The Relationship Between Self-Disclosure and Various Aspects of Mental Health as a Function of the Interpersonal Situation in Which Disclosure Occurs.

Wesley Joseph Brockhoeft
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THE RELATIONSHIP BETWEEN SELF-DISCLOSURE AND VARIOUS ASPECTS OF DENTAL HEALTH AS A FUNCTION OF THE INTERPERSONAL SITUATION IN WHICH DISCLOSURE OCCURS.

THE LOUISIANA STATE UNIVERSITY AND AGRICULTURAL AND MECHANICAL COLLEGE D. E. R. 1976

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THE RELATIONSHIP BETWEEN SELF-DISCLOSURE AND VARIOUS ASPECTS OF MENTAL HEALTH AS A FUNCTION OF THE INTERPERSONAL SITUATION IN WHICH DISCLOSURE OCCURS

A Dissertation

Submitted to the Graduate Faculty of the Louisiana State University and Agricultural and Mechanical College in partial fulfillment of the requirements for the degree of Doctor of Philosophy in The Department of Psychology

by

Wesley Joseph Brockhoeft
B.S., Louisiana State University, 1972
M.A., Louisiana State University, 1976
August, 1979
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# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGMENTS</td>
<td>ii</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>v</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>vii</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>viii</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>A. Personality Theory and Interpersonal Behavior</td>
<td>3</td>
</tr>
<tr>
<td>B. Social Penetration Processes</td>
<td>6</td>
</tr>
<tr>
<td>C. Self-Disclosure Research Related to Mental Health</td>
<td>9</td>
</tr>
<tr>
<td>1. &quot;Trait&quot; Oriented Approaches</td>
<td></td>
</tr>
<tr>
<td>2. &quot;Non-Trait Oriented Approaches&quot;</td>
<td>12</td>
</tr>
<tr>
<td>D. The Present Study</td>
<td>16</td>
</tr>
<tr>
<td>E. Experimental Hypotheses</td>
<td>22</td>
</tr>
<tr>
<td>METHOD</td>
<td>24</td>
</tr>
<tr>
<td>RESULTS</td>
<td>37</td>
</tr>
<tr>
<td>DISCUSSION</td>
<td>67</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>77</td>
</tr>
<tr>
<td>APPENDICES</td>
<td>85</td>
</tr>
<tr>
<td>VITA</td>
<td>92</td>
</tr>
</tbody>
</table>
## List of Tables

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Anova Source Table for Scores Obtained on the Neuroticism Scale</td>
<td>38</td>
</tr>
<tr>
<td>2</td>
<td>Anova Source Table for Scores Obtained on the POI₁ Scale</td>
<td>39</td>
</tr>
<tr>
<td>3</td>
<td>Anova Source Table for Scores Obtained on the POI₂ Scale</td>
<td>40</td>
</tr>
<tr>
<td>4</td>
<td>Means and Standard Deviations for Scores on the MPI Neuroticism Scale (N), POI Time Competence Scale (POI₁) and POI Inner-Directed Scale (POI₂) for all Subjects and by Situation</td>
<td>41</td>
</tr>
<tr>
<td>5</td>
<td>Anova Source Table for the Effects of Situations on the Subjects' Ratings of the Confederate on the Cold/Warm Item</td>
<td>43</td>
</tr>
<tr>
<td>6</td>
<td>Anova Source Table for the Effect of Situations on the Subjects' Ratings of the Confederate on the Accepting/Rejecting Item</td>
<td>44</td>
</tr>
<tr>
<td>7</td>
<td>Anova Source Table for the Effect of Situations on the Subjects' Ratings of the Confederate on the Trustworthy/Untrustworthy Item</td>
<td>45</td>
</tr>
<tr>
<td>8</td>
<td>Anova Source Table for the Effect of Situations on the Subjects' Ratings of the Confederate on the Dislikable/Likeable Item</td>
<td>46</td>
</tr>
<tr>
<td>9</td>
<td>Adjusted Means and Standard Deviations of the Perception Scale Ratings in Each Situation</td>
<td>47</td>
</tr>
<tr>
<td>10</td>
<td>Anova Source Table for the Effects of Situations and Topics on the Intimacy of Self-Disclosure</td>
<td>50</td>
</tr>
<tr>
<td>Table</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>-------</td>
<td>-----------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>11</td>
<td>Anova Source Table for the Effects of Situations and Topics on the Duration of Self-Disclosure</td>
<td>51</td>
</tr>
<tr>
<td>12</td>
<td>Mean Intimacy and Duration Scores for Each Situation</td>
<td>52</td>
</tr>
<tr>
<td>13</td>
<td>Mean Intimacy and Duration Scores with Standard Deviations for Each Topic by Situation</td>
<td>54</td>
</tr>
<tr>
<td>14</td>
<td>Regression Line Slopes, Standard Errors of the Estimate and Probability Statements Representing the Relationship Between Mental Health Variables and Self-Disclosure for Each Situation</td>
<td>65</td>
</tr>
</tbody>
</table>
# List of Figures

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Topic Mean Scores for the Intimacy of the Subjects' Self-Disclosure by Situation</td>
</tr>
<tr>
<td>2</td>
<td>Topic Mean Scores for the Duration of the Subjects' Self-Disclosure by Situation</td>
</tr>
<tr>
<td>3</td>
<td>The Intimacy of the Subjects' Self-Disclosure as a Function of Scores Obtained on the MPI Neuroticism Scale</td>
</tr>
<tr>
<td>4</td>
<td>The Duration of the Subjects' Self-Disclosure as a Function of Scores Obtained on the MPI Neuroticism Scale</td>
</tr>
<tr>
<td>5</td>
<td>The Intimacy of the Subjects' Self-Disclosure as a Function of Scores Obtained on the POI Time Competence Scale</td>
</tr>
<tr>
<td>6</td>
<td>The Duration of the Subjects' Self-Disclosure as a Function of Scores Obtained on the POI Time Competence Scale</td>
</tr>
<tr>
<td>7</td>
<td>The Intimacy of the Subjects' Self-Disclosure as a Function of Scores Obtained on the POI Inner-Directed Scale</td>
</tr>
<tr>
<td>8</td>
<td>The Duration of the Subjects' Self-Disclosure as a Function of Scores Obtained on the POI Inner-Directed Scale</td>
</tr>
</tbody>
</table>
Abstract

The effect of interpersonal situations on the relationships between "neuroticism" and self-disclosure and self-actualization and self-disclosure were studied. Subjects, 75 male undergraduates, were randomly assigned to one of three interpersonal situations and asked to disclose information to a confederate.

The interpersonal situation was defined as either warm and accepting, neutral, or cold and non-accepting depending on the confederate's verbal and non-verbal behavior while the subject was disclosing. "Neuroticism" was defined as scores obtained on the Maudsley Personality Inventory Neuroticism scale. Self-actualization was defined as scores obtained on either the Time Competence or Inner-Directed scale of the Personal Orientation Inventory. Two measures of self-disclosure were used - intimacy and duration, obtained from the judges' ratings of the subjects' self-disclosures.

Results indicated that self-disclosure was significantly affected by the interpersonal situation. Self-disclosure was not, however, found to be significantly related to either the degree of "neuroticism" or self-actualization.

Of particular importance to the present study was the finding that the relationship between self-disclosure and the mental health variables was not mediated by the inter-
personal situation in which disclosure occurred. Implications of the results with suggestions for future research were discussed.
Introduction

A person spends most of his waking hours in the presence of and relating to other individuals. The types of relationships one has determines, in large part, the extent to which he fulfills his needs and finds life satisfying.

Relationships vary considerably as a result of the individuals involved and over time. Individual differences in the ability to develop and maintain relationships are extensive. Some people may have only a few intimate relationships which endure for a lifetime while others may never develop a truly intimate relationship, engendering only superficial contacts with others.

The process by which people develop, maintain and terminate relationships as well as their capacity for doing so has been given considerable attention by social scientists. Of particular concern to personality theorists has been the association between interpersonal behavior and characteristics of personality or psychological well-being. Social psychologists, on the other hand, have investigated interpersonal behavior from the standpoint of perception, attitude, situational context, reward/cost and physical environment.

The scope of the present study will be to explore the relationship between psychological well-being or mental health and
a specific interpersonal behavior - self-disclosure. In order to provide a framework for the investigation, relevant topic areas will be reviewed.

Presented first will be a brief summary of several personality theories as they relate to interpersonal behavior. A synopsis of Altman and Taylor's Social Penetration Theory will then be offered along with a discussion of self-disclosure as a social penetration variable. A review of the "trait" oriented investigations of the relationship between self-disclosure and mental health will come next, followed by a survey of the "non-trait" oriented research.
Personality Theory and Interpersonal Behavior

Theories of personality are numerous and vary considerably. Differences may reflect fundamental discrepancies in the view of human nature or may be the result of relative emphasis placed on particular facets of personality. Of particular importance to the present study will be those theories of personality which discuss "ideal functioning" and pathology in regard to interpersonal behavior. Several representative theories will be briefly reviewed.

