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An Investigation of High and Low Self-Disclosers' Scores on the Holtzman Inkblot Technique

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AN INVESTIGATION OF HIGH AND LOW SELF-DISCLOSERS'

SCORES ON THE HOLTZMAN INKBLOT TECHNIQUE

by

Richard L. Atkins

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<div align="right">Richard L. Atkins</div>

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Scores on the Holtzman Inkblot Technique

by

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Utah State University, 1974

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The purpose of this study was to see if there are any differences in how high and low self-disclosers score on the Holtzman Inkblot Technique. The study employed a causal-comparative design for descriptive purposes.

Two hundred four college students were given a self-disclosure inventory, and high and low self-disclosers were randomly selected from the highest and lowest interquartile ranges. The fifty subjects were administered the group version of the Holtzman Inkblot Technique.

The results indicated that female high self-disclosers scored significantly higher on Barrier and significantly lower on Hostility than female low self-disclosers.

(67 pages)

INTRODUCTION

The Holtzman Inkblot Technique (HIT) was originally developed to overcome the shortcomings of the Rorschach Technique as a projective test of personality (Holtzman, Thorpe, Swartz & Herron, 1961). These deficiencies noted by Zubin (1954) are quoted as follows:

> (1) failure to provide an objective scoring system free of arbitrary conventions and showing high interscorer agreement; (2) lack of satisfactory internal consistency of test retest reliability; (3) failure of the individual Rorschach scoring categories to relate to diagnosis; (4) lack of prognostic or predictive validity with respect to outcome of treatment or later behavior; (5) inability to differentiate between groups of normal subjects; and (6) failure to find any significant relationships between Rorschach scores and intelligence or creative ability. (Holtzman et al., 1961, p. 5)

Holtzman felt that the psychometric shortcomings of the Rorschach could be overcome with forty-five inkblots, the subject giving one response per card, instead of ten cards with unlimited responses per card; and with a standard inquiry to control for examiner and subject interaction (Holtzman et al., 1961). Subsequent test reviewers of the HIT have felt that the instrument demonstrates very good reliability (Coan, 1965; Eysenck, 1965; Thelford, 1965; & Martin, 1968).

Although the HIT has demonstrated good reliability, Martin (1968) notes that HIT supporters must now demonstrate the value of the test or descriptions of what it measures; Eysenck (1965) also notes the lack of validity studies in Holtzman's book. Martin (1968, p. 481) notes that "Validation attempts to date have been in identifying gross pathological groups." Thus it appears more validity studies are needed on the HIT to overcome Zubins sixth criticism of the Rorschach, that is, to be able to differentiate between groups of normals.

The purpose of the present study is to investigate how two groups
of normals, high and low self-disclosers, score on the HIT. Self-
disclosure is a term used by Sidney Jourard (Jourard, 1959a), meaning
to reveal oneself to another human being and letting another person
know who you are. High self-disclosure means being open and honest
about ones true self being when relating to people. Low self-
disclosure means being closed and secretive about ones real self in
interpersonal relationships. Jourard views self-disclosure as a
healthy personality trait and as a process for achieving a healthy
personality (Jourard, 1959a).

Self-disclosure research has studied self-disclosure as a process
(Jourard, 1959b; Jourard & Richman, 1963; Truax & Carkhuff, 1965;
Chittick & Himelstein, 1967; Weigel & Weigel, 1969; Jourard &
Friedman, 1970; Jourard & Jaffe, 1970; Resnick & Jourard, 1970;
Fritchey, 1971). Other research has studied self-disclosure as a
personality trait (Jourard & Lasakow, 1958; Jourard, 1961a;
Fitzgerald, 1963; Stanley & Bownes, 1966; Himelstein & Lubin, 1966;
Dimond & Munz, 1967; Mayo, 1968; Halverson & Shore, 1969; Doster &
Strickland, 1969; Dimond & Hellkamp, 1969; Truax & Wiltmer, 1971;
Hamilton, 1971; Jourard, 1971; Vondracek & Marshall, 1971; Rivenbark,
1971).

The present study proposes to study self-disclosure as a
personality trait by selecting high and low disclosers and by giving
both groups the Holtzman Inkblot Technique.

REVIEW OF LITERATURE

This review is divided into two main areas. One area covers research related to the HIT, and the other reviews self-disclosure research.

Holtzman Inkblot Technique Research

Test description

To better understand the research on the HIT, a brief description of the instrument is necessary. The HIT is a projective test consisting of forty-five inkblots. There are two forms of the test, forms A and B. The test can be given individually or by group administration with the aid of a slide projector and 35mm slides of the inkblots. Each response is scored on the following twenty-two variables: reaction time (RT), location (L), rejection (R), space (S), form definiteness (FD), form appropriateness (FA), color (C), shading (Sh), movement (M), pathognomic verbalization (V), integration (I), human (H), animal (A), anatomy (At), sex (Sx), abstract (Ab), anxiety (Ax), hostility (Hs), barrier (Br), penetration (Pn), balance (B), and popular (P). Sometimes the variable affect arousal (AA) is scored.

The HIT is like other projective techniques in that the subject is presented with an ambiguous stimuli and is required to draw on his inner resources to create a precept and project it to the stimuli. Certain patterns of these precepts and modes of response have been found to identify certain personality types (Hill, 1972). These

differences are reflected in the scoring variables. For example, obsessive compulsive personalities typically score high on variables L, FD, Ax, and M; and score low on C, and Sh (Hill, 1972). The Holtzman, with its psychometric advances over the Rorschach, has retained the above principle and at the same time is more standardized, and reportedly more reliable with normative data.

The test was standardized by sampling fifteen different populations, involving nearly two thousand individual protocols (Holtzman, Thorpe, Swartz & Herron, 1961). Percentile norms are provided for each of the twenty-two variables for the following normative groups: college students, average adults, seventh graders, elementary school children, five year olds, chronic schizophrenics, mentally retarded and depressed patients (Holtzman et al., 1961).

Research concerning low functioning subjects

From the standardization data mentioned above, Holtzman et al. (1961) found that chronic schizophrenics obtained significantly higher scores on R, V, Pn, At, and Sx, and they scored significantly lower on the variables L, FD, FA, Sh, M, I, Br and P than did the normal reference groups.

In another study, Rosenzweig and Harford (1970) gave the Psychotic Reaction Profile (PRP), the WAIS and the HIT to 73 male outpatients of a VA Clinic. The PRP is a behavioral inventory with various subtests used to describe the behavior of hospitalized patients. The HIT scores were correlated with Thinking Disorganization, a subtest of the PRP. Significant correlations for the following variables were found: V +.51, AT +.47, FD −.41, FA −.50, & P −.32. Rosenzweig and Harford

concluded that the study demonstrated concurrent validity between some scales of the PRP and the HIT.

Ullman and Eck (1965) did a study with 48 male schizophrenics who were improved enough to go home. They gave the subjects the HIT and a process-reactive scale, which indicates severity of disturbance (a high reactive score indicates improvement). It was hypothesized that a higher reactive score would correlate with higher FA and I scores and lower V scores on the HIT. The HIT scores on FA, I and V were combined to form an inkblot summary score and the resulting co-efficient of .47 was significant in the expected direction (P .001).

In a similar study the HIT was given prior to treatment (chemo-therapy) and again after five and thirteen weeks of treatment (Cleveland, 1960). The subjects consisted of 25 hospitalized schizophrenics. Of the HIT variables scored, Pn and Br, Pn was found to significantly decrease as therapy progressed. The hypothesized increase in Br did not occur. The results were interpreted as a firming up of body boundaries as a function of the therapeutic effects.

In another study, the HIT, the Minnesota Multiphasic Personality Inventory (MMPI), and an Inpatient Multidimensional Psychiatric Scale (IMPS) were given to 82 neurotic and psychotic-depressive patients (Mosley, Duffey & Sherman, 1963). A factor analysis of the results indicated that the HIT and MMPI had no significant relationships or common factors. A common factor of withdrawal and disorientation was found for the variables of V and Sx and the IPMS. Another common factor, called fluctuating responsiveness to environment, was found between the IMPS and the variables C, Sh and FD (negatively). The researchers concluded that the results support the construct validity of the HIT.

Moseley (1963) studied the effectiveness of the HIT as a diagnostic instrument. Using sixteen HIT variables, he developed a formula for discriminating normals, schizophrenics and depressives from each other. Applying the formula to 300 protocols (100 of each type), Moseley found he could discriminate schizophrenics from normals with 82% of the diagnoses being correct; normals were discriminated from depressives with 71% accuracy and schizophrenics from depressives with 78% of the diagnoses being correct.

Summarizing the research on severely disturbed persons, Hill (1972) notes that the best indicators of psychosis are a high V and At scores combined with low FD, FA, and I scores. A high V score indicated disordered, autistic, disorganized thinking and poor reality testing (Hill, 1972). High At scores indicate excessive body preoccupation and thought disturbances (Hill, 1972). Low FD indicated lack of control of the thought processes and poor concentration (Hill, 1972). Low FA scores indicate poor reality contact and concentration, and low I scores indicate poor intellectual efficiency (Hill, 1972).

Less severely disturbed groups have also been studied with the HIT. The Maudsley Personality Inventory (MPI) and the HIT were given to 89 college undergraduates to study the relationship between HIT variables and the neuroticism (N) and extroversion (E) scales of the MPI (Megargee & Swartz, 1968). There were no significant correlations between E and HIT variables. At the .05 level of significance, N correlated positively with Ax, M, V, and negatively with R and FA. Hs correlated positively with N at the .01 level. All of the significant correlations were in the depicted direction, and the researchers concluded that the study supported the construct validity of the HIT.

Kidd and Kidd (1971) studied rigidity and HIT scores. Rigidity is often considered a factor in some types of neuroses (Coleman, 1972). One hundred sixteen females were given the HIT (group administration), the Stanford-Gough Rigidity Test (SGRT), and a test of perceptual rigidity. Since so many correlations were computed, the sample was divided with one-half serving as a cross validation group to control for significant correlations due to chance. Correlations which remained significant through the cross validation procedure were between perceptual rigidity and L, At and Hs positively (P .05) and negatively with M and C (P .01). The researchers concluded that the perceptually rigid individual lacks healthy affective response ability (indicated by low C) and healthy fantasy escape and self-expression (indicated by low M). The higher L score for the perceptually rigid indicates over control of impulses (compulsive behavior) and the use of intellectualization as a defense mechanism.

