of it.
3 I am so sad or unhappy that I can't stand it.
2. 0 I am not particularly discouraged about the future.
1 I feel discouraged about the future.
2 I feel I have nothing to look forward to.
3 I feel that the future is hopeless and that things cannot improve.
3. 0 I do not feel like a failure.
1 I feel I have failed more than the average person.
2 As I look back on my life, all I can see is a lot of failures.
3 I feel I am a complete failure as a person.
4. 0 I get as much satisfaction out of things as I used to.
1 I don't enjoy things the way I used to.
2 I don't get real satisfaction out of anything anymore.
3 I am dissatisfied or bored with everything.
5. 0 I don't feel particularly guilty.
1 I feel guilty a good part of the time.
2 I feel quite guilty most of the time.
3 I feel guilty all of the time.

6. 0 I don't feel I am being punished.
1 I feel I may be punished.
2 I expect to be punished.
3 I feel I am being punished.
7. 0 I don't feel disappointed in myself.
1 I am disappointed in myself.
2 I am disgusted with myself.
3 I hate myself.
8. 0 I don't feel I am any worse than anybody else.
1 I am critical of myself for my weaknesses or mistakes.
2 I blame myself all the time for my faults.
3 I blame myself for everything bad that happens.
9. 0 I don't have any thoughts of killing myself.
1 I have thoughts of killing myself, but I would not carry them out.
2 I would like to kill myself.
3 I would kill myself if I had the chance.
10. 0 I don't cry anymore than usual.
1 I cry more now than I used to.
2 I cry all the time now.
3 I used to be able to cry, but now I can't cry even though I want to.
11. 0 I am no more irritated now than I ever am.
1 I get annoyed or irritated more easily than I used to.
2 I feel irritated all the time now.
3 I don't get irritated at all by the things that used to irritate me.
12. 0 I have not lost interest in other people.
1 I am less interested in other people than I used to be.
2 I have lost most of my interest in other people.
3 I have lost all of my interest in other people.
13. 0 I make decisions about as well as I ever could.
1 I put off making decisions more than I used to.
2 I have greater difficulty in making decisions than before.
3 I can't make decisions at all anymore.

14. 0 I don't feel I look any worse than I used to.
 1 I am worried that I am looking old or unattractive.
 2 I feel that there are permanent changes in my appearance that make me look unattractive.
 3 I believe that I look ugly.
15. 0 I can work about as well as before.
 1 It takes an extra effort to get started at doing something.
 2 I have to push myself very hard to do anything.
 3 I can't do any work at all.
16. 0 I can sleep as well as usual.
 1 I don't sleep as well as I used to.
 2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
 3 I wake up several hours earlier than I used to and cannot get back to sleep.
17. 0 I don't get more tired than usual.
 1 I get tired more easily than I used to.
 2 I get tired from doing almost anything.
 3 I am too tired to do anything.
18. 0 My appetite is no worse than usual.
 1 My appetite is not as good as it used to be.
 2 My appetite is much worse now.
 3 I have no appetite at all anymore.
19. 0 I haven't lost much weight, if any, lately.
 1 I have lost more than 5 pounds.
 2 I have lost more than 10 pounds.
 3 I have lost more than 15 pounds.
- I am purposely trying to lose weight by eating less. Yes _____ No _____
20. 0 I am no more worried about my health than usual.
 1 I am worried about physical problems such as aches and pains; or upset stomach; or constipation.
 2 I am very worried about physical problems and it's hard to think of much else.
 3 I am so worried about my physical problems, that I cannot think about anything else.

21. 0 I have not noticed any recent change in my
interest in sex.
1 I am less interested in sex than I used to be.
2 I am much less interested in sex now.
3 I have lost interest in sex completely.