Fromm (1947) postulated a theory of personality in which he described five character types or orientations. Each orientation has associated with it a syndrome of character traits. The ideal character type according to Fromm was called the "productive" orientation, which referred to a fundamental mode of relatedness in all realms of human experience. In his own words:

Human existence is characterized by the fact that man is alone and separated from the world; not being able to stand the separation, he is impelled to seek for relatedness and oneness... It is the paradox of human existence that man must simultaneously seek for closeness and for independence; for oneness with others and at the same time for the preservation of his uniqueness and particularity. The answer to this paradox... is productiveness... in the process of creation... and ... through love and through reason. (Fromm, 1947, pp. 83-97)

Fromm believed that a person's needs for relatedness and identity would fail to be integrated if his development re-
sulted in a nonproductive orientation. In such a case, the individual's interpersonal relationships would reflect either a symbiotic relatedness (loss of identity) or a withdrawal-destructiveness (distance or indifference).

Similar conceptualizations have been posited by other theorists, including Adler's (1964) notion of life-styles, Erickson's (1950) formulation of developmental stages with associated character traits, and Angyal's (1951, 1965) concept of oppositional forces - autonomy and homonomy.

Also of note is Maslow's (1962) theory of self-actualization in which he views man as striving toward fulfillment of physical and psychological needs. Self-actualization, which refers to the actualization of all inherent potentialities is seen as the pinnacle of mature functioning. Common features of self-actualizing individuals include acceptance of the self, others and the natural world, sense of privacy, feelings of intimacy with a few loved ones, creativity and nonconformism (Maddi, 1976).

Inherent to each of the above theories is the assertion that "ideal functioning" involves effective and satisfying interpersonal functioning. Psychological health is clearly associated with a sense of relatedness to others. The ability to establish and maintain intimate relationships without losing one's identity can be considered a hallmark of mental health.
Psychopathology is associated with aberrations in interpersonal functioning. Disturbance may be in the form of overly inclusive relationships or overly distant ones.
Social Penetration Processes

An integrative model of the process by which people develop, maintain and terminate relationships was presented in 1973 by Altman and Taylor. They referred to the phenomenon as the social penetration process which consists of all interpersonal events in a developing relationship, including verbal interaction, nonverbal movement and gestures, use of the environment and interpersonal perception. Factors which play a role in the development of an interpersonal relationship are personal characteristics of the participants, interpersonal rewards and costs, and the situational context.

Over time, social penetration processes are described as moving from superficial to more intimate areas of interpersonal exchange. Accessibility to broad areas of the personality is increased as well as openness to more central, intimate aspects of personality.

Social penetration processes are propelled forward when a specific interaction leads to a positive subjective evaluation of the immediate rewards and costs. These evaluations are followed by forecasts of potential rewards and costs from future interactions. Forecasts are integrated with the memory of past experiences and yield a decision of whether or not to pursue the relationship.

Interpersonal rewards and costs have been associated with the mutual satisfaction or frustration of social and personal
needs covering a broad spectrum, including anxiety, security, status, and group identification. Altman and Taylor, however, maintained a strictly operational approach to rewards and costs.

In exploring the nature of social penetration processes, Altman and Taylor chose, almost exclusively, self-disclosure as the dependent measure. Advantages of using self-disclosure are:

1. It is a readily observable behavior.
2. The literature on self-disclosure research is extensive.
4. Changes in self-disclosing behavior are more apparent than changes in most other inter-personal behaviors.

Utilizing a variety of subjects, response modes and research settings, Altman, Taylor and their associates provided data supportive of the basic tenets of social penetration theory. It was found that:

1. Social penetration processes increase and progress in a systematic fashion over time.
2. Disclosure is greater in superficial versus intimate areas of exchange.
3. There is less rapid development of social penetration in intimate areas of exchange.
4. A general slowing down of the social penetration process occurs in the later stages of a relationship. (Altman and Haythorn, 1965; Taylor, 1968; Taylor, Altman and Sorrentino, 1969; Colson, Note 1; Frankfurt, Note 2)

With regard to the effects of interpersonal rewards and costs on various aspects of the social penetration process, it was found that:

1. Social penetration, particularly in intimate areas of exchange, is dependent upon reward/cost factors such that an increase in satisfaction leads to greater penetration or openness.

2. Social penetration processes are affected not only by immediate reward/cost factors but also the cumulative effect of past experiences (Taylor, Altman and Sorrentino, 1969; Colson, Note 1; Frankfurt, Note 2)
Self-Disclosure Research Related to Mental Health

"Trait" Oriented Approaches

The term "self-disclosure" was first coined in 1959 by Sidney Jourard, and may be defined as "that which occurs when one person knowingly communicates information not generally known about himself to another." In recent years the act of disclosing such information has acquired a highly positive valence. Within the framework of humanistic psychology, it has become associated with effective living, positive mental health and self-actualization.

The ascendance of self-disclosure to such eminent status can be attributed primarily to the work and writing of Jourard. He believed that "transparency" in a person's interaction with others is a prerequisite for personal growth and adjustment.

Self-disclosure is a symptom of personality health and a means of ultimately achieving healthy personality... Every maladjusted person is a person who has not made himself known to another human being and in consequence does not know himself (Jourard, 1971; p. 32)

His theory indicates that disclosure should be positively related to mental health (e.g. self-actualization) and negatively related to clinical maladjustment (Jourard; 1959, 1963, 1964).

In view of Jourard's theory it is not surprising to find emotional well-being, psychopathology and personality
the subject of many self-disclosure investigations. The approach used by most researchers has been to correlate self-disclosure, measured by self-report instruments, with instruments designed to measure mental health and various aspects of personality.

Measures of mental health which have been correlated with self-disclosure include the Maudsley Personality Inventory (Shapiro and Swenson, 1969; Stanley and Bownes, 1966; Shapiro, Note 3), the Pederson Personality Inventory Cycloid Disposition Scale (Pederson and Breglio, 1968; Pederson and Higbee, 1969), the Minnesota Multiphasic Personality Inventory (Persons and Marks, 1970; Truax, Altman and Wittmer, 1974; Dutton, Note 4), the Symptom-Sign Inventory (Mayo, 1968) and the Personal Orientation Inventory (Lombardo and Fantasia, 1976; Kinder, 1976). The relationship between self-disclosure and psychotherapy outcome has been investigated by Peres (1947) and Seeman (1949); and Brodsky (1964) as well as Komaridis (Note 5) have explored the relationship between disclosure to parents and emotional well-being.

Much attention has been given to the study of self-disclosure and such personality traits as self-concept, ego strength and self-esteem (Fitzgerald, 1963; Himelstein and Lubin, 1965; Mullaney, 1964; Shapiro, Note 3; Dutton, Note 4; Swenson, Note 6). Also of interest has been the investi-
gation of self-disclosure and cognitive complexity (Halverson and Shore, 1969; Jourard, 1961; Powell and Jourard, 1963; Tuckman, 1966; Jourard and Shain, Note 7), authoritarianism (Halverson and Shore, 1969; Worthy, Gary and Kahn, 1969; Barnes, Note 8), need for approval (Burhenne and Mirels, 1970; Doster and Strickland, 1969; Kopfstein and Kopfstein, 1973; Thelen and Brooks, 1976), sociability (Frankfurt, Note 2; Swenson, Note 6) and interpersonal trust (Cash, Stack and Luna, 1975; Vondracek and Marshall, 1971).

In general, the above research has mildly supported the notion set forth by Jourard (1971). It is to be noted, however, that even the significant correlations have usually been low with none above .50. In addition, several authors have been either unable to obtain significant results or have obtained results in the direction opposite that predicted by Jourard's theory.

Such inconsistent findings in self-disclosure studies has provoked criticism concerning several methodological weaknesses of the research:

1. The use of instruments such as the Jourard Self-Disclosure Questionnaire and similar self-report measures of self-disclosure, which lack predictive validity (Cozby, 1973);

2. Inconsistency in the conceptual and operational definitions of mental health and personality traits across studies (Allen, 1973; Cozby, 1973); and of particular importance to the present investigation,
3. The inherent implication that self-disclosure is a personality trait rather than a process variable (Altman and Taylor, 1973).

Altman and Taylor (1973) were among the first to criticize the use of "trait" oriented approaches in self-disclosure research. They believed it would be highly unlikely that any "universal" trait-disclosure relationships exist. They proposed that "personality determinants of the social penetration process do not function unilaterally but operate in conjunction with features of the relationship and setting, and that continued search for personality determinants, per se, will probably only continue to result in marginally suggestive effects."

"Non-Trait" Oriented Approaches

Altman and Taylor described three studies (Taylor, 1968; Taylor and Oberlander, 1969; Frankfurt, Note 2) conducted in their laboratory which they set forth as prototypes of a "non-trait" oriented approach to the investigation of self-disclosure's relationship to mental health. In each of the three studies, subjects were distinguished, on the basis of self-disclosure questionnaires, as being either high or low revealers. Two of the studies compared high and low revealers at different stages of the acquaintance process. The third study compared high and low revealers on various perceptual tasks.
Although proferred as "non-trait" prototypes, it is evident that the above studies failed to transcend a "trait" oriented approach. Scores on a self-disclosure questionnaire were exchanged for scores on a personality test. Thus, self-disclosure was treated as a trait, and in the first two studies was utilized as both a trait and a process variable.

The first truly "non-trait" oriented approach to the investigation of self-disclosure's relationship to mental health occurred in 1975 when Chaikin, Derlega, Bayma, and Shaw, conducted their study of disclosure reciprocity and neuroticism. Assuming that the appropriateness of behavior contributes to the definition of mental health, Chaikin posited that a complex relationship exists between self-disclosure and neuroticism which is mediated by the context in which disclosure occurs. He speculated that neurotics may not have learned to discriminate cues signaling the appropriateness of self-disclosure, resulting from a preoccupation with their own problems and feelings of threat.