Cleveland and Fisher (1960) investigated the Br and Pn scores of arthritic and ulcer patients in a VA hospital. Form B was given to 26 male ulcer patients and to 32 male rheumatoid arthritic patients, until 25 card responses had been obtained for each subject. When the two groups were compared, the group with symptoms involving the outer body layers (arthritic group) scored significantly higher on Br, while the group with interior symptoms (ulcer group) scored significantly higher on Pn. Both groups had higher Hs scores when compared to normal adult groups.

Cleveland and Sikes (1966) compared the frequency of Br, Pn, water responses and decadence (a response involving deterioration) scores for 70 chronic alcoholics and 50 non-alcoholics. All subjects

were hospital patients. Chi-square frequency analysis revealed that
the alcoholics made significantly more Pn responses (P<.02), decadence
responses (P<.001) and water responses (P<.001) than the non-alcoholic
control group. There was no difference in the frequency of Br
responses for alcoholics and non-alcoholics. It was concluded that
chronic alcoholics tend to have poor body boundary concepts and view
their bodies as dirty and deteriorated. Hill (1972) notes that
alcoholics tend to score higher on Sh, indicating oversensitivity,
and they score higher on Hs.

Megargee (1965) studied the relationship between Br scores and
aggression. He found that 75 male delinquents scored significantly
lower on Br (P .001) than non-delinquents (Holtzman norms). To control
for the possibility that this relationship was a function of response
length, Megargee divided his delinquent sample into less delinquent
and severely delinquent groups. There was no response length differ-
ence between these two groups, and the severely delinquent group
had significantly lower Br scores (P .001) when compared with the less
delinquent group. Megargee also found that Br correlated significantly
(.23) with a counselor rating of aggressiveness. The lower the Br
score, the higher the rating of aggressiveness. Physical aggression
is usually related to inadequate control; however, Megargee (1966)
hypothesized that an extremely assaultive group would be characterized
by extreme overcontrol. To test this, the M-C Index (movement score
minus color score) was used as a measure of overcontrol. The higher
the M-C Index, the higher the overcontrol. Based on previous behavior,
juvenile delinquents were divided into two groups, an extremely
assaultive group and a moderately assaultive group. The extremely

assaultive group scored significantly higher on the M-C Index than the moderately assaultive group; thus, the data supported the hypothesis.

Research on average and high
functioning individuals

Along with the studies of unhealthy groups, there have been some studies of healthy groups using the HIT. Richter and Winter (1966) compared HIT scores of subjects who were high and low in creative potential. The Myers-Briggs Type Indicator was given to 130 under-graduate females, and from the results fifteen high creative and fifteen low creative people were selected and administered the HIT. Comparing the means by t tests, significant differences were found on the following variables: highly creative people scored higher on FD (P.01), C (P.001), M (P.0005), H (P.0025), I (P.05), V (P.025), Ax (.0005), Ab (P.05), Hs (P.025), and tended to use more wholes (lower L) (P.10). The results indicate creative people are more emotionally responsive, and have more complex, richer, and precise concepts and precepts. They also scored higher on indicators of emotional dis-turbance (Hs, Ax, & V), but had good reality contact (high FA).

In another study (Lehrer, 1970) 92 females and 42 males were given the Southern California Tests of Creative Thinking Abilities and the HIT. The results were correlated. For males significant cor-relations between creativity and HIT variables were M, Ab, Hs, and Br. For females higher scores on FA, C, Ab, I, H, A, P and lower scores on L correlated significantly with the creativity test.

These studies indicate that creative people score higher on C, M, Ab, and H and lower on L (more use of the whole blot as opposed to use of details). They tend to score higher on FD, FA (indicating

goodness of fit of the precept), and the emotion disturbance variables of Ax, Hs and V. Creative people appear to be able to give free reign to their imagination and fantasy life without losing their good reality contact (Clark, Veldman, & Thorpe, 1965).

Developmental trends have also been studied using the HIT. In one study (Thorpe & Swartz, 1965) the HIT was given to five age criterion groups ranging in age from five to twenty years (N 586). Analysis of variance revealed no significant sex differences or sex and age interactions. The HIT variables showed significant age group differences and six of these variables, FA, FD, I, M, H and Sh, demonstrated a monotonic relationship between increasing age and score increase.

A follow up study (Thorpe & Swartz, 1966) investigated age trends on eight HIT variables. One hundred eighty subjects comprising three age criterion groups, ages six, nine, and twelve were given the HIT. Analysis of variance revealed no significant sex and age interactions and one significant sex difference; females scored slightly higher than males on H (P.05). All of the variables except Hs had significant age differences, with the variables FD, FA, M, I, and H again showing consistent monotonic increases with age. With age V decreased, and L decreased from ages six to nine and showed a slight increase for age twelve.

These results are further replicated in a study which used IQ instead of age as the main criterion (Swartz, Cleland, Drew & Witzke, 1971). IQ groups were formed and matched for age and sex. The results demonstrated significant monotonic changes with IQ for six HIT variables. As IQ increased, FA, I, M, H, and A increased; V

decreased. These studies indicate that the HIT variables FA, I, M, H,
and V (in reverse) are indicators of perceptual and cognitive develop-
ment.

Other HIT research studying normal groups has been done. Mueller
and Abeles (1964) investigated the components of empathy and human
movement scores. Twenty-eight advanced graduate students in clinical
psychology were given the HIT and rated on capacity for empathy. The
empathy ratings were made from a tape of the subjects' fifth session
with a client. The results indicated that one component of empathy,
the accuracy with which the clients perceived the subjects, was
related to higher movement scores (P .05). It was concluded that the
individual who scored higher on M also made more information about
himself available to the client, thus, making himself more accurately
perceived. Making information about oneself available to others is
self-disclosure; thus, it could be concluded that high self-disclosers
scored higher on M scores.

Research concerning group administration of the HIT

The present research proposes to give the HIT by group admini-
stration. A brief review of the literature on group administration
will therefore be presented. Holtzman and Swartz (1963) investigated
the feasibility of a group administration method. The HIT cards were
photographed and put on 35mm slides, and 156 college students, by use
of the slides, were given the HIT twice in a one week time period. One-
half of the subjects were given form A followed by form B and one-half
were given form B followed by form A. Six variables, R, L, FD, C,
Sh, and M, were scored, and split-half reliability coefficients were

computed. The coefficients ranged from .80 to .91 for the different

variables, indicating adequate reliability for a group method of

administration. A qualitative analysis of individual protocols found

that most subjects tended to give responses too short and unelaborated.

Because of this, Holtzman and Swartz (1963) divided fifty-three college

students into four groups and gave each a different method of group

administration. A questioning period was held after each session to

gather subject feedback on each method of administration. The results

led to the adoption of a standard group administration procedure.

They concluded that 18 of the 22 variables were proved appropriate

for the group method. The variables B, Sx, and Ab occurred so rarely

that they were not scored. The variable Rt cannot be scored when the

group administration method is employed. They also found that group

administration required the subject to be of average intelligence,

and it was appropriate for college students and average adults.

Another study compared the group and individual methods of

administration to see if there were any differences in the means and

standard deviations of the scores due to the method of administration

(Holtzman, Moseley, Reinehr & Abbott, 1963). Four hundred eighteen

college students were divided into four groups and given the HIT

twice within one week. One-half of the subjects were given form A,

then form B; and one-half were given form B, then form A. Group I

was given individual administration, then group administration; and

Group II was given group administration, then individual. Group III

was given individual administration, then individual administration;

and Group IV was given group administration, then group administration.

The means, standard deviations, and inter-correlations of these 36

scores (18 variables on each protocol and two protocols for each
subject) were computed for each of the four groups. T tests were
applied to each HIT variable to test for differences in means for
the two method of administration. F ratios were used to test for
differences in variance. Nine of the variables, R, FD, M, I, V,
H, A, Hs, and Pn, had no differences whatsoever. Five variables,
L, S, C, Ax, and P, showed minor differences due to method of admini-
stration; but that could easily be corrected by adding a constant, so
that individual normative data was appropriate. The researchers
concluded that the group version could be confidently used instead of
individual administration, and that previous research done with the
individual method could be generalized to the group method.

Holtzman, Swartz, Sanders, and Jeffrey (1970) studied the effects
of stimulus variation on the group HIT scores. Two groups of college
students (40 in each group) were given the group HIT. One group was
shown normal slides, and the other group was shown altered slides
(over-exposed or under-exposed). No significant differences were
found when the C and Sh scores were compared (the variables which
were most susceptible to washout effects).

Hill (1972) notes that the group version has some disadvantages;
the Rt score is lost, there is a loss of rapport between the examiner
and the subject, and some variables are harder to score, particularly
FA. Hill (1972) also notes that the advantages of group administration
outweigh the disadvantages when doing research with many subjects.

Self-disclosure Research

Background

Perhaps Joseph Breuer, a nineteenth century Viennese physician, was one of the first to find that people got well when they talked about their problems. He found that when his hysterical patients revealed themselves (past memories and traumatic experiences) their symptoms disappeared (Jourard, 1959a). Freud found the same thing and developed the technique of free association to help the patient who struggled to avoid being known (Jourard, 1959a).

Sidney Jourard was one of the first psychologists to use the term self-disclosure. Jourard views man from a humanistic point of view similar to that of Carl Rodgers. Jourard postulates that man is basically good, and that in a healthy interpersonal environment man is self-actualizing. Man develops problems when he is forced to play a societal role and loses touch with his real self. Thus, he becomes alienated from his real self (Jourard, 1959a). Jourard states this idea best in The Transparent Self:

> We are said to be a society dedicated to the pursuit of truth.
> Yet, disclosure of the truth, the truth of one's being, is
> often penalized. Impossible concepts of how man ought to be -
> which are often handed down from the pulpit - make man so
> ashamed of his true being that he feels obliged to seem dif-
> ferent, if for no other reason than to protect his job. Yet,
> when a man does not acknowledge to himself who, what, and how
> he is, he is out of touch with reality, and he will sicken.
> No one can help him without access to the facts. And it seems
> to be another fact that no man can come to know himself except
> as an outcome of disclosing himself to another person.
> (Jourard, 1964, p. 6)

Self-disclosure is a frightening process and involves taking risks by being less defensive and more vulnerable. We camouflage our real selves from others to protect ourselves against criticism

and rejection (Jourard, 1964). This protection takes a lot of personal energy and exceedingly taxes the individual. This effort to avoid being known produces a subtle stress on the person, which according to Jourard, leads to psychological and physical problems (Jourard, 1971).

Jourard thinks that self-disclosure is a characteristic or trait of healthy personalities and a process by which one achieves a healthy personality (Jourard, 1959a). Previous research has studied self-disclosure from both trait and process viewpoints. The present research will study self-disclosure as a trait; hence, the review of the literature will stress this area rather than self-disclosure as process.

Research concerning self-disclosure as a trait

The early research done on self-disclosure is basically descriptive in nature. Jourard (1958) gave this sixty item self-disclosure questionnaire (JDSQ-60) to many different samples of different populations to investigate sex, race, target person, and topic differences. An analysis of variance revealed that whites disclosed significantly more than blacks, females were significantly higher disclosers than males; mother was the person most frequently disclosed to, and father was the least frequently disclosed to person. The most frequently disclosed topics were tastes, interests, attitudes, opinions, and work. The least frequently disclosed topics were money, personality and body. Part of these results are replicated by Jourard and Lasakow (1958), Jourard, (1961a), Diamond (1967), Janofsky (1970), Jourard and Smith (1970), and Rivenbark (1971), who also found that females are significantly higher disclosers than males.

In another group of studies reported by Jourard and Lasakow (1958), married and unmarried self-disclosers were compared by use of the JSDQ-60. He found that the amount of self-disclosure did not differ between married and unmarried people, but the most frequent target person switched from mother to spouse for married people.

Diamond and Munz (1967) investigated self-disclosure and ordinal position of birth. Thirty male and thirty female high school students were given the JSDQ-60. They were divided into a first born and a latter born dichotomy, and the results were analyzed. It was found that latter born individuals disclosed significantly more about themselves than first borns (P .01).

In another study Diamond and Hellkamp (1969) replicated the previous study and also part of Jourard's previously cited study. In order to investigate the relationships between race, sex, ordinal position of birth and self-disclosure, one hundred twenty high school subjects were given the JSDQ-60. The results confirmed the previous studies in that latter borns disclosed significantly more than first borns. Whites disclosed significantly more than blacks, and mother was the most frequently disclosed to target person.

Jourard (1961a) studied age trends and self-disclosure to see whether, as adolescents grow into adults, their disclosure to parents and friends of the same sex decreased, while disclosure to close friends of the opposite sex increased. The 40 item self-disclosure questionnaire (JSDQ-40) was given to 1,020 students ranging in age from 17 to 55. The results indicated a trend for subjects of both sexes to decrease the amount of disclosure to their parents and to their friends of the same sex, while the amount of disclosure to the

opposite-sex friend (or spouse) increased with age. Another study
(Rivenbark, 1971) also found that as age increases for 10 to 18 year
olds, the amount of self-disclosure to parents decreases.

Another study done by Skypeck (reported in Jourard, 1971) inves-
tigated self-disclosure and age trends in children. Ninety-eight
children ranging in age from six years to twelve were individually
administered a 24 item self-disclosure questionnaire. Each subject
was asked if he had disclosed that particular item to their best same-
sex friend and if they had received disclosure from the same friend
on that item. No significant sex differences were found for either
giving or receiving of disclosure (disclosure output and input).
Highly significant positive correlations were found between age and
amount of disclosure output (r=.99) and age and disclosure input
(r=.97). Significant differences were also reported for age clusters
and disclosure input and output.

Summarizing these descriptive studies, the variables of age, sex,
marital status, birth position, and race directly influence the amount
of self-disclosure and the selected target person of self-disclosure.

According to Jourard, self-disclosure is an important factor in
attaining and maintaining mental health, and the lack of self-
disclosure leads to mental or physical illness (Jourard, 1958, 1959a,
1964 & 1971). However, self-disclosure studies comparing normals and
neurotics, and high and low disclosure personality test scores have
revealed conflicting results.

Stanley and Bownes (1966) administered the JSDQ-60 and the
Maudsley Personality Inventory (MPI) to 72 male and 65 female college
students. The total self-disclosure score was correlated with the

neuroticism scale of the MPI. No correlation was found between neuroticism and self-disclosure for either sex.

In another study Mayo (1968) administered a modified version of the JSDQ-60 (the most intimate items) to the following three different groups: 30 neurotic in-patients, 30 subjects with neurotic symptoms who coped well enough to not be hospitalized, and 20 normals. A comparison of means by t tests revealed the hospital neurotics had significantly lower total self-disclosure scores than the normal group. The less severe neurotic symptom group scored lower on total self-disclosure than the normals, but the difference was not significant.

Hamilton (1971) studied self-disclosure, neuroticism, and the effect of experimenter disclosure on amount of self-disclosure. College students were given the MPI, and from the results, 36 normal and 36 neurotic volunteers were used as subjects. Twenty-four subjects (12 normal and 12 neurotic) were assigned to each of the three experimenters. Each systematically varied their degree of self-disclosure to the different subjects. To each subject, the experimenters appeared to be medium, or low self-disclosers. In a separate interview, each subject was asked to reveal what he was like. Three raters rated the 72 responses on a one to five intimacy of self-disclosure scale. Analysis of variance revealed that the neurotics disclosed significantly more intimate material than the normal subjects. This finding was independent of the rater, the experimenter, or the level of experimenter self-disclosure. Subjects who were interviewed by the high disclosing experimenter conditions were rated significantly higher in terms of the intimacy value of their answers.

Other studies investigating self-disclosure of healthy and un-

healthy personality types as measured by psychological tests have also

yielded conflicting results. Smith (reported by Breed and Jourard,

1970) found no differences in self-disclosure patterns between a group

of 18 male and 18 female college students with abnormally elevated

MMPI profiles (scores above 60) and a group of 9 male and 9 female

students who had no elevated scales. Forrest (1970) studied 18 psychi-

atric outpatients who were given a self-disclosure questionnaire and

the MMPI before and after therapy. He compared self ratings, therapist

ratings, and friends ratings of degree of pathology, and MMPI scores.

The general findings seemed to indicate that the greater the disclosure,

the less the degree of pathology. On the MMPI, high Hypocholdriasis

and Psychopathic Deviant Scales were associated with low self-

disclosure scores.

Another study (Himelstein & Lubin, 1966) gave a modified version

of the JSDQ-60 and the MMPI K Scale to 95 unmarried male and 85 un-

married females. The disclosure score to each target person was cor-

related with the K score. Only two of the correlations were significant;

but of the eight correlations, six were in the expected directions,

indicating a trend for high self-disclosure scores to be related with

less defensiveness.

Truax and Wiltmer (1971) gave the JSDQ-60 and the MMPI to 89

undergraduates (38 males and 51 females). Correlation of the data

revealed only one significant coefficient for positive mental adjust-

ment and high self-disclosure. There was a general trend for the

least well adjusted students (measured by MMPI scores) to have higher

self-disclosure scores and for the well adjusted students to have low
self-disclosure scores.

Jourard (1971) found similar confusing results and notes
Cronback's earlier observation about the MMPI:

> Although the MMPI test has been used successfully with clinical
> patients, it has not been found trustworthy with college students.
> Many college students earn scores which would usually be indi-
> cative of abnormality, although these students are known to be
> adequately adjusted. This is a further example of the undesi-
> rability of blindly applying a test validated on one population
> to a different type of group. (Jourard, 1971, p. 70)

Komaridis (reported by Breed and Jourard, 1970) used the California
Psychological Inventory (CPI) to study self-disclosure and normal
college students. He gave 204 undergraduates the JSDQ-60 and the CPI.
The results indicated that for women, high self-disclosers had a
higher level of psychological health. This finding was not true for
men.

Jourard (1971) investigated self-disclosure and self-concept.
The JSDQ-40 and the Tennessee Department of Mental Health Self-concept
Scale was given to 52 female undergraduates. The total self-concept
score and the disclosure to mother score had a pearson correlation
coefficient of .49 (P .01). The total self-concept score and the
disclosure to father score correlated .27 (P .05). There were no
significant correlations between self-disclosure to friends (male or
female), and high self-concept scores. Thus, good self-concept for
college females was found to be related to being self-disclosing to
their parents. A similar study using college females as subjects
(Fitzgerald, 1963) found trends for higher self esteem girls to be
more self-disclosing.

Halverson and Shore (1969) gave one-half of the JSDQ-60 and various other tests to 53 Peace Corps trainees. After correlating the total self-disclosure score with each of the tests, the following significant relationships were found: self-disclosure correlated negatively with the measure of authoritarianism r=-.34 (P .05), self-disclosure correlated positively with an interpersonal flexibility scale r=.36 (P .05), a general adaptability scale r=.41 (P .01), and a conceptual complexity test r=.33 (P .05). There were no significant correlations found between self-disclosure and the SCAT Verbal Test or the General Aptitude Test Ten. The authors concluded the results supported the validity of self-disclosure as a personality construct.

Jourard (1961b) investigated self-disclosure and Rorschach productivity. He gave the JSDQ-40 and the Rorschach Inkblot Test (group administration) to 25 male and 20 female college students. Pearson r's were computed for the total number responses to the Rorschach cards and self-disclosure scores for each of the four target persons and total self-disclosure scores. Productivity on the Rorschach was correlated significantly with total disclosure r=.37 (P .05), disclosure to father r=.44 (P .05), and disclosure to same-sex friends r=.35 (P .05). The correlations for disclosure to mother and opposite-sex friends were not significant. Jourard concluded that the lower self-disclosers were more defensive than the high self-disclosers.

Research concerning self-disclosure as a process

The present research will study self-disclosure as a personality trait; therefore, only a brief review about self-disclosure research as an interpersonal process will be presented.

Jourard (1959b) studied self-disclosure patterns between the dean and eight faculty members of a nursing college. Each was administered a 15 item self-disclosure questionnaire. Subjects were asked to disclose the answers to these questions about themselves to the experimenter, and indicate to which of the other subjects they had disclosed each item. By using the method of paired comparisons, each subject ranked the other subjects in terms of liking. The results indicated that the subjects knew more about the subjects they liked best. The subjects tended to form dyadic relationships, such that if a subject had disclosed much to another subject and knew much about the subject, this other subject tended to know much about the first subject. This is called the dyadic effect, and it has been replicated in other experiments (Jourard & Richman, 1963; Weigel & Weigel, 1969; Jourard & Jaffe, 1970; Resnick & Jourard, 1970; and Hamilton, 1971).