To test this notion, he constructed a situation in which he believed self-disclosure would be highly appropriate and another in which disclosure would be less appropriate. In the highly appropriate situation subjects listened to a confederate disclose highly intimate information and then were asked to talk about themselves.
In the less appropriate situation, subjects listened to a confederate disclose superficial information. Subjects were designated as either "neurotic" or "normal" based on their scores on the Neuroticism scale of the Maudsley Personality Inventory.

Results indicated that "neurotics" were neither more nor less self-disclosing than the "normal". Significant differences appeared between the two groups, however, when the appropriateness of the situation was considered. "Neurotics" maintained a characteristic middle level of self-disclosure, regardless of the appropriateness for disclosure. They tended to overdisclose in the less appropriate situation and underdisclose in the highly appropriate situation. "Normals", on the other hand, disclosed little in the less appropriate situation and much more in the highly appropriate situation. Chaikin, et. al. concluded that neuroticism is related to inappropriate disclosure rather than to any characteristically high or low level of disclosure (Chaikin, et. al., 1975).

Two earlier studies were also cited as lending support to the concept that neuroticism is related to inappropriate self-disclosure. Chaikin and Derlega (1974) in a perceptual study of disclosure, found that when an individual reveals intimate information following another person's disclosure of superficial information, he is
regarded by observers as maladjusted. When an individual follows intimate disclosure with superficial information, he is seen as cold. Violation of the reciprocity norm in either direction produced undesirable attributes. In Mayo's study of self-disclosure and neuroticism (1968) it was found that nonreciprocal patterns of mutual disclosure were reported more frequently by neurotic in-patients than by normals and neurotics who had not been hospitalized.

Unfortunately, the Chaikin, et. al. (1975) and Chaikin and Derlega (1974) studies utilized a methodology in which modeling was a factor. The first study manipulated appropriateness by having a confederate model either highly intimate or superficial self-disclosure. Rather than concluding that neuroticism is related to inappropriate self-disclosure, it may be argued that neuroticism is related to inappropriate modeling behavior. The second study suffers from similar confounding.
The Present Study

The purpose of the present study was to investigate the relationship between self-disclosure and various aspects of mental health as a function of the interpersonal situation in which disclosure occurs. The use of self-disclosure as a dependent variable has been previously discussed. Mental health was operationalized through the use of two personality inventories, the MPI and POI.

The MPI was chosen as a measure of mental health because the inventory contains a neuroticism scale which measures the extent to which an individual tends to be emotionally overresponsive and, in extreme cases, prone to neurotic breakdown under stress. Theoretically, individuals are assessed along a normal to neurotic continuum. Advantages of the MPI are:

1. Norms are available for American college students;
2. Literature establishing the scale's reliability and validity is extensive;
3. Administration time is short; and
4. The scale is easily administered to large groups (Eysenck, 1962).

The POI was chosen as a measure of mental health because it is presently the only assessment instrument, with established reliability and validity, which measures the positive end of the psychological adjustment continuum. It was developed specifically to measure concepts that in-
clude Maslow's (1954) hypotheses about self-actualization; Riesman, Glazer and Denny's (1950) constructs of inner — and other — directedness; and Perls (1947) as well as May, Angel and Ellenberger's (1958) conceptualization of time orientation. Theoretically, individuals are assessed along a non-self-actualizing (less than fully functioning) to self-actualizing (fully functioning) continuum. Advantages of the POI are:

1. Norms are available for American college students;
2. The inventory's reliability and validity have been established in the literature; and
3. The instrument is easily administered to large groups.

As noted earlier, numerous studies have sought to examine the relationship between mental health and self-disclosure as well as to find the personality correlates of self-disclosure. The majority of these studies have utilized a "trait" oriented approach, comparing scores on personality tests with self-report measures of self-disclosure or actual self-disclosure in a single situation. Results have been, at best, only midly supportive of Jourard's (1971) notion that self-disclosure is positively related to psychological well-being.

Altman and Taylor (1973) criticized the use of "trait" oriented approaches in self-disclosure research. They
believed that the existence of "universal" trait-disclosure relationships, such as that hypothesized by Jourard, were highly unlikely.

According to their theory of social penetration processes, the relationship between self-disclosure and mental health would not be a simple linear one. Instead, mental health would be seen as operating in conjunction with situations and environmental factors, rather than functioning unilaterally, in determining self-disclosure behavior.

In essential agreement with the concepts of Altman and Taylor, Chaikin, et. al. (1975) assumed that a complex relationship exists between self-disclosure and neuroticism which is mediated by the context in which disclosure occurs. After testing their hypothesis, they concluded that neuroticism is related to inappropriate self-disclosure rather than to any characteristically high or low level of self-disclosure. Unfortunately, the involvement of modeling in their study made alternative conclusions possible.

It is to be noted, however, that although the conclusions stated by Chaikin, et. al. are in conflict with Jourard's notion, they are compatible with Altman and Taylor's theory of social penetration processes, are supported by the results of Chaikin and Derlega's study (1974) and Mayo's study (1968) and can account for the ambiguous findings of "trait" oriented approaches.
It should also be acknowledged that the assumptions of Chaikin, et. al. regarding the relationship between neuroticism and self-disclosure are in concert with the theoretical concepts presented earlier in the review of personality theories. Psychopathology was associated with aberrations in interpersonal functioning, whereas psychological well-being was associated with effective and satisfying interpersonal functioning. It logically follows that if self-disclosure is viewed as an interpersonal behavior, a process variable, its expression will be more or less effective (i.e. appropriate) as a function of mental health.

The utilization of "self-actualization" as a variable in the present study represented an attempt to expand the investigation of the relationship between mental health and self-disclosure to include the positive end of the mental health continuum. As has been previously noted, individuals who are described as self-actualizing have been characterized as being in the process of fulfilling all their inherent potentialities. According to Maslow, such individuals should be emotionally stable, "resistant to enculturation," highly inner-directed, capable of experiencing feelings of intimacy with a few loved ones, spontaneous and creative.

In an attempt to verify Maslow's notion that self-actualizing individuals feel no constraint to yield to
social influences, Crosson and Schwendiman (Note 9) explored the relationship between scores on the POI Inner-Directed scale and social conformity measured through the use of a Crutchfield apparatus. The results indicated that self-actualization is negatively related to conformity. Doyle (1975), using Witkin's rod and frame test, reported that nine of the POI scales were significantly and positively correlated with a field-independent perceptual style.

Testing Maslow's assertion that self-actualization is related to "resistance to enculturation," Hekmat and Theiss (1971) had subjects who were either highly, moderately or low self-actualizing, based on POI scores, talk about themselves in an interview situation. The interviewer consistently made reflective statements to every self-disclosure. It was found that highly self-actualizing subjects were less responsive to the interviewer, in terms of increased self-disclosure, than either the moderately or low self-actualizing subjects. Hekmat and Theiss concluded that as an individual moves toward self-actualization his locus of control moves from the external to internal.

The results of the above research suggest that highly self-actualizing individuals may self-disclose at variance to situational cues. Thus, highly self-actualizing individuals may resemble more "neurotic" individuals
(Chaikin, et al., 1975) in their self-disclosure behavior. Unlike "neurotic" individuals, however, who may be unable to effectively discriminate situational cues, highly self-actualizing individuals may disclose at variance to situational cues as a result of their internalized locus of control, spontaneity and resistance to social directives.

In order to assess the relationship between mental health and self-disclosure within an interpersonal context, the present study had subjects self-disclose to a confederate in several different situations. So as to avoid the methodological weaknesses of the Chaikin, et al. (1975) study, the situational variable did not involve disclosure by the confederate. Instead, the situational variable was the extent to which the confederate was perceived as being warm and accepting versus cold and non-accepting. In order to influence the subjects' perception of the confederate, the confederate responded both verbally and non-verbally to the subjects while they were disclosing.

The purpose of the confederate's responses was to create an interpersonal atmosphere rather than to provide social reinforcement, therefore an attempt was made to limit the confederate's responses to statements and gestures which reflected warmth/cold and acceptance/non-acceptance rather than agreement/disagreement and approval/disapproval.
**Experimental Hypotheses**

**Hypothesis 1**

The intimacy of the subjects' self-disclosures will be significantly affected by the situational context, such that:

1. subjects in a warm, accepting interpersonal environment will self-disclose more intimately and with longer duration than subjects in a neutral environment; and

2. subjects in a neutral interpersonal environment will self-disclose more intimately and with longer duration than subjects in a cold, non-accepting environment.

**Hypothesis 2**

The intimacy and duration of the subjects' self-disclosures will be independent of "neuroticism" as measured by the MPI Neuroticism scale and independent of self-actualization as measured by either the POI Time Competence or Inner-Directed scales.

**Hypothesis 3**

The relationship between "neuroticism" and the intimacy and duration of the subjects' self-disclosures will be different in each of the interpersonal situations, such that:

1. In a warm, accepting interpersonal environment, subjects who are more "neurotic" will self-disclose less intimately and with less duration than subjects who are less "neurotic."
2. In an interpersonal environment which is neutral with respect to acceptance and warmth, subjects who are more "neurotic" will self-disclose with the same intimacy and duration as subjects who are less "neurotic."

3. In a cold, non-accepting interpersonal environment, subjects who are more "neurotic" will self-disclose more intimately and with longer duration than subjects who are less "neurotic."

Hypothesis 4

The relationship between self-actualization, as measured by the POI Time Competence scale, and the intimacy and duration of self-disclosure will be different in each of the interpersonal situations in the same manner as stated in Hypothesis 3.