Jourard and Richman (1963) gave the JSDQ-40 to 58 male and 51 female college students to study disclosure input and output to the target persons. The JSDQ-40 was given twice with revised wording to get the disclosure output score. There was a one week interval between administrations. Pearson r's between disclosure output and disclosure input for each target person ranged from .47 to .83 (P .01). Subjects who reported high self-disclosure to parents and close friends also reported that these target persons had revealed much to them. In contrast, subjects who reported to have disclosed little to friends and parents, reported that these target persons had revealed little to them.

Jourard and Jaffe (1970) investigated the dyadic effect by seeing if amount of interviewer's disclosure influenced the subject's disclosure.

Forty female college subjects were randomly assigned to four groups.
The groups were matched on the basis of mean past self-disclosure and
mean disclosure willingness scores. Twenty topics from the JSDQ-40
were used for the experiment. First the experimenter honestly talked
about each topic followed by the subject talking. The treatment of
the four groups differed only in length of the experimenters disclosure
on each topic. In one group E disclosed for 20 seconds, in another
group E disclosed 60 seconds. In another group E disclosed 20 seconds
on the first 10 topics and 60 seconds on the last ten topics. The
fourth group reversed the order of the third group. The experimenter's
and subject's speaking times were correlated; an r of .75 (P .01) was
found between the times. When E spoke briefly, the subjects spoke
briefly; and when E spoke at length, the subjects spoke significantly
longer. Also subjects tended to discuss more topics than their dis-
closure willingness scores indicated.

Resnick and Jourard (1970) paired high disclosing subjects with
low disclosing subjects, and they paired highs with highs and lows with
lows to further investigate the dyadic effect. Eighty unmarried female
students were given a 40 item self-disclosure questionnaire designed
to select high and low self-disclosers. The 12 highest and the 12
lowest scores were selected as the high and low disclosing subjects.
The mean score on the test for high disclosers was 149.00 and for low
disclosers 42.08 (P .001). In the first experiment, high disclosers
were paired with high disclosers, and lows were paired with lows.
Each pair of subjects disclosed on 20 topics, and each subject ranked
the degree of his self-disclosure and his partner's disclosure on a
three point scale. In the second experiment, each high discloser was

paired with a low discloser, and the same rating process was repeated. Low disclosing subjects when paired with other low disclosing subjects disclosed significantly less than the high disclosing subjects paired with other high disclosing subjects (P .01). When the low disclosers were paired with the high disclosers, the high disclosers maintained their high disclosure, and the low disclosers increased their disclosure. This increase was significantly higher than the scores of the low disclosers when paired with other low disclosers. The dyadic effect was further replicated, and the questionnaire was considered valid for selection of high and low disclosers.

PURPOSE AND OBJECTIVES

The purpose of this study was to see if there are any differences in how high self-disclosers and low self-disclosers score on the Holtzman Inkblot Technique. The previous review of the literature has demonstrated that (a) the HIT is a good projective personality test with sound psychometric development, (b) previous research with the HIT indicates the test is valid for personality assessment and classification of low functioning individuals, (c) more research is needed with well functioning subjects to increase the validity of the instrument, (d) according to Sidney Jourard, self-disclosure is an important determinant of mental health; however, the research in this area has produced confusing results. The confusing results may be more a function of the instruments than of the underlying concept or process.

Previous research investigating self-disclosure as a personality trait has neglected to use a valid projective technique in studying self-disclosure. Conversely, previous HIT research has failed to investigate the personality trait of self-disclosure. Thus, by administrating the HIT to groups of high and low self-disclosers, this study hopes to find new interpretive data for the HIT and to clarify the research concerning self-disclosure.

Hypotheses

Based on the previous research, the following hypotheses are presented.

Main hypothesis

(null form) There will be no significant differences between the mean scores of high self-disclosers and low self-disclosers (as determined by Jourard's inventory) on the Holtzman Inkblot Technique Scores.

Sub hypotheses

1. High self-disclosers will have significantly higher mean human scores.

2. High self-disclosers will have significantly higher mean barrier scores.

3. High self-disclosers will have significantly higher mean movement scores.

4. High self-disclosers will have significantly lower mean penetration scores.

5. High self-disclosers will have significantly lower mean pathognomic verbalization scores.

6. High self-disclosers will have significantly lower mean hostility scores.

7. High self-disclosers will have significantly lower mean location scores.

PROCEDURES

Population and Sample

The final sample of 50 subjects (25 low disclosers and 25 high

disclosers) was selected from a population of 204 college students

enrolled in an introductory psychology class at Utah State University.

The 204 students were administered a self-disclosure inventory, and an

interquartile range was computed for the resulting scores. Thirty-

seven high disclosers and 37 low disclosers were randomly selected (by

assigning each subject a number and then drawing numbers from a hat)

from the highest and lowest interquartile ranges.

Two subjects refused to take the HIT (one high discloser and one

low discloser). Seven subjects (four low disclosers and three high

disclosers) agreed to take the test, but they were unable to attend

one of the testing sessions due to conflicting schedules. Twelve

subjects (seven low disclosers and five high disclosers) agreed to

take the test but failed to attend one of the testing sessions. Thus,

53 Holtzman protocols were collected (25 low disclosers and 28 high

disclosers). One subject in the high discloser group came late to

the testing session; thus, his protocol was eliminated. Two other

protocols were randomly selected out of the remaining 27 high disclosure

protocols by assigning each protocol a number and randomly drawing two

numbers. After these protocols were eliminated, there were 25 protocols

in each group.

Approximately 80% of the 204 students who filled out the self-

disclosure inventory were freshmen with a mean age of 18.3 years. Of

the 204 subjects, 126 were females and 78 were males. The low discloser
group consisted of 19 females and six males with a mean age of 18.2
years. The high discloser group consisted of 16 females and nine males
with a mean age of 18.6 years.

Design

The present research employed a causal comparative design (Borg
& Gall, 1963) for descriptive purposes, that is, to gain a better
understanding of the groups compared, Two groups, high self-disclosers
and low self-disclosers, were selected and given the HIT. Self-
disclosure was the independent variable, and scores on the HIT
variables were the dependent variables in this study.

Materials

The administration of the group version of the HIT required a
slide projector, screen, the 35mm slides of Form A of the HIT, and
a copy of instructions for each subject taking the test. The subjects
recorded their responses on standard HIT Record Forms. Jourard's 40
item Self-disclosure Inventory for determining high and low disclosers
(see Appendix I) was used to assign subjects to the two groups.

Method

The self-disclosure inventory was administered to 204 students
attending an introductory psychology class. After the 74 subjects
were selected, each was contacted by telephone to determine which
testing session the subject could attend.

To insure that as many subjects as possible could take the test,
Form A of the group version of the HIT was administered during the
school day four different times within a three day period. During a
testing session, each subject was given a copy of instructions and
the HIT was administered by the standardized group administration
procedures (see Appendix II). Each session lasted approximately 75
minutes.

The fifty HIT protocols were scored by one person. To insure
that the scoring was accurate, the present scorer and an expert scorer
(who had been trained by Holtzman and taught the administration and
scoring of the HIT to graduate psychology students) separately scored
two of the rejected protocols. After each protocol was scored,
disagreements in assigned scores were discussed until an agreement
was reached as to the correct score. A third HIT protocol was scored
by both and used to compute an inter-scorer reliability coefficient.

The fifty protocols were then scored using the standard scoring
criterion (Holtzman, Thorpe, Swartz and Herron, 1961). Possible
scorer bias was controlled by having another person cover the subjects'
names on the protocols and then assigning a number to each of the 50
protocols.

Two reliability coefficients were computed for the self-disclosure
inventory. From the 204 self-disclosure inventories, 25 were randomly
selected to compute a split-half reliability coefficient. Twenty-five
other college subjects were given the inventory twice (within a one
week interval) to compute a short term test-retest reliability coef-
ficient.

Instrumentation

The Self-Disclosure Questionnaire Used to Select High and Low

Disclosing Subjects (see Appendix I) was used in this study. The

instrument consists of two sections, each containing the same 40

items. The items differ in intimacy level. In the first section,

the subject checks each item which he feels he has previously fully

disclosed to someone (past disclosure). In the second section, the

subject checks each item which he would be willing to discuss fully

with a partner (an unknown person of the same age, sex, and peer

group). The past disclosure items checked and the willing to disclose

items checked are summated to determine the final score.

The study by Resnick and Jourard (1970) used the same questionnaire

to select high and low self-disclosing subjects. Low disclosing

subjects were paired with each other, and high disclosing subjects

were paired with each other. These pairs disclosed to each other on

20 topics of varying intimacy levels. Each subject rated his own

self-disclosure and his partner's self-disclosure. Comparison of the

two groups indicated that the high discloser pairs disclosed much more

than the low discloser pairs (P .01). This study indicated the instru-

ment predicted actual behavior in the defined situation (lows put with

lows). Thus, the test has predictive validity.

The JSDQ-60 and the JSDQ-40 (which are similar to the one used

in the present study) generally report reliability coefficients in the

high 80's and low 90's (Jourard, 1964). Since no reliability coeffi-

cients are reported for the self-disclosure inventory used in this

study, two reliability studies were conducted. By correlating odd and

even items for 25 protocols and then applying the Spearman-Brown formula, a split-half reliability coefficient of 0.91 was computed. A test-retest reliability coefficient of 0.94 was computed by giving the questionnaire twice (with a one week interval) to 25 college students. The coefficients indicate the questionnaire has internal consistency and is stable over a short time period.

Holtzman, Thorp, Swartz and Herron (1961) have done various reliability studies on the HIT. They report a median inter-scorer reliability of .86. Intra-scorer consistency for experienced scores ranged from .95 to .99 depending on the variable; coefficients for less experienced examiners ranged from .63 to .94 depending on the variable. The median coefficient for the less experienced examiner was .84. A split-half reliability coefficient computed for each HIT variable ranged from .80 to .91. Interrater reliability coefficients between the expert scorer and the present scorer were computed for 18 of the HIT variables (see Table 3 in results). The mean coefficient for these Pearson r's was 0.77.

Statistical Analysis

To test for the significance of the differences between the means of the HIT variables for the two groups, a two way analysis of variance was used with sex as one factor and group (high and low disclosure) as the other factor. Due to a tendency for males to score opposite from females, a one way analysis of variance for female data only was computed.

RESULTS

Considering the results in Table 1 in terms of the hypotheses postulated, it can be seen that none of the hypotheses were supported. There was one significant F ratio for the interaction of the variable, sex. Figure 1 below shows the adjusted mean scores on the raw mean scores for the variable sex. High disclosing females and low disclosing males scored significantly higher on sex than high disclosing males and low disclosing females.

| High Males 0.36 | High Females 0.79 | 0.58 |
| Low Males 0.92 | Low Females 0.08 | 0.49 |

0.64   0.44

Figure 1. Adjusted means for the variable sex

In Figures 2 and 3 the raw mean scores have been converted into percentiles for the different groups. These percentiles are based on Holtzman's norms for college students (Holtzman, Thorpe, Swartz, & Herron, 1961). Figure 2 shows the percentile scores for high disclosing males and low disclosing males. Figure 3 shows the percentile scores for high disclosing females and low disclosing females. The high disclosing males tended to score higher on the variables Ax, Pn, and lower on Br than the low disclosing males. These trends were just the

opposite for the females. The higher disclosers tended to score

higher on Br and lower on Ax and Pn, when compared to the low dis-

closers. Figure 3 also indicates that high disclosing females tended

to score lower on the variables Hs and A than the low disclosing

females.

Due to the conflicting trends between male and female high dis-

closers, a one-way analysis of variance was computed on the female

data only. A one-way analysis for the male data was not computed

because of the low number of male subjects.

Table II presents the results of the one way analysis of variance

for females. Looking at the results in terms of the postulated sub-

hypotheses, it can be seen that significant F ratios occurred for the

variables Hs and Br. High self-disclosing females had significantly

higher mean Br scores and significantly lower mean Hs scores than the

low self-disclosing females.

Table 1. Two-way analysis of variance comparing mean scores of males and females and high self-disclosers and low self-disclosers on the Holtzman Inkblot Technique

REJECTION

Source	DF	Mean Squares	F Ratio
total	49	2.1322	
group	1	1.9177	0.9174
sex	1	2.1063	1.0076
interaction	1	1.4582	0.6975
error	46	2.0904	

LOCATION

Source	DF	Mean Squares	F Ratio
total	49	113.5204	
group	1	73.5200	0.6466
sex	1	13.8524	0.1218
interaction	1	293.3805	2.5802
error	46	113.7010	

SPACE

Source	DF	Mean Squares	F Ratio
total	49	1.1983	
group	1	1.7519	1.4328
sex	1	0.4496	0.3677
interaction	1	0.6855	0.0056
error	46	1.2226	

FORM DEFINITENESS

Source	DF	Mean Squares	F Ratio
total	49	104.2290	
group	1	306.4873	2.9755
sex	1	56.0538	0.5442
interaction	1	2.6808	0.0260
error	46	103.0015	

F at .05 level = 4.05

Table 1. (continued)

FORM APPROPRIATENESS

Source	DF	Mean Squares	F Ratio
total	49	24.0853	
group	1	19.2832	0.7656
sex	1	4.7939	0.1903
interaction	1	5.4972	0.2182
error	46	25.1838	

COLOR

Source	DF	Mean Squares	F Ratio
total	49	57.7371	
group	1	49.0820	0.8293
sex	1	29.9974	0.5068
interaction	1	33.1416	0.5599
error	46	59.1826	

SHADING

Source	DF	Mean Squares	F Ratio
total	49	17.3534	
group	1	29.5393	1.7672
sex	1	40.0769	2.3976
interaction	1	2.9328	0.1754
error	46	16.7148	

MOVEMENT

Source	DF	Mean Squares	F Ratio
total	49	168.1159	
group	1	56.2111	0.3199
sex	1	7.5041	0.0427
interaction	1	148.3153	0.8442
error	46	175.6763	

F at .05 level = 4.05

Table 1. (continued)

PATHOGNOMIC VERBALIZATION

Source	DF	Mean Squares	F Ratio
total	49	18.7220	
group	1	3.5296	0.1821
sex	1	13.0105	0.6713
interaction	1	8.4523	0.4361
error	46	19.3811	

INTEGRATION

Source	DF	Mean Squares	F Ratio
total	49	8.7526	
group	1	12.0650	1.3791
sex	1	6.8086	0.7782
interaction	1	9.5181	1.0879
error	46	8.7485	

HUMAN

Source	DF	Mean Squares	F Ratio
total	49	109.8955	
group	1	1.5687	0.0140
sex	1	.0059	0.00005
interaction	1	181.8031	1.6250
error	46	111.8751	

ANIMAL

Source	DF	Mean Squares	F Ratio
total	49	47.9187	
group	1	1.4260	0.0299
sex	1	53.4992	1.1238
interaction	1	71.6028	1.5041
error	46	47.6041	

F at .05 level = 4.05

Table 1. (continued)

ANATOMY

Source	DF	Mean Squares	F Ratio
total	49	3.2902	
group	1	2.1046	0.6128
sex	1	1.4596	0.4250
interaction	1	1.0627	0.3094
error	46	3.4342	

SEX

Source	DF	Mean Squares	F Ratio
total	49	1.0697	
group	1	0.06642	0.0657
sex	1	0.4310	0.4264
interaction	1	4.1222	4.0780*
error	46	1.0108	

ABSTRACT

Source	DF	Mean Squares	F Ratio
total	49	9.5330	
group	1	1.6098	0.1601
sex	1	3.6936	0.3673
interaction	1	0.4638	0.0461
error	46	10.0542	

ANXIETY

Source	DF	Mean Squares	F Ratio
total	49	40.7514	
group	1	1.6620	0.0401
sex	1	23.1579	0.5599
interaction	1	50.9625	1.2322
error	46	41.3565	

* significant at the .05 level

F at .05 level = 4.05

Table 1. (continued)

HOSTILITY

Source	DF	Mean Squares	F Ratio
total	49	25.1771	
group	1	38.2309	1.5603
sex	1	0.0045	0.0001
interaction	1	24.4262	0.9969
error	46	24.5015	

BARRIER

Source	DF	Mean Squares	F Ratio
total	49	11.1057	
group	1	10.5787	1.0199
sex	1	13.3321	1.2854
interaction	1	20.1898	1.9466
error	46	10.3714	

PENETRATION

Source	DF	Mean Squares	F Ratio
total	49	10.0816	
group	1	3.1256	0.3176
sex	1	1.5280	0.1552
interaction	1	22.8614	2.3231
error	46	9.8406	

POPULAR

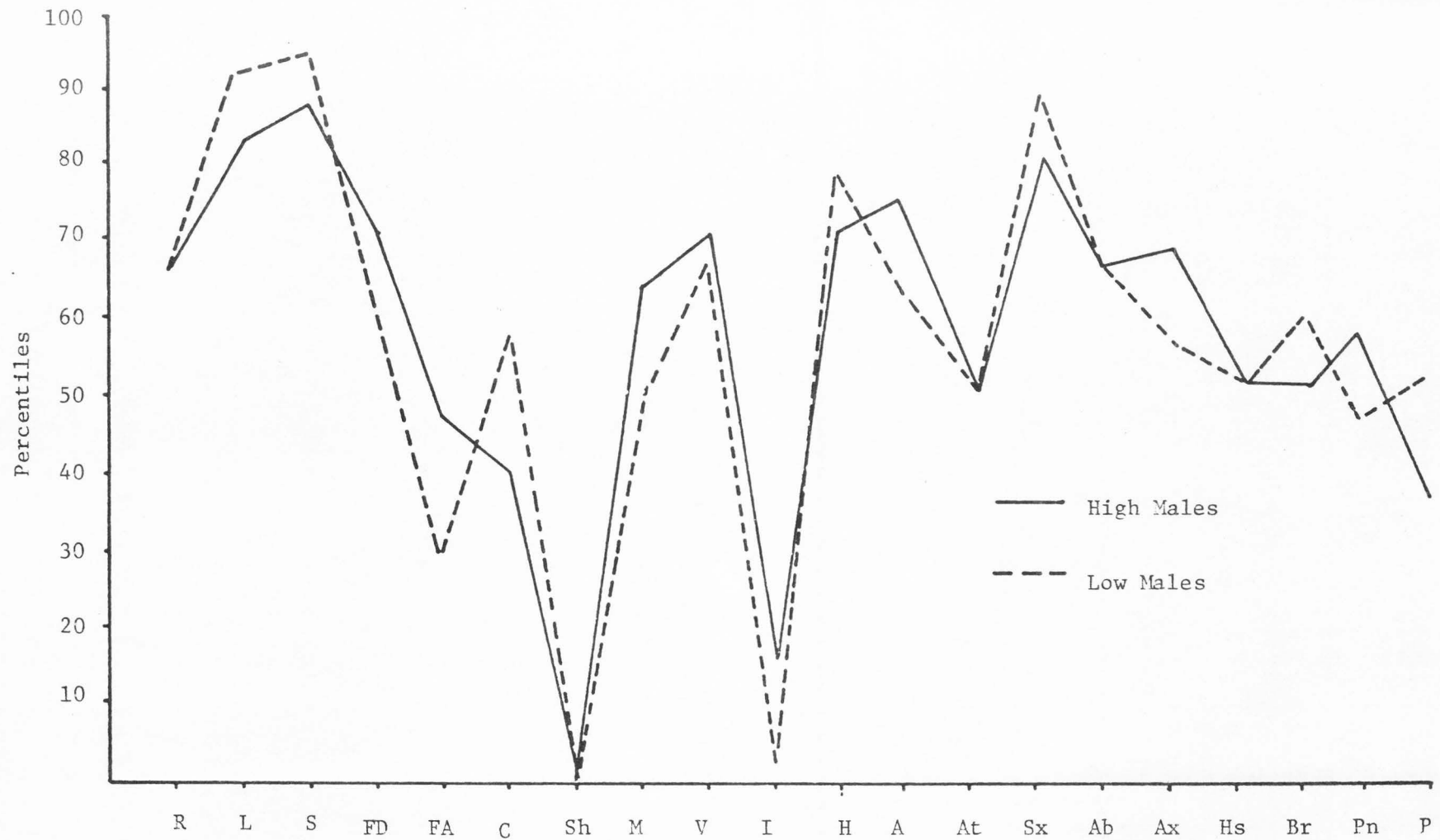| Source	DF	Mean Squares	F Ratio
total	49	8.5077	
group	1	2.6942	0.3065
sex	1	0.0126	0.0014
interaction	1	12.2439	1.3931
error	46	8.7887	