Hypothesis 5

The relationship between self-actualization, as measured by the POI Inner-Directed scale, and the intimacy and duration of self-disclosure will be different in each of the interpersonal situations in the same manner as stated in Hypothesis 3.
Method

Subjects

The experimenter solicited male volunteers from several undergraduate psychology classes at a relatively large Southeastern University. The students were told that they would be taking part in a study of problem-solving behavior which consisted of taking two personality inventories and, at a later date, working with another subject on a problem-solving task.

A total of 115 students volunteered to take part in the experiment. The volunteers were given the choice of attending one of four testing sessions, during which they were administered the Maudsley Personality Inventory (MPI) and the Personal Orientation Inventory (POI).

During the three weeks following the administration of the personalities inventories, the experimenter attempted to contact each volunteer by phone to arrange an appointment for the "problem-solving task." Of the initial 115 volunteers, 40 could either not be reached by phone or did not show up for their appointments. The remaining 75 male undergraduates, the subject sample, participated in the entire study.

Procedure

Prior to the "problem-solving" part of the experiment, a confederate was chosen. The confederate was a male under-
graduate from the same university as the subjects. He was instructed to wear jeans and a light-colored shirt in addition to carrying a general psychology text and notebook to each appointment.

Appointments were scheduled at half-hour intervals. The confederate always arrived five minutes late for each appointment. When both the subject and confederate arrived for the appointment, they were introduced and told that they would be working together on the "problem-solving task." The subject and confederate were then led to a room wherein the experimental procedure took place.

The subject and confederate were seated on adjacent sides of a square table. On the table, across from the subject and confederate, was a small cardboard box in which was cut a number of different-sized holes. Some of the holes were numbered and others had letters marked next to them. In front of the box was a container filled with different-colored plastic pegs.

On the wall behind the subject was a clock with a second hand. The subject was seated in such a way that the clock was slightly above and to the side of the subject's head, in easy view of the confederate. The subject and confederate were told:

You will be given a difficult problem to solve as a team. Successful solution to the problem will require your mutual cooperation.
Previous research on group problem-solving behavior has shown that the most successful groups are those that work together harmoniously and with the fewest interpersonal conflicts. Getting the job done depends to a large extent on how well the members of a group function interpersonally.

In other words, for effective group problem-solving to occur, it is necessary to facilitate an atmosphere of cooperation and support. The best way to do this is for the group members to get to know one another better. If the members had more information about each other they would feel safer and more comfortable. So that you will be effective working together on the problem I'm going to give you, I would like you to spend the next half hour or so becoming better acquainted.

Both the subject and confederate were then given a stack of eight 3 x 5 index cards. Each card contained a topic (derived from Taylor and Altman, 1966) which had been previously scaled for intimacy. The stack of cards was arranged in ascending order of topic intimacy. (Refer to Appendix A)

The subject and confederate were then told:

As a way of becoming better acquainted I would like each of you to talk about yourself in relation to the topics on each of these cards. Go through each card in order.

The subject was asked to talk about his eight topics first, followed by the confederate.

Each subject prior to his arrival was randomly assigned to one of three disclosure situations.

Situation 1 (Warm/Accepting). The confederate, using the index card change as his cue, verbally responded to the
subject at the end of each topic disclosure as follows:

1. "It sounds like you enjoy:
   a) the whole area of order and predictability."
   b) understanding human thought and the expression of ideas."
   c) understanding the basic nature of living things."
   d) understanding the basic nature of things."
   e) understanding human behavior."
   (The confederate chose the most appropriate response depending on the subject's disclosure.)

2. "Sounds like you really enjoy doing things; a) alone; b) with other people...which lead to your own growth."
   (The confederate chose the most appropriate response depending on the subject's disclosure.)

3. "I'm beginning to think we might work well together."

4. No response.

5. "Seems like your goal in life is:
   a) to be powerful and influential."
   b) to do things for your fellow man."
   c) to attain as much wealth and security as you can."
   (The confederate chose the most appropriate response depending on the subject's disclosure.)

6. No response.
7. "That guy said people who get along work well together. I think we're probably going to do well."

8. No response.

At 10 second intervals while the subject was talking, the confederate either nodded his head or not, in accordance with a predetermined variable ratio schedule. Head nodding occurred at the end of 50% of the intervals.

Situation 2 (Neutral). The subject and confederate were told: "It is not important whether you agree or disagree with what each other has to say. It is only important that you give each other information about yourselves. While each of you is talking it is important that the other person remain quiet."

The confederate made no verbal responses to the subject during the experimental procedure. He attempted to maintain a pleasant but neutral facial expression throughout the experiment.

Situation 3 (Cold/Non-Accepting). The confederate, using the index card change as his cue, responded verbally to the subject at the end of each topic disclosure as follows:

1. "It's hard for me to see how that could turn anybody on."

2. "That sounds like a waste of time to me."

3. "I'm beginning to think we might not work too well together."

4. No response.
5. "I don't see how anybody could enjoy doing that for a lifetime."

6. No response.

7. "That guy said people who get along together, work well together, I don't think we're going to work too well together."

8. No response.

The confederate frowned slightly in the same manner that head nodding was executed in Situation 1.

Following the subject's self-disclosure on the eighth topic, the confederate informed the subject that the experiment was completed. The confederate then signaled the experimenter, who was in the adjoining room. The experimenter entered the experimental room, administered a Perception Scale (described in a later section) to the subject and debriefed him.

**Confederate Training**

The confederate was aware that the experiment was concerned with the relationship between self-disclosure and mental health, but was not cognizant of the experimental hypotheses or the scores obtained by the subjects on the mental health variables. He was told that the subjects in the experiment believed they would be working with another subject on a problem-solving task. His role would be to play the part of the other subject.

He was also told that the subjects were randomly assigned to one of three conditions defined by his verbal
and non-verbal behavior. In the warm/accepting situation the confederate's task would be to appear interested in what the subjects had to say and to present himself in a warm and totally accepting manner. His task in the neutral situation would be to present himself in a pleasant but basically indifferent manner, transmitting as few cues as possible about his attitude. In the cold/non-accepting situation the confederate's task would be to present himself as distant and rejecting of what the subject had to say. Emphasis was placed on responding in a consistent manner with all subjects in any particular situation.

Following the briefing, the confederate was given the list of verbal responses and the sequence of head nodding or frowning he would use in each situation. After the confederate had memorized his responses, the experimenter and confederate role-played each situation extensively. During the role-play, the experimenter gave feedback to the confederate concerning both his verbal and non-verbal behavior. When the experimenter was satisfied that the confederate could respond consistently in each situation, a pilot study was conducted.

The experimenter, acting as the subject, and the confederate role-played each situation three times in a
random order. Two judges, not otherwise associated with the experiment, rated the confederate after each role-play in terms of warmth/acceptance and cold/non-acceptance on a nine-point scale.

The judges' perceptions of the confederate were assessed using an analysis of variance procedure. Differences among the situations in the judges' ratings were highly significant \( (p < .01) \). Differences among the three replications were not significant \( (p > .1) \). Multiple t-tests indicated that the confederate was perceived as significantly \( (p < .01) \) warmer and more accepting in the warm/accepting situation than in either the neutral or cold/non-accepting situations. In addition, he was perceived as significantly \( (p < .01) \) colder and more non-accepting in the cold/non-accepting situation than in either of the other two situations. The correlation between the judges' ratings was .98.

The confederate was also administered Snyder's (1974) Self-Monitoring Scale (SM), which purportedly measures an individual's ability to observe and control self-presentation and expressive behavior. Evidence reported by Snyder (1974) indicates that the SM scale is internally consistent, temporally stable and capable of discriminating individual differences in the self-control of expressive behavior. The confederate obtained a scale score of 15, suggesting a high degree of self-monitoring ability.
Mental Health Variables

Maudsley Personality Inventory - The MPI (Eysenck, 1962) measures two dimensions of personality: extraversion-introversion and neuroticism. Only the Neuroticism scale was utilized in the present study. The scale consists of 48 questions which can be answered "yes", "no" or "?". Using the latter category is discouraged except when the subject finds it "absolutely impossible" to decide. According to Eysenck (1962), 10 or more "?" responses make interpretation questionable. Therefore, only those respondents who did not answer 10 or more questions with the "?" response were employed as subjects.

Eysenck (1962) reported the mean for American college students (N=1064) on the Neuroticism scale to be 20.19. The mean reported for a group of 148 neurotic patients was 33.75. Standard deviations for both groups were approximately 11.

Personal Orientation Inventory - The POI (Shostrom, 1966) consists of 150 two-choice, comparative value and behavior judgments. Only the Time Competence and Inner-Directed scales were utilized since previous research has indicated that the two scales are the most meaningful measures of self-actualization and together account for a large proportion of the test's variance (Damm, 1969; Klavetter and Mogar, 1967; Shostrom, 1974; Tosi and Hoffman, 1972). The Time Competence scale is interpreted
as measuring the ability to live in the present rather than in the past or future. The Inner-Directed scale is interpreted as measuring whether a person is directed by internalized principles or by external forces.

**Dependent Variables**

The dependent measures utilized in the investigation were as follows:

A. **Self-Disclosure Intimacy**
   Self-disclosure Intimacy was the score obtained by taking, for each subject, the average of the judges' ratings across the last four topic discussions.

B. **Self-Disclosure Duration**
   Self-disclosure Duration was the score obtained by calculating, for each subject, the average of the judges' recorded amount of time spent disclosing across the last four topics.