F at .05 level = 4.05

Figure 2. A comparison of high disclosing males and low disclosing males in terms of Holtzman's percentile norms for college students.
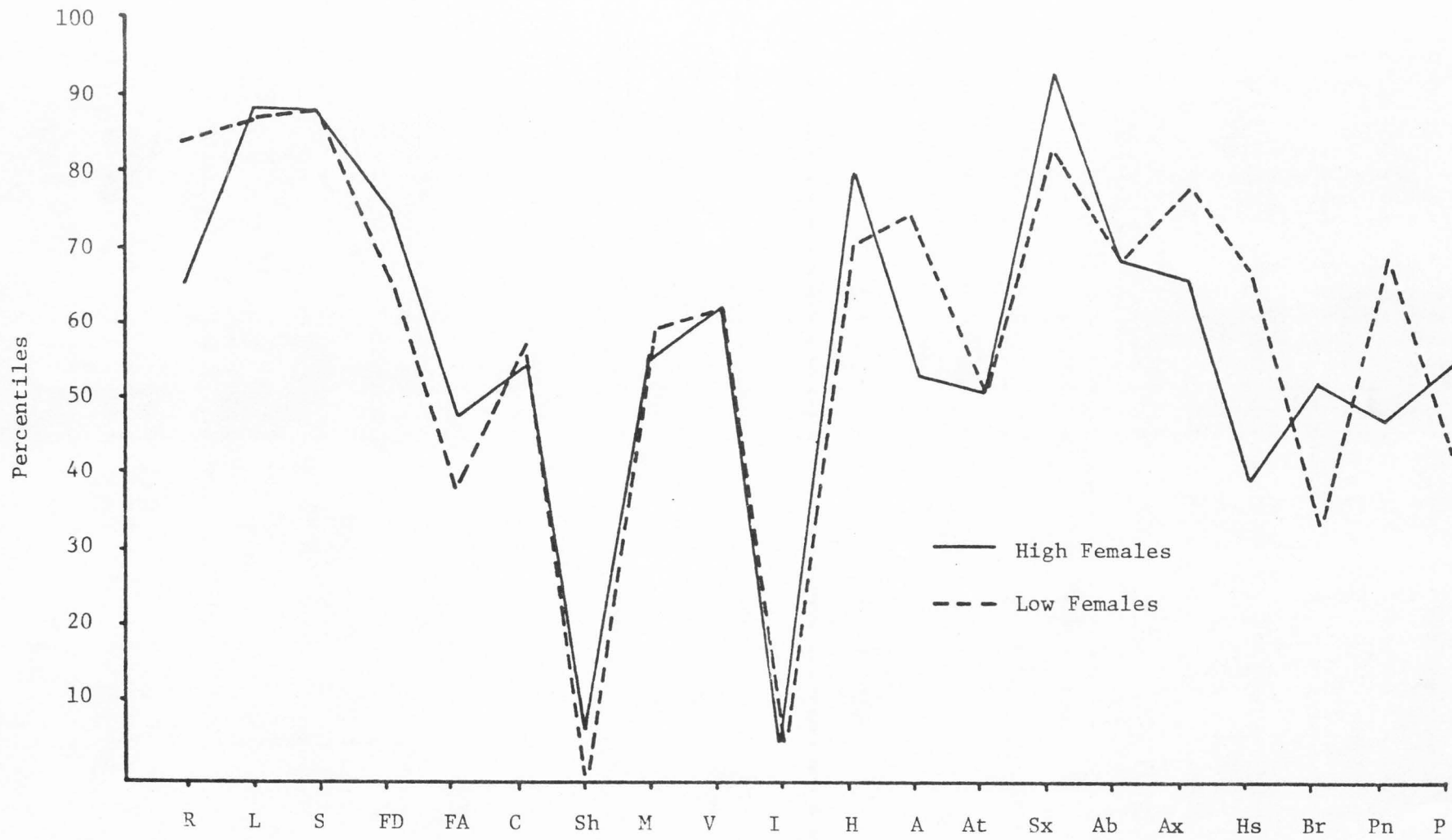
Figure 3. A comparison of high disclosing females and low disclosing females in terms of Holtzman's percentile norms for college students.

Table 2. One-way analysis of variance comparing mean scores of high
female self-disclosers and low female self-disclosers on the
Holtzman Inkblot Technique

REJECTION

Source	DF	Mean Squares	F Ratio
total	34		
group	1	5.7339	2.0036
error	33	2.8617	

LOCATION

Source	DF	Mean Squares	F Ratio
total	34		
group	1	62.4271	0.5351
error	33	116.6624	

SPACE

Source	DF	Mean Squares	F Ratio
total	34		
group	1	1.6875	1.5532
error	33	1.0865	

FORM DEFINITENESS

Source	DF	Mean Squares	F Ratio
total	34		
group	1	214.8632	1.8038
error	33	119.1132	

FORM APPROPRIATENESS

Source	DF	Mean Squares	F Ratio
total	34		
group	1	3.5737	0.1980
error	33	18.0475	

F at .05 level = 4.14

Table 2. (continued)

COLOR

Source	DF	Mean Squares	F Ratio
total	34		
group	1	1.3309	0.0197
error	33	67.5475	

SHADING

Source	DF	Mean Squares	F Ratio
total	34		
group	1	43.5865	2.1296
error	33	20.4662	

MOVEMENT

Source	DF	Mean Squares	F Ratio
total	34		
group	1	18.6951	0.1096
error	33	170.5538	

PATHOGNOMIC VERBALIZATION

Source	DF	Mean Squares	F Ratio
total	34		
group	1	0.9026	0.0675
error	33	13.3544	

INTEGRATION

Source	DF	Mean Squares	F Ratio
total	34		
group	1	0.1286	0.0165
error	33	7.7588	

F at .05 level = 4.14

Table 2. (continued)

HUMAN

Source	DF	Mean Squares	F Ratio
total	34		
group	1	185.2647	1.8134
error	33	102.1643	

ANIMAL

Source	DF	Mean Squares	F Ratio
total	34		
group	1	79.5488	1.4926
error	33	53.2950	

ANATOMY

Source	DF	Mean Squares	F Ratio
total	34		
group	1	0.1503	0.0433
error	33	3.4673	

SEX

Source	DF	Mean Squares	F Ratio
total	34		
group	1	4.4665	4.0631
error	33	1.0992	

ABSTRACT

Source	DF	Mean Squares	F Ratio
total	34		
group	1	0.2947	0.0229
error	33	12.8516	

F at .05 level = 4.14

Table 2. (continued)

ANXIETY

Source	DF	Mean Squares	F Ratio
total	34		
group	1	60.6023	1.3608
error	33	44.5324	

HOSTILITY

Source	DF	Mean Squares	F Ratio
total	34		
group	1	105.6015	5.8014*
error	33	18.2025	

BARRIER

Source	DF	Mean Squares	F Ratio
total	34		
group	1	51.1883	4.6573*
error	33	10.9908	

PENETRATION

Source	DF	Mean Squares	F Ratio
total	34		
group	1	36.5954	3.5009
error	33	10.4529	

POPULAR

Source	DF	Mean Squares	F Ratio
total	34		
group	1	2.9444	0.3867
error	33	7.6129	

* significant at the .05 level

F at .05 = 4.14

Table 3 below shows the results of computing interrater reliability coefficients between the expert HIT scorer and the present scorer. A Pearson r was calculated for 18 of the variables. The mean coefficient for the 18 variables was 0.77.

Table 3. Interrater reliability coefficients for 18 HIT Variables

HIT Variable	Coefficient
Rejection	1.00
Location	0.77
Space	1.00
Form Definiteness	0.77
Form Appropriateness	0.54
Color	0.76
Shading	0.55
Movement	0.89
Pathognomic Verbalization	0.78
Integration	0.24
Human	0.96
Animal	0.94
Sex	0.89
Anxiety	0.79
Hostility	0.82
Barrier	0.80
Penetration	0.59
Popular	0.91

DISCUSSION

Evaluation of Findings

This section will first discuss the results of the two-way
analysis of variance and then the results of the one-way analysis of
variance. The data was first analyzed by computing a two-way analysis
of variance with disclosure group membership (high or low) and sex as
the variables. Due to a trend for male subjects to score opposite
from female subjects on many of the variables, a one-way analysis of
variance was computed for only the female data. This one-way analysis
of variance comparing the more homogeneous sub-groups (high disclosing
females and low disclosing females) eliminated the confounding effects
due to the sex of the subjects. A similar one-way analysis of variance
for the male data was not computed due to the lack of enough male
subjects in the sample.

The results of the two-way analysis of variance shown in Table 1
indicate there were no significant differences between the mean scores
of high self-disclosers and low self-disclosers on any of the HIT
variables. Thus, the main hypothesis (null form) was retained.

There was one significant F Ratio for the interraction on the
variable sex; however, sex is not normally scored when the group version
of the HIT is used, because it rarely occurs. Since sex occurs so
infrequently, and because the group administration reliability for sex
has not been studied, the significant interaction effect must be given
a guarded interpretation. The interaction effect was for female high

self-disclosers and male low self-disclosers to give significantly more sex responses than female low self-disclosers and male high self-disclosers. College students typically give more sex responses than any other normal group (Holtzman, Thorpe, Swartz, and Herron, 1961). According to Hill (1972), a few sex responses (1-3) may indicate a person that is now inhibited; a neurotically inhibited individual is not likely to give any sex responses. According to Jourard (1964), high self-disclosers would be less neurotically inhibited than low self-disclosers. Using this interpretation, the interaction effect is in the expected direction for females, but it is not for males.

The results of this study indicate that there are some relationships between self-disclosure and HIT scores for females. The one-way analysis of variance computed for the female subjects revealed significant F Ratios on barrier and hostility. High disclosing females scored significantly higher on barrier and significantly lower on hostility when compared to low disclosing females. Thus, two of the sub-hypotheses (high disclosers would score higher on barrier and lower on hostility) were supported when the more homogeneous (females only) groups were compared. The other sub-hypotheses (high self-disclosers would have significantly higher mean human and movement scores and significantly lower mean penetration, pathognomic verbalization, and location scores) were not supported by the one-way analysis of variance.

The significant results indicate relationships between the HIT variables of barrier and hostility and self-disclosure as measured by Jourard's Self-Disclosure Inventory. The present study adds to the interpretive data of the HIT, in that, for female college freshmen high barrier scores and low hostility scores are related to high self-disclosers

(as measured by Jourard's Self-Disclosure Inventory). Female college freshmen who reported being more open and honest in their past interpersonal relationships (high self-disclosers) and reported a willingness to be open in new relationships, scored higher on barrier and lower on hostility when compared to females who reported being closed in their past interpersonal relationships and reported a low willingness to be open and honest in their new relationships (low disclosers).

Among college students, high barrier scores are associated with ability to tolerate stress and a healthy sense of ego identity (Hill, 1972). Hill (1972) notes that research indicated high barrier scorers are able to express anger openly in a frustrating situation and are better able to communicate with others than low barrier scorers. High hostility scores are associated with individuals who feel threatened and fear aggression from other individuals (Hill, 1972). Neurotics, alcoholics, and emotionally disturbed adolescents are the populations that have the highest hostility scores on the HIT (Hill, 1972).

There were several trends in the female data which did not reach statistical significance. On the variables penetration, animal, and anxiety the differences in the raw mean scores were not significant; however, when the raw scores were changed to percentiles, the differences were of sufficient magnitude to be considered important. The high self-disclosing females tended to score lower on penetration, animal, and anxiety than low disclosing females. High penetration scores indicate feelings of weakness and vulnerability (Hill, 1972). Cleveland (1960) found that penetration scores are negatively correlated with the level of maturity and tolerance for stress. Cleveland and Fisher (1960) found that improvement after therapy was associated with a decrease in

penetration scores. High anxiety scores often indicate feelings of insecurity, and high animal scores may indicate rigidity (Hill, 1972).

Figures 2 and 3 show the four groups' percentile scores on the HIT variables. Fifty percent is the average college student's score (Holtzman's scores). The low shading score is a function of the group administration method, which does not have an individual inquiry (Holtzman, Moseley, Reinehr, & Abbott, 1963). The writer feels that the low integration percentiles are a function of a scorer bias on that particular variable. The interrater reliability coefficient for the variable integration was only 0.24.

Limitations

The present research has some limitations, due in part to the sample used in the research. First of all, interpretations of the results of this study are limited by the homogeneity of the sample and population from which the sample was drawn. The sample consisted of college students (most of them from Utah) who were freshmen and sophomores and attended a small western university.

The tendency for male high disclosers to score in the opposite directions than female high disclosers was not expected to occur, and a stratified sample (50% male and 50% female) was not selected for this study. The lack of a sufficient number of male subjects (nine high disclosers and six low disclosers) limited the study, as a one-way analysis of variance for male data was not calculated.

Recommendations for Further Research

The present research has revealed certain problems that need further study. The lack of enough male subjects in this study indicates that the study needs to be repeated using male subjects.

By administering the group version of the HIT, the present writer found that further standardization of procedures of the group HIT are needed. There are no standardized instructions, nor any research concerning the distance between the subject and the projected inkblot, nor any research concerning the size of the projected inkblot. Hence, research investigating the possible effects of subject-stimulus distance and stimulus size is required to determine the possible need for control of the variables.

LITERATURE CITED

Borg, Walter R., and Gall, Meredith. 1971. Educational research - an introduction. David McKay Company, New York.

Chittick, Eldon V., and Himelstein, Philip. 1967. The manipulation of self-disclosure. Journal of Psychology 65(1):117-121.

Clark, C. M., Veldman, S. J., and Thorpe, J. S. 1965. Convergent and divergent thinking of talented adolescents. Journal of Educational Psychology 56:157-163.

Cleveland, S. E. 1960. Body image changes associated with personality reorganization. Journal of Consulting Psychology 24:256-261.

Cleveland, S. E., and Fisher, S. A. 1960. A comparison of psychological characteristics and physiological reactivity in ulcer and rheumatoid arthritis groups. Psychosomatic Medicine 22:283-289.

Cleveland, S. E., and Sikes, M. P. 1966. Body image in chronic alcoholics and non-alcoholic psychiatric patients. Journal of Projective Techniques and Personality Assessment 30:265-269.

Coan, Richard W. 1965. Review of the HIT in O. K. Buros (Ed.) The Sixth Mental Measurements Yearbook. Gryphen Press, Highland Park, New Jersey. Review No. 217.

Coleman, James C. 1972. Abnormal psychology and modern life. Scott, Foresman, and Company, Glenview, Illinois.

Dimond, R. E., and Helkamp, D. L. 1969. Race, sex, ordinal position of birth and self-disclosure in high school students. Psychological Reports 25:235-238.

Dimond, R. E., and Munz, D. C. 1967. Ordinal position of birth and self-disclosure in high school students. Psychological Reports 21:829-833.

Doster, J. A., and Strickland, B. R. 1969. Perceived child-rearing practices and self-disclosure patterns. Journal of Consulting Psychology 33:382.

Eysenck, H. J. 1965. Review of the Holtzman Inkblot Technique in O. K. Buros (Ed.) The Sixth Mental Measurements Yearbook. Gryphen Press, Highland Park, New Jersey.

Fitzgerald, M. P. 1963. Self-disclosure and expressed self-esteem, social distance, and areas of the self revealed. Journal of Psychology 56:405-412.

Forrest, G. G. 1970. Transparency as a prognostic variable in psychotherapy. Unpublished doctoral dissertation, University of North Dakota.

Fritchey, Kathleen H. 1971. The effects of anxiety and threat on self-disclosure. Dissertation Abstracts Int. 31 (7-B) 4336.

Halverson, C. F., Jr., and Shore, R. E. 1969. Self-disclosure and interpersonal functioning. Journal of Consulting and Clinical Psychology 33:213-217.

Hamilton, Larry K. 1971. The relationship between self-disclosure and neuroticism. Original not seen. In Dissertation Abstracts Int. 32 (6-B):3635. December.

Hill, Evelyn F. 1972. The Holtzman Inkblot Technique. Jossey-Bass Inc., San Francisco, California.

Himelstein, Philip, and Lubin, Bernard. 1966. Relationship of the MMPI K Scale and a measure of self-disclosure in a normal population. Psychological Reports 19(1):166.

Holtzman, Wayne H., Moseley, E. C., Reinehr, R. C., and Abbott, Elaine. 1963. Comparison of the group method and the standard individual version of the Holtzman Inkblot Technique. Journal of Clinical Psychology 19(4):441-449.

Holtzman, Wayne H., and Swartz, J. D. 1963. Group method of administration for the Holtzman Inkblot Technique. Journal of Clinical Psychology 19(4):433-441.

Holtzman, W. H., Thorpe, J. S., Swartz, J. P., and Herron, E. W. 1961. Inkblot Perception and Personality. University of Texas Press, Austin, Texas.

Holtzman, W. H., Swartz, Jon D., and Sanders, Jeffrey L. 1970. Effects of stimulus variation on responses to the group version of the Holtzman Inkblot Technique. Journal of Consulting and Clinical Psychology 34(1):64-66.

Janofsky, Irene A. 1971. Affective self-disclosure in telephone versus face-to-face interviews. Journal of Humanistic Psychology 11(1):93-103.

Jourard, Sidney M. 1958. A study of self-disclosure. Scientific American 198:77082.

Jourard, S. M. 1959a. Healthy personality and self-disclosure. Mental Hygiene 43:499-507.

Jourard, S. M. 1959b. Self-disclosure and other cathexis. Journal
    of Abnormal and Social Psychology 59:428-431.

Jourard, S. M. 1961a. Age trends in self-disclosure. Merrill-Palmer
    Quarterly 7:191-197.

Jourard, S. M. 1961b. Self-disclosure and Rorschach productivity.
    Perceptual and Motor Skills 13:232.

Jourard, S. M. 1964. The transparent self. Van Nostrand Reinhold Co.

Jourard, S. M. 1971. Self-disclosure--an experimental analysis of
    the transparent self. Wiley and Sons, Inc.

Jourard, S. M., and Friedman, Robert. 1970. Experimenter-subject
    distance and self-disclosure. Journal of Personality and Social
    Psychology 15(3):278-282.

Jourard, S. M., and Jaffe, P. E. 1970. Influence of an interviewer's
    disclosure on the self-disclosing behavior of interviewees.
    Journal of Counseling Psychology 17:252-257.

Jourard, S. M., and Lasakow, P. 1958. Some factors in self-disclosure.
    Journal of Abnormal and Social Psychology 56:91-98.

Jourard, S. M., and Richman, P. 1963. Factors in the self-disclosure
    inputs of college students. Merrill-Palmer Quarterly of Behavior
    and Development 9:141-148.

Jourard, S. M. and Smith, S. A. 1970. Self-disclosure and MMPI
    "pathology" indicators. (Unpublished manuscript in Breed, G.,
    and Jourard, S. M.) Research in Self-disclosure--An Annotated
    Bibliography.

Kidd, Aline H., and Kidd, Robert M. 1971. Relation of Holtzman
    scores to rigidity. Perceptual and Motor Skills 32(3):1003-1010.
    January.

Komaridis, G. V. 1970. A validation study of Jourard's self-disclosure
    scale. Masters Thesis, University of Nebraska, 1965. (In research
    in self-disclosure--An Annotated Bibliography by George Breed and
    Sidney Jourard).

Lehrer, Arnold C. 1970 The personality correlates of creativity in
    undergraduates. Dissertation Abstracts Int. 31 (1-B):397. July.

Martin, David G. 1968. Test reviews. Journal of Counseling
    Psychology 15(5, Pt. 1): 481-484.

Mayo, P. R. 1968. Self-disclosure and Neurosis. British Journal of
    Social and Clinical Psychology 7:140-148.

Megargee, E. I. 1965. The relation between Barrier scores and aggressive behavior. Journal of Abnormal Psychology 70:307-311.

Megargee, E. I. 1966. Undercontrolled and overcontrolled personality types in extreme antisocial aggression. Psychological Monograph 80:3- whole monograph 611.