The dependent measures were derived from tape recordings of the subjects' disclosures. The confederate's verbal responses were deleted from the recordings. Two judges blind to the situation and experimental hypotheses independently rated, for each topic, each subject's disclosures for intimacy. The rating scale used was that developed by Chelune (1976). (Refer to Appendix B) Using cumulative stop watches, the judges also independently measured the duration of each subject's disclosure on each topic.

The judges were an undergraduate and graduate psychology student from the same university as the subjects, and were not acquainted with any of the subjects.
The judges were familiarized with the rating procedure by listening to and rating recordings of sample disclosures enacted by the experimenter. The sample contained a wide spectrum of disclosures in terms of both content and intimacy.

**Situation Effectiveness Check**

As a check on the effectiveness of the situations in influencing the subjects' perception of the confederate, each subject rated the confederate on a nine-point Perception scale containing four items. Scale items were: 1) cold/warm; 2) accepting/rejecting; 3) trustworthy/untrustworthy; and 4) likeable/dislikeable (Refer to Appendix C).

The rating took place following the subjects' self-disclosure on the eighth topic, before the debriefing. The experimenter, signaled by the confederate, entered the room and asked the subject to rate his working partner (confederate) on each item of the Perception scale. Scale items were verbally described to the subject whose ratings were marked on the scale by the experimenter.

**Design**

The present experiment involved three groups of 25 subjects who had been randomly assigned to one of three situations. Prior to the situation assignment each subject had been administered two personality inventories from
which three measures of mental health were derived. In each of the situations the subjects disclosed information about themselves on eight topics in the same order.

Five separate multivariate analyses were conducted to evaluate the experimental hypotheses. Univariate analyses of variance were also conducted, when appropriate, to assess each dependent variable individually.

To test for significant differences among situations and the last four of the eight topics, a multivariate analysis of variance procedure was used. The error term for the situations main effect consisted of the variance within situations. The error term for the topic main effect and the interaction between situations and topics consisted of the variance within subjects. Of primary importance was the evaluation of situation differences. Inclusion of topic differences in the statistical model was for the purpose of determining if the effect of situations was general or specific to certain topics. A significant situation by topic interaction would have indicated that the effect of situations was not a general one. Dependent variables were the intimacy and duration of self-disclosure. Univariate analyses of variance were conducted to assess each dependent variable separately.

To assess the relationship between the three mental health variables and the two self-disclosure measures, a multivariate multiple covariance analysis was used.
The three mental health measures were included in the analysis as covariates, while individual topics were excluded from the analysis. The relationship between self-disclosure and any particular mental health variable was tested with the other two mental health measures and situations acting as covariates.

The relationship among situations, any particular mental health variable and the two dependent measures of self-disclosure was evaluated using a multivariate covariance analysis. Separate multivariate covariance analyses were conducted for each of the three mental health variables. Again, individual topics were excluded from the analysis.

Post-anova tests were employed when appropriate. In each case, Duncan's Multiple Range Test was used.
Results

The results of the present investigation were numerous and quite complex. In order to simplify their presentation, findings concerned with the effectiveness of the experimental procedure were presented first, followed by results of analyses designed to test the experimental hypotheses.

Distribution of Mental Health Variable Scores

The distribution of MPI Neuroticism Scale (N) scores, POI Time Competence Scale (POI₁) scores and POI Inner-Directed Scale (POI₂) scores obtained were assessed in order to determine if the distributions were equivalent across the three situations. Analyses of variance were computed for each mental health variable. Results indicated that the distributions of scores did not significantly (p > .05) vary across the situations. Analysis of variance source tables are presented in Tables 1, 2, and 3.

Means and standard deviations for each situation are presented in Table 4. As can be seen, the distributions of scores among the three situations are comparable.

Comparisons were also made between the college male norms (for each mental health variable) and the distributions of scores obtained by the subject sample. T-tests were computed to assess differences. Significant differences
TABLE 1
ANOVA SOURCE TABLE FOR SCORES OBTAINED ON THE NEUROTICISM SCALE

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Situation</td>
<td>2</td>
<td>122.35</td>
<td>61.17</td>
<td>.575</td>
<td>ns</td>
</tr>
<tr>
<td>Error</td>
<td>72</td>
<td>7659.04</td>
<td>106.38</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>74</td>
<td>7781.39</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 2

ANOVA SOURCE TABLE FOR SCORES OBTAINED ON THE POI Scale

<table>
<thead>
<tr>
<th>Source</th>
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<th>MS</th>
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<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Situation</td>
<td>2</td>
<td>6.32</td>
<td>3.16</td>
<td>.296</td>
<td>ns</td>
</tr>
<tr>
<td>Error</td>
<td>72</td>
<td>767.68</td>
<td>10.66</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>74</td>
<td>774.00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 3
ANOVA SOURCE TABLE FOR SCORES OBTAINED ON THE POI₂ SCALE

<table>
<thead>
<tr>
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<th>MS</th>
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<tbody>
<tr>
<td>Situation</td>
<td>2</td>
<td>70.64</td>
<td>35.32</td>
<td>.327</td>
<td>ns</td>
</tr>
<tr>
<td>Error</td>
<td>72</td>
<td>7783.84</td>
<td>108.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>74</td>
<td>7854.88</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TABLE 4

MEANS AND STANDARD DEVIATIONS FOR SCORES ON THE MPI NEUROTICISM SCALE (N), POI TIME COMPETENCE SCALE (POI₁) AND POI INNER-DIRECTED SCALE (POI₂) FOR ALL SUBJECTS AND BY SITUATION

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>POI₁</th>
<th>POI₂</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
<td>SD</td>
<td>X</td>
</tr>
<tr>
<td>Warm/Accepting Situation</td>
<td>24.68</td>
<td>10.48</td>
<td>14.80</td>
</tr>
<tr>
<td>Neutral Situation</td>
<td>23.32</td>
<td>11.63</td>
<td>15.32</td>
</tr>
<tr>
<td>Cold/Non-Accepting Situation</td>
<td>26.44</td>
<td>8.60</td>
<td>15.48</td>
</tr>
<tr>
<td>All Subjects</td>
<td>24.81</td>
<td>10.25</td>
<td>15.20</td>
</tr>
<tr>
<td>College Male Norms</td>
<td>20.19</td>
<td>10.71</td>
<td>15.10</td>
</tr>
</tbody>
</table>
were found on the N scale (t=3.69 with 789df, p<.01) and POI\textsubscript{2} scale (t=3.18 with 2119df, p<.01). On the POI\textsubscript{1} the distribution of scores obtained by the subject sample was not significantly different from the college male norms (t=.743 with 2119df, p>.3). As can be seen in Table 4, students in the subject sample were mildly more "neurotic" and slightly more inner-directed than subjects in the normative samples.

**Situation Effectiveness Check**

To evaluate the effectiveness of the experimental procedure in influencing the subjects' perceptions of the confederate, analyses of variance were conducted for each item of the Perception scale. Significant (p<.01) differences among the situations were found for each of the scale items. Analysis of variance source tables are presented in Tables 5, 6, 7, and 8.

Means, adjusted such that a high score is more positive, and standard deviations for each item are presented in Table 9. Results of post-anova testing, using Duncan's Multiple Range Test, indicated that subjects in the warm/accepting situation perceived the confederate as significantly (p<.05) warmer, more accepting and more likeable than did subjects in either the neutral or cold/non-accepting situations. In addition, subjects in the warm/accepting situation per-
TABLE 5

ANOVA SOURCE TABLE FOR THE EFFECTS OF SITUATIONS ON THE SUBJECTS' RATINGS OF THE CONFEDERATE ON THE COLD/WARM ITEM

<table>
<thead>
<tr>
<th>Source</th>
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<th>MS</th>
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<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>74</td>
<td>467.79</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Situation</td>
<td>2</td>
<td>313.31</td>
<td>156.66</td>
<td>72.87</td>
<td>.0001</td>
</tr>
<tr>
<td>Error</td>
<td>72</td>
<td>154.48</td>
<td>2.15</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TABLE 6
ANOVA SOURCE TABLE FOR THE EFFECT OF SITUATIONS ON THE SUBJECTS' RATINGS OF THE CONFEDERATE ON THE ACCEPTING/REJECTING ITEM

<table>
<thead>
<tr>
<th>Source</th>
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<th>MS</th>
<th>F</th>
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<td>74</td>
<td>620.88</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Situation</td>
<td>2</td>
<td>445.52</td>
<td>222.76</td>
<td>91.3</td>
<td>.0001</td>
</tr>
<tr>
<td>Error</td>
<td>72</td>
<td>175.36</td>
<td>2.44</td>
<td></td>
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</table>
TABLE 7

ANOVA SOURCE TABLE FOR THE EFFECT OF SITUATIONS ON THE SUBJECTS' RATINGS OF THE CONFEDERATE ON THE TRUSTWORTHY/UNTRUSTWORTHY ITEM

<table>
<thead>
<tr>
<th>Source</th>
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<th>MS</th>
<th>F</th>
<th>p</th>
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<tbody>
<tr>
<td>Total</td>
<td>74</td>
<td>459.55</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Situation</td>
<td>2</td>
<td>179.95</td>
<td>89.98</td>
<td>23.19</td>
<td>.0001</td>
</tr>
<tr>
<td>Error</td>
<td>72</td>
<td>279.60</td>
<td>3.88</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TABLE 8

ANOVA SOURCE TABLE FOR THE EFFECT OF SITUATIONS ON THE SUBJECTS' RATINGS OF THE CONFEDERATE ON THE DISLIKEABLE/LIKEABLE ITEM

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
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<tbody>
<tr>
<td>Total</td>
<td>74</td>
<td>426.99</td>
<td></td>
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</tr>
<tr>
<td>Situation</td>
<td>2</td>
<td>256.10</td>
<td>128.05</td>
<td>54.03</td>
<td>0.0001</td>
</tr>
<tr>
<td>Error</td>
<td>72</td>
<td>170.88</td>
<td>2.37</td>
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</table>
**TABLE 9**

ADJUSTED MEANS AND STANDARD DEVIATIONS OF THE PERCEPTION SCALE RATINGS IN EACH SITUATION*

<table>
<thead>
<tr>
<th>Item</th>
<th>Warm/Accepting Situation</th>
<th>Neutral Situation</th>
<th>Cold/Non-Accepting Situation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
<td>SD</td>
<td>X</td>
</tr>
<tr>
<td>Cold/Warm</td>
<td>7.48&lt;sup&gt;a&lt;/sup&gt; 1.046</td>
<td>4.88&lt;sup&gt;b&lt;/sup&gt; 2.082</td>
<td>2.36&lt;sup&gt;c&lt;/sup&gt; 1.005</td>
</tr>
<tr>
<td>Accepting/Rejecting</td>
<td>8.12&lt;sup&gt;a&lt;/sup&gt; 1.013</td>
<td>4.84&lt;sup&gt;b&lt;/sup&gt; 2.304</td>
<td>2.16&lt;sup&gt;c&lt;/sup&gt; .986</td>
</tr>
<tr>
<td>Trustworthy/Untrustworthy</td>
<td>7.20&lt;sup&gt;a&lt;/sup&gt; 1.443</td>
<td>6.16&lt;sup&gt;a&lt;/sup&gt; 2.304</td>
<td>3.52&lt;sup&gt;b&lt;/sup&gt; 2.060</td>
</tr>
<tr>
<td>Dislikable/Likeable</td>
<td>8.04&lt;sup&gt;a&lt;/sup&gt; .840</td>
<td>6.44&lt;sup&gt;b&lt;/sup&gt; 1.890</td>
<td>3.56&lt;sup&gt;c&lt;/sup&gt; 1.685</td>
</tr>
</tbody>
</table>

*Subscript letters denote results of post-anova testing, employing Duncan's Multiple Range Test. Means with different subscripts were significantly different at the .05 level.
ceived the confederate as significantly (p < .05) more trustworthy than did subjects in the cold/non-accepting situation. Subjects in the warm/accepting situation did not, however, perceive the confederate as significantly (p > .05) more trustworthy than did subjects in the neutral situation. Conversely, subjects in the cold/non-accepting situation perceived the confederate as significantly (p < .05) colder, more rejecting, more untrustworthy and more dislikeable than did subjects in either the neutral or warm/accepting situation. In summary, the experimental procedure appears to have been highly successful in influencing the subjects' perceptions of the confederate.

Inter-rater Reliability

Intimacy. The overall correlation between the judges' ratings of intimacy was .79, with the highest inter-rater reliability being obtained for the neutral situation (r = .95). Inter-rater reliabilities for the warm/accepting and cold/non-accepting situations were .59 and .67 respectively.

Duration. The overall correlation between the judges' ratings of duration was .99. Inter-rater reliabilities for each situation were extremely high with none below .98.

Evauation of the Experimental Hypotheses

Hypothesis 1 predicted that both the intimacy and duration of self-disclosure would be significantly affected
by the interpersonal situations. A multivariate analysis of variance including individual topics (the last four of the eight topics) was used to test the hypothesis. Results indicated significant differences among the situations (Hotelling-Lawley's Trace = 3.09 with 4 and 140df, p = .0180). Univariate analyses of variance revealed that differences in intimacy among the three situations were significant at the .01 level, while differences in duration were significant at the .05 level. Analysis of variance source tables are presented in Tables 10 and 11.

Means and standard deviations for each situation as well as results of post-anova testing (using Duncan's Multiple Range Test) are presented in Table 12. As predicted, the disclosures of subjects in the warm/accepting situation were significantly (p < .05) more intimate than the disclosures of subjects in either the neutral or cold/non-accepting situations. However, the prediction that subjects in the cold/non-accepting situation would disclose less intimately than subjects in the neutral situation was not supported, although the results were in the hypothesized direction.

With regard to the duration of self-disclosure, it can be seen that subjects in the warm/accepting situation disclosed with significantly (p < .05) longer duration than
TABLE 10
ANOVA SOURCE TABLE FOR THE EFFECTS OF SITUATIONS AND TOPICS ON THE INTIMACY OF SELF-DISCLOSURE

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Situation</td>
<td>2</td>
<td>20.93</td>
<td>10.46</td>
<td>5.56</td>
<td>.0058</td>
</tr>
<tr>
<td>Error A</td>
<td>72</td>
<td>135.86</td>
<td>1.88</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Topic</td>
<td>3</td>
<td>9.74</td>
<td>3.25</td>
<td>6.25</td>
<td>.0006</td>
</tr>
<tr>
<td>SitXTopic</td>
<td>6</td>
<td>3.80</td>
<td>.63</td>
<td>1.21</td>
<td>.3046</td>
</tr>
<tr>
<td>Error B</td>
<td>216</td>
<td>113.34</td>
<td>.52</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>299</td>
<td>283.67</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TABLE 11

ANOVA SOURCE TABLE FOR THE EFFECTS OF SITUATIONS AND TOPICS ON THE DURATION OF SELF-DISCLOSURE

<table>
<thead>
<tr>
<th>Source</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Situation</td>
<td>2</td>
<td>4067.45</td>
<td>2033.73</td>
<td>4.44</td>
<td>.0152</td>
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<tr>
<td>Error A</td>
<td>72</td>
<td>32976.08</td>
<td>458.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Topic</td>
<td>3</td>
<td>3982.52</td>
<td>1327.51</td>
<td>7.70</td>
<td>.0001</td>
</tr>
<tr>
<td>SitXTopic</td>
<td>6</td>
<td>1778.69</td>
<td>296.45</td>
<td>1.72</td>
<td>.1174</td>
</tr>
<tr>
<td>Error B</td>
<td>216</td>
<td>37218.16</td>
<td>172.31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>299</td>
<td>80022.90</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TABLE 12

MEAN INTIMACY AND DURATION SCORES
FOR EACH SITUATION*

<table>
<thead>
<tr>
<th>Situation</th>
<th>INTIMACY</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( \bar{X} )</td>
<td>SD</td>
</tr>
<tr>
<td>Warm/Accepting</td>
<td>2.82\textsubscript{a}</td>
<td>.619</td>
</tr>
<tr>
<td>Neutral</td>
<td>2.39\textsubscript{b}</td>
<td>.849</td>
</tr>
<tr>
<td>Cold/Non-Accepting</td>
<td>2.18\textsubscript{b}</td>
<td>.567</td>
</tr>
</tbody>
</table>

*Subscript letters denote results of post-anova testing, employing Duncan's Multiple Range Test. Means with subscripts not containing the same letter were significantly different at the .05 level.
subjects in the cold/non-accepting situation. Predicted differences between the warm/accepting and neutral situations and between the neutral and cold/non-accepting situations were not supported by the data. In each case, however, the results were in the hypothesized direction.

As expected, the effect of topic differences on the intimacy and duration of self-disclosure was found to be highly significant (Hotelling-Lawley's Trace = 7.36 with 6 and 428df, p = .0001). As can be seen in Tables 10 and 11, univariate analyses of variance indicated that both of the dependent measures of self-disclosure were significantly (p < .01) affected by topic differences.

The interaction between the situations and topics was not found to be significant (Hotelling-Lawley's Trace = 1.64 with 12 and 428df, p = .079). Therefore, the effect of the interpersonal situations on self-disclosure appears to be a general one rather than specific to certain topics.

Mean intimacy and duration scores for all eight topics by situation are presented in Table 13. Figures 1 and 2 contain a graphical representation of the data. Although there was considerable variation among the topics, particularly with regard to duration, self-disclosure appears to have been facilitated in the warm/accepting situation and depressed in the cold/non-accepting situation. In the neutral situation,
### TABLE 13

**MEAN INTIMACY AND DURATION SCORES WITH STANDARD DEVIATIONS FOR EACH TOPIC BY SITUATION**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Warm/Accepting Situation</th>
<th>Neutral Situation</th>
<th>Cold/Non-Accepting Situation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intimacy</td>
<td>Duration</td>
<td>Intimacy</td>
</tr>
<tr>
<td></td>
<td>$\bar{X}$</td>
<td>SD</td>
<td>$\bar{X}$</td>
</tr>
<tr>
<td>1</td>
<td>2.26</td>
<td>.71</td>
<td>11.28</td>
</tr>
<tr>
<td>2</td>
<td>2.30</td>
<td>.85</td>
<td>13.84</td>
</tr>
<tr>
<td>3</td>
<td>2.56</td>
<td>.62</td>
<td>24.08</td>
</tr>
<tr>
<td>4</td>
<td>2.80</td>
<td>.69</td>
<td>16.28</td>
</tr>
<tr>
<td>5</td>
<td>2.76</td>
<td>.99</td>
<td>15.90</td>
</tr>
<tr>
<td>6</td>
<td>2.60</td>
<td>.75</td>
<td>19.90</td>
</tr>
<tr>
<td>7</td>
<td>3.24</td>
<td>1.05</td>
<td>22.40</td>
</tr>
<tr>
<td>8</td>
<td>2.68</td>
<td>.99</td>
<td>27.64</td>
</tr>
</tbody>
</table>
FIGURE 1. TOPIC MEAN SCORES FOR THE INTIMACY OF THE SUBJECTS' SELF-DISCLOSURE BY SITUATION
FIGURE 2. TOPIC MEAN SCORES FOR THE DURATION OF THE SUBJECTS' SELF-DISCLOSURE BY SITUATION
self-disclosure remained relatively constant and at a middle level over the eight topics.

Hypothesis 2 stated that the intimacy and duration of the subjects' self-disclosure would be independent of "neuroticism" and independent of self-actualization as measured by either the $\text{POI}_1$ or $\text{POI}_2$. A multivariate multiple covariance analysis was used to test the hypothesis. Results of the analysis indicated that self-disclosure was not significantly related to any of the mental health variables (N, Hotelling-Lawley's Trace = 1.01 with 6 and 122df, $p = .166$; $\text{POI}_1$, Hotelling-Lawley's Trace = 1.24 with 6 and 122df, $p = .288$; $\text{POI}_2$, Hotelling-Lawley's Trace = 1.15 with 6 and 122df, $p = .335$).

Figures 3 through 8 display the data graphically. As can be seen, the data points appear to be randomly dispersed rather than falling into a consistent pattern. In other words, as the degree of "neuroticism" or self-actualization increases, there is no consistently corresponding increase or decrease in the level of self-disclosure.

It appears that the best prediction one can make about self-disclosure and mental health (as measured by the N, $\text{POI}_1$ and $\text{POI}_2$ scales) is that they are not significantly related.

Hypothesis 3 predicted significant differences among the interpersonal situations in the relationship between
FIGURE 3. THE INTIMACY OF THE SUBJECTS' SELF-DISCLOSURE AS A FUNCTION OF SCORES OBTAINED ON THE MPI NEUROTICISM SCALE
FIGURE 4: THE DURATION OF THE SUBJECTS' SELF-DISCLOSURE AS A FUNCTION OF SCORES OBTAINED ON THE MPI NEUROTICISM SCALE
FIGURE 5: THE INTIMACY OF THE SUBJECTS' SELF-DISCLOSURE AS A FUNCTION OF SCORES OBTAINED ON THE POI TIME COMPETENCE SCALE
FIGURE 6. THE DURATION OF THE SUBJECTS' SELF-DISCLOSURE AS A FUNCTION OF SCORES OBTAINED ON THE POI TIME COMPETENCE SCALE
FIGURE 7: THE INTIMACY OF THE SUBJECTS SELF-DISCLOSURE AS A FUNCTION OF SCORES OBTAINED ON THE POI INNER-DIRECTED SCALE
FIGURE 8. THE DURATION OF THE SUBJECTS' SELF-DISCLOSURE AS A FUNCTION OF SCORES OBTAINED ON THE POI INNER-DIRECTED SCALE
"neuroticism" and the two dependent measures of self-disclosure. The hypothesis was tested using a multivariate covariance analysis. Results of the analysis did not support the hypothesis (Hotelling-Lawley's Trace = 1.36 with 4 and 114df, p = .25).

Regression line slopes, standard errors of the estimate and probability statements are presented in Table 14. As can be seen, the relationship between "neuroticism" and self-disclosure was not found to be a function of the interpersonal situation in which disclosure occurred. Regardless of the interpersonal situation, "neuroticism" and self-disclosure remained essentially unrelated.

Hypotheses 4 and 5 predicted significant differences among the interpersonal situations in the relationship between self-actualization (as measured by either the POI₁ or POI₂) and the two dependent measures of self-disclosure. The hypotheses were tested using multivariate covariance analyses. As before, the hypotheses were not confirmed (POI₁, Hotelling-Lawley's Trace = .08 with 4 and 134df, p = .99; POI₂, Hotelling-Lawley's Trace = 1.14 with 4 and 134df, p = .34).

The occurrence of an F value of .08 was notable, but not surprising. The probability of such an event occurring by chance was increased as a result of the numerous tests of significance employed to analyze the data.
### Table 14

**Regression Line Slopes, Standard Errors of the Estimate and Probability Statements Representing the Relationship Between the Mental Health Variables and Self-Disclosure For Each Situation**

<table>
<thead>
<tr>
<th>Covariable</th>
<th>Situation</th>
<th>Predicted Direction of Regression Line Slope</th>
<th>Intimacy</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>SE Slope</td>
<td>SE of Est.</td>
</tr>
<tr>
<td>N</td>
<td>Warm/Accepting</td>
<td>-</td>
<td>0.011</td>
<td>0.013</td>
</tr>
<tr>
<td></td>
<td>Neutral</td>
<td>0</td>
<td>0.023</td>
<td>0.012</td>
</tr>
<tr>
<td></td>
<td>Cold/Non-Accepting</td>
<td>+</td>
<td>-0.014</td>
<td>0.016</td>
</tr>
<tr>
<td>POI&lt;sub&gt;1&lt;/sub&gt;</td>
<td>Warm/Accepting</td>
<td>-</td>
<td>0.018</td>
<td>0.048</td>
</tr>
<tr>
<td></td>
<td>Neutral</td>
<td>0</td>
<td>0.004</td>
<td>0.036</td>
</tr>
<tr>
<td></td>
<td>Cold/Non-Accepting</td>
<td>+</td>
<td>-0.009</td>
<td>0.052</td>
</tr>
<tr>
<td>POI&lt;sub&gt;2&lt;/sub&gt;</td>
<td>Warm/Accepting</td>
<td>-</td>
<td>0.001</td>
<td>0.012</td>
</tr>
<tr>
<td></td>
<td>Neutral</td>
<td>0</td>
<td>-0.003</td>
<td>0.013</td>
</tr>
<tr>
<td></td>
<td>Cold/Non-Accepting</td>
<td>+</td>
<td>0.024</td>
<td>0.017</td>
</tr>
</tbody>
</table>
As can be seen in Table 14, self-actualization was not found to be significantly related to self-disclosure, regardless of the interpersonal situation. As with "neuroticism", the relationship between self-actualization and self-disclosure remained essentially the same in each of the situations.
Discussion

The present study investigated the relationship between self-disclosure and several mental health variables. Of particular interest were differences in the relationship between "neuroticism" and self-disclosure and self-actualization and self-disclosure as a function of the interpersonal situation in which the disclosure occurred.

Before discussing results concerned with the experimental hypotheses, it should be noted that 40 of the initial 115 volunteers were not included in the subject sample. This gives rise to the question of whether the students in the subject sample were characteristically different from those who did not participate in the entire study, therefore biasing the results of the investigation.

Of the 40 volunteers not in the subject sample, 35 could not be reached by phone to schedule an appointment. The remaining five students were reached by phone, but did not attend their scheduled appointment.

The students in the subject sample were also very difficult to reach by phone. In most instances, the experimenter called four or five times before reaching a subject. Thus, the majority of volunteers not in the subject sample were not noticeably different from the students in the subject sample.
Also of importance was the finding that students in the subject sample scored significantly higher on the MPI Neuroticism scale and the Inner-Directed scale of the POI than students in the normative samples. As has been noted, however, the differences were quite small (within one-half a standard deviation).

Furthermore, the distribution of scores obtained on the MPI Neuroticism scale included 28 below and 47 above the median of the normative sample, ranging from the 6th to the 99th percentile. The distribution of scores obtained on the POI Inner-Directed scale included 21 below and 54 above the median of the normative sample, ranging from the 1st to the 99th percentile. Thus, the scores obtained by students in the subject sample represented a sufficiently wide range of the degree of "neuroticism" and inner-directedness to adequately test the hypotheses.

Results of the Experimental Hypotheses

The hypothesis predicting that self-disclosure would be significantly affected by the interpersonal situation in which the disclosure occurred was confirmed. It was found that subjects in a warm, accepting interpersonal situation self-disclosed more intimately than subjects in either a neutral or cold, non-accepting situation. Subjects in a cold, non-accepting and a neutral interpersonal situation disclosed at approximately the same level of intimacy.
It was also found that subjects in a warm, accepting interpersonal situation disclosed with longer duration than subjects in a cold, non-accepting situation. Differences in the duration of self-disclosure, however, were not found between subjects in a warm, accepting and neutral situation or between subjects in a neutral and cold, non-accepting situation.

It appears, then, that if a person presents himself in a distant, non-accepting manner or a pleasant but essentially indifferent manner, others are not likely to reveal to him intimate information about themselves. Only when an individual presents himself in a warm and accepting manner are others willing to reveal to him personal aspects about themselves. These findings are not surprising but do serve to reaffirm conclusions based on several earlier studies (Taylor, Altman and Sorrentino, 1969; Colson, Note 1; Frankfurt, Note 2) exploring the effect of situational factors on self-disclosure.

Hypothesis 2 stated that self-disclosure would be independent of "neuroticism" and self-actualization. Results indicated that neither the degree of "neuroticism" nor the degree of self-actualization was significantly associated with differences in self-disclosure. It appears, then, that the best estimate one can make about the relationship between
self-disclosure and mental health, as measured by the MPI Neuroticism scale and POI Time-Competence and Inner-Directed scales, is that they are essentially unrelated.

The above finding is in agreement with Altman and Taylor's conclusion that it would be highly unlikely that any "universal" trait-disclosure relationship exists, and Chaikin's assertion that "neuroticism" is not related to any characteristically high or low level of disclosure. Jourard's theory that self-disclosure is positively related to mental health (e.g. self-actualization) and negatively related to clinical maladjustment was not supported. This is not to say, however, that the capacity for establishing and maintaining an intimate relationship is not associated with positive mental health. Rather, it appears that if a relationship between mental health and self-disclosure does exist, it is probably more complex than Jourard stated, requiring the inclusion of mediating variables such as relationship, time, and situation.

The hypotheses predicting that the relationship between self-disclosure and the mental health variables would be different in each of the interpersonal situations were not confirmed by the data. Regardless of the interpersonal situation, whether it was warm and accepting, neutral or cold and non-accepting, self-disclosure remained essentially unrelated to the mental health variables.
The conclusions of Chaikin, et. al. (1975) were not supported by the above findings. The relationship between "neuroticism" and self-disclosure was not found to be mediated by the context in which disclosure occurs. Individuals who were less "neurotic" did not disclose more in the warm, accepting situation and less in the cold, non-accepting situation than did individuals who were more "neurotic."

Since the present study utilized a different methodological design than that used in the Chaikin, et. al. (1975) study, the differences in results may be attributable to design factors. As has been previously noted, Chaikin's methodology employed modeling as the experimental manipulation. More specifically, a confederate self-disclosed either highly intimate or superficial information prior to the subjects' self-disclosure. Results indicated that subjects disclosed more intimately when the confederate self-disclosed highly intimate information than when he disclosed less intimate information. This difference, however, was primarily the result of the "normal" subjects. "Neurotic" subjects disclosed at an intermediate level of intimacy regardless of the situation.

Chaikin speculated that "neurotics", because of a preoccupation with their own problems, may not have learned
to discriminate cues signaling the appropriateness of self-disclosure. Since modeling was involved in the experimental procedure, however, it may be argued that the "neurotic" subjects failed to self-disclose differently in the two situations because of poor observational learning ability.

In contrast, the present study avoided modeling as a factor, using instead a confederate's verbal and non-verbal responses designed to produce either a warm and accepting, a neutral or a cold, non-accepting interpersonal environment. Results indicated that the degree of neuroticism was not associated with the subjects' ability to successfully discriminate situational cues. The more "neurotic" subjects as well as the less "neurotic" or "normal" subjects self-disclosed more intimately in the warm, accepting situation than in either of the other two situations.

It appears that when situational cues regarding self-disclosure are provided through another person's verbal and non-verbal responses, more "neurotic" individuals are as proficient as less "neurotic" individuals in discriminating and responding to them. When observational learning is required, however, the more "neurotic" individuals fail to respond in accordance with the situational demands.
It should also be noted that the self-disclosure situations in the present study lasted for only a short amount of time. Thus, the confederate was essentially still a stranger to the subjects.

As has been pointed out by Altman and Taylor, the social penetration process is a gradual one in which exchange of information occurs more rapidly in superficial than in intimate areas of the personality. As can be seen by the judges' ratings in Table 12, most of the self-disclosure occurring in the present experiment was of low intimacy and short duration. Rarely did an individual receive a very high intimacy rating.

Viewed from a temporal perspective, the present experiment can be seen as focusing on the initial stage of a relationship in which the social penetration process has just begun. Such a situational context may be insufficient for adequately exploring the relationship between mental health and self-disclosure. The effect of mediating variables such as relationship, environment and situation may only become apparent when their impact is more comprehensive and enduring.

Finally, an examination of the topic differences in Figures 1 and 2 provides a chronological perspective of the experiment. It appears that the warm, accepting situation facilitated an increase in the intimacy and duration of dis-
closure. The neutral situation served to maintain a constant level of self-disclosure across topics and the cold, non-accepting situation appears to have slightly depressed self-disclosure intimacy and duration over time.

**Implications for Counseling and Psychotherapy**

Several authors (Carkhuff, 1967; Jourard, 1964; Mowrer, 1964; Rogers, 1961) have asserted that client self-disclosure is essential for successful outcome in therapy. Empirical support has been provided by numerous investigations (Braaten, 1961; Kiesler, 1971; Kirtner and Cartwright, 1958; Truax and Carkhuff, 1965). An initial goal of the therapy process, then, would appear to be facilitating a client's self-disclosure.

Results of the present study suggest that the level of a client's self-disclosure can be significantly affected by the manner in which the therapist responds to him. To the extent that the therapist responds with acceptance and warmth, the client is much more likely to reveal intimate information about himself. Importantly, this appears to be an active process on the part of the therapist. His benign presence is not sufficient. Through verbal and non-verbal feedback he provides cues to the client concerning his trustworthiness, empathy and positive regard.

Also of note is the discrepancy in results of the present study and that of Chaikin, et. al. (1975). In the
present study it was found that more "neurotic" individuals were as proficient at discriminating and responding to situational cues as less "neurotic" individuals. In the Chaikin, et. al. (1975) study, involving observational learning as a factor, "neurotic" individuals were found to be less competent than the "normals". This suggests that role-modeling appropriate behavior in the therapy process, at least initially, may not be as effective in enhancing client self-disclosure as the therapist's expression of acceptance and positive regard.

Suggestions for Future Research

Differences in the self-disclosing behavior of the more "neurotic" subjects in the present study and that of the Chaikin, et al. (1975) study appear to be attributable to differences in the methodological designs. In the present study, the more "neurotic" subjects were successful in discriminating and responding to situational cues regarding self-disclosure. In the Chaikin, et. al. (1975) study, employing modeling as the experimental manipulation, "neurotic" subjects failed to respond in accordance with the situational demands. It was speculated that the discrepancy in results of the two studies may be the result of poor observational learning on the part of more "neurotic" individuals. To provide empirical evidence for the above
assertion, it would be necessary to design an experiment in which the effect of role modeling and the effect of interpersonal atmosphere on the self-disclosure of highly "neurotic" individuals could be directly compared.

The present study provided additional evidence for the contention that a "universal" trait-disclosure relationship between mental health and self-disclosure does not exist. Continued use of "trait" oriented approaches to self-disclosure research is not likely to significantly add to our knowledge. It would appear more profitable to explore the relationship between mental health and self-disclosure in the context of various social settings, different relationships and at different stages of a relationship.
References


Angyal, A. A theoretical model for personality studies. Journal of Personality, 1951, 20, 131-142.


Powell, W. J. and Jourard, S. *Some objective evidence of immaturity in underachieving college students.* Journal of Counseling Psychology, 1963, 10 (3), 276-82.


Reference Notes


Disclosure Topics (in order as stacked) with Intimacy Scale Values (from Taylor and Altman, 1966)

(The scale ranged from 1 to 11, with 11 being the highest level of intimacy)

<table>
<thead>
<tr>
<th>Disclosure Topic</th>
<th>Intimacy Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are your favorite subjects in school?</td>
<td>1.82</td>
</tr>
<tr>
<td>What is your favorite way of spending your spare time?</td>
<td>2.18</td>
</tr>
<tr>
<td>What kind of movies do you like to see?</td>
<td>2.41</td>
</tr>
<tr>
<td>How do you feel about people who try to impress you with their knowledge?</td>
<td>5.50</td>
</tr>
<tr>
<td>What is your highest ambition?</td>
<td>5.71</td>
</tr>
<tr>
<td>What are the common interests you would like your wife and you to have?</td>
<td>6.00</td>
</tr>
<tr>
<td>What feelings, if any, do you have trouble expressing or controlling?</td>
<td>8.50</td>
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<tr>
<td>Describe a person with whom you have been or are in love with?</td>
<td>9.17</td>
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</tbody>
</table>

The above topics were chosen from a pool of 671 topics developed by Taylor and Altman. Judges from two different populations scaled each of the 671 topics for intimacy. Intimacy scale values were obtained using Thurstone's procedure of equal-appearing intervals.
APPENDIX B

INTIMACY SCALING DIRECTIONS
Intimacy Scaling Directions

The depth or intimacy of each topic disclosure will be scored on a five point scale. This coding procedure involves the subjective evaluation of the ego relevance or intimacy of the content revealed. The coder should feel free to use any number from 1 to 5 using the following three scale descriptions as guidelines:

1. Absence of personal involvement: superficial evaluation of the topic. The respondent seems to be defensively guarding against having anything about himself known. His statements are cultural stereotypes, and he seems not to be in "touch with his feelings."
   e.g. "Aspects of the personality which you dislike or regard as a handicap? Well... I don't know if I really consider the personality as something to worry about. You know, if there's an aspect of my personality that I would worry about then I would get up-tight about it." (Score 1)

2. ..........

3. Equal attention to superficial and personal aspects of the topic. The person clearly places himself in the context of his experiences, but information about the self is more oriented toward description rather than exploration of self. The individual speaks to the question in a direct manner, yet his answers seem vague and general with respect to himself so that one gets no real feeling about him. Content tends to be implicit rather than explicit.
   e.g. "Sometimes no response at all will hurt my feelings. Sometimes rudeness and inconsideration will hurt my feelings. In fact, most of the time... if I'm around people, that's when my feelings get hurt... when they don't consider how I feel. Depressed? I don't get depressed too often." (Score 3)
5. Response has non-defensive quality so that one gets the impression that this person is allowing the subjective aspects of his "self" to be seen. The individual expresses personal information about himself in a way that the observer truly understands where the person stands in terms of his feelings and cognitions regarding the topic. Content is explicit