Megargee, Edwin J., and Swartz, Jon D. 1968. Extraversion, neuroticism and scores on the Holtzman Inkblot Technique. Journal of Projective Technique and Personality Assessment 32(3):262-265.

Mosley, F. C. 1963. Psychodiagnosis on the basis of the Holtzman Inkblot Technique. Journal of Projective Techniques and Personality Assessment 27:86-91.

Mosley, F. C., Duffey, R. F., and Sherman, L. J. 1963. An extension of the construct validity of the Holtzman Inkblot Technique. Journal of Clinical Psychology 19(2):186-192.

Mueller, W. F. and Abeles, N. 1964. The components of empathy and their relationship to the projection of human movement responses. Journal of Projective Techniques and Personality Assessment 28:322-330.

Resnick, Jaquelyn, and Jourard, S. M. 1970. High versus low disclosers: a contest. Journal of Humanistic Psychology 10:84-93.

Richter, Robert H., and Winter, William D. 1966. Holtzman Inkblot correlates of creative potential. Journal of Projective Techniques and Personality Assessment 30(1):62-67.

Rivenbark, W. H. 1971. Self-disclosure patterns among adolescents. Psychological Reports 28(1):35-42.

Rosenzweig, Stanley P., and Harford, Thomas. 1970. Correlates of the psychotic reaction profile in an outpatient psychiatric sample. Journal of Consulting and Clinical Psychology 35(2):244-247.

Stanley, Gordon, and Brownes, A. F. 1966. Self-disclosure and neuroticism. Psychological Reports 18(2):350.

Swartz, Jon D., Cleland, Charles C., Drew, Clifford J., and Witzke, Donald B. 1971. The Holtzman Inkblot Technique as a measure of perceptual development in mental retardation. Journal of Personality Assessment 35(4):320-325.

Thetford, William M. 1965. Review of the HIT in O. K. Buros (Ed.) The Sixth Mental Measurement Yearbook. Gryphen Press, Highland Park, New Jersey.

Thorpe, J. S., and Swartz, J. D. 1965. Level of perceptual development as reflected in responses to the Holtzman Inkblot Technique. Journal of Projective Techniques and Personality Assessment 29:380-386.

Thorpe, J. S., and Swartz, J. D. 1966. Perceptual organization: a developmental analysis by means of the Holtzman Inkblot Technique. Journal of Projective Techniques and Personality Assessment 30:447-451.

Truax, C. B., and Carkhuff, R. R. 1965. Client and therapist transparency in the psychotherapeutic encounter. Journal of Counseling Psychology 12:3-9.

Truax, Charles B., and Wittman, Joe. 1971. Self-disclosure and personality adjustment. Journal of Clinical Psychology 27(4):535-537.

Ullman, L. P., and Eck, R. A. 1965. Inkblot perception and the process-reactive distinction. Journal of Clinical Psychology 21:311-313.

Vondracek, Fred W., and Marshall, Marilyn J. 1971. Self-disclosure and interpersonal trust: an exploratory study. Psychological Reports 28(1):235-240.

Weigel, R. G., and Weigel, V. M. 1969. Reported and projected self-disclosure. Psychological Reports 24:283-287.

Zubin, J. 1954. Failures of the Rorschach Technique. Journal of Projective Techniques and Personality Assessment 18:303-315.

APPENDIXES

Appendix I

Self-Disclosure Inventory

Name_____ Age_____ Sex_____

Address_____Telephone No._____

Classification_____ Religion_____

Instructions:

People differ in the extent to which they let other people know them. We are seeking to investigate what people tell others about themselves.

1. Below there is a list of 40 topics that pertain to you. Read the topics carefully and check those topics that you have disclosed fully to somebody in your life. If there is nobody to whom you have fully revealed that aspect of your life, leave that space blank.

2. After you have completed the above procedure, turn the page in the booklet. The same 40 topics are listed. Check the topics you would be willing to discuss fully with a partner, who would be an unknown person of your own age, sex, and peer group. If you would be reluctant for any reason to discuss a topic fully, leave that space blank.

In the space provided at the left, check those topics on which you have disclosed yourself fully to somebody.

_____ 1. The different kinds of play and recreation I enjoy.
_____ 2. My smoking habits.
_____ 3. The best friendship I ever had.
_____ 4. The religious denomination to which I belong.
_____ 5. The number of children I want to have after I am married.
_____ 6. Bad habits my mother or father have.
_____ 7. Times I have felt lonely.
_____ 8. The things in my past or present life about which I am most ashamed.
_____ 9. What I am most afraid of.
_____ 10. What annoys me most in people.
_____ 11. Times I have been in the hospital.
_____ 12. How satisfied I am with different parts of my body—legs, chest, waist, weight, etc.
_____ 13. How often I usually go on dates.
_____ 14. The description of a person with whom I have been or am in love.
_____ 15. How I feel about marrying a person of a different religion.

_____16. Whether or not I want to travel and see the country.
_____17. Radio and television programs that interest me.
_____18. What I dislike about making new friends.
_____19. My feelings about people who try to impress me with their knowledge.
_____20. What I daydream about.
_____21. Good times I had in school.
_____22. My school grades.
_____23. How much I care about what others think of me.
_____24. How often I have had sexual relations in my life.
_____25. The kind of person with whom I would like to have sexual experiences.
_____26. Why some people dislike me.
_____27. Whether I like doing things alone or in a group.
_____28. My opinions about how capable and smart I am compared to others around me.
_____29. Places where I have worked.
_____30. How I budget my money--the proportion that goes for necessities, luxuries, etc.
_____31. What would bother me, if anything, about making a speech or giving a talk.
_____32. How important I think sex will be in making my marriage a good one.
_____33. Things I liked about my home life.
_____34. Where my parents and grandparents came from.
_____35. Feelings about my adequacy in sexual behavior--my ability to perform adequately in sexual relationships.
_____36. My opinion on marrying for money.
_____37. Whether or not I think the federal government should support persons who cannot find work.
_____38. How I feel about girls' new fashions styles.
_____39. Whom I most admire.
_____40. The aspects of my personality that I dislike, worry about, or regard as a handicap to me.

In the space provided at the left, check those topics on which you would be willing to disclose yourself fully to an unknown partner.

_____ 1. The different kinds of play and recreation I enjoy.
_____ 2. My smoking habits.
_____ 3. The best friendship I ever had.
_____ 4. The religious denomination to which I belong.
_____ 5. The number of children I want to have after I am married.
_____ 6. Bad habits my mother or father have.
_____ 7. Times I have felt lonely.
_____ 8. The things in my past or present life about which I am most ashamed.
_____ 9. What I am most afraid of.
_____10. What annoys me most in people.

_____ 11. Times I have been in the hospital.
_____ 12. How satisfied I am with different parts of my body--legs, waist, weight, chest, etc.
_____ 13. How often I usually go on dates.
_____ 14. The description of a person with whom I have been or am in love.
_____ 15. How I feel about marrying a person of a different religion.
_____ 16. Whether or not I want to travel and see the country.
_____ 17. Radio and television programs that interest me.
_____ 18. What I dislike about making new friends.
_____ 19. My feelings about people who try to impress me with their knowledge.
_____ 20. What I daydream about.
_____ 21. Good times I had in school.
_____ 22. My school grades.
_____ 23. How much I care about what others think of me.
_____ 24. How often I have had sexual relations in my life.
_____ 25. The kind of person with whom I would like to have sexual experiences.
_____ 26. Why some people dislike me.
_____ 27. Whether I like doing things alone or in a group.
_____ 28. My opinions about how capable and smart I am compared to others around me.
_____ 29. Places where I have worked.
_____ 30. How I budget my money--the proportion that goes for necessities, luxuries, etc.
_____ 31. What would bother me, if anything, about making a speech or giving a talk.
_____ 32. How important I think sex will be in making my marriage a good one.
_____ 33. Things I liked about my home life.
_____ 34. Where my parents and grandparents came from.
_____ 35. Feelings about my adequacy in sexual behavior--my ability to perform adequately in sexual relationships.
_____ 36. My opinion on marrying for money.
_____ 37. Whether or not I think the federal government should support persons who cannot find work.
_____ 38. How I feel about girls' new fashions styles.
_____ 39. Whom I most admire.
_____ 40. The aspects of my personality that I dislike, worry about, or regard as a handicap to me.

Name_____

Appendix II

HIT Group Administration Instructions

You will be shown a series of inkblots, each of which will be projected on the screen before you for one minute. Using your imagination, write down in the space provided a description of the first thing the blot looks like or reminds you of.

Include in your description the particular characteristics or qualities of the inkblot which are important in determining your responses; i.e., what about the blot made it look that way? Give as complete an answer as you can in the time available.

None of these inkblots has been deliberately drawn to look like anything in particular. No two people see exactly the same things in a series of inkblots like these. There are no right or wrong answers.

Inkblot X projected

"A common response to this inkblot is a bat or a winged creature." Outline area of blot used. Point out head, wings, or tail.

"Response might be written a bat because of form and in the space provided you would draw a circle around the appropriate area on the accompanying diagram."

"Another common response to this inkblot is a pool of oil, because of color."

"Still another common response to this inkblot is a steer's head." Discuss role of form, color and shading in determining previous response.

Inkblot Y projected

"A common response is human figures - because of form or shape."

"Another common response is a skeleton."

Point out role of form and shading.

"Still another response to this inkblot is blood because of color."

Repeat initial instructions (paraphrased), and ask subjects if there are any questions.

Verbal reinforcement

Card No. 2   "Write out as complete a description as you can in the time and space available."

Card No. 3   "Just let your imagination run free, and put down what the inkblot suggests to you - what you see in it."

Card No. 6   "This is another one of those blots where you have to be careful in outlining that part of the area which you use."

Card No. 8   "Write out as best you can what characteristics of the inkblot were deciding factors in your response."

Card No. 9   "Be sure to draw a line around that part of the blot that suggested your response."

Card No. 14   "We are particularly interested in knowing what aspects of the inkblot influenced your response."

Card No. 19   "Be sure to draw a line around that part of the blot that suggested your response."

Card No. 24   "Write out as complete a description as you can in the time and space available.

Exposure times

Slides 1 to 3, 120 seconds

Slides 4 to 6, 100 seconds

Slides 7 to 9, 90 seconds

Slides 10 to 45, 75 seconds

VITA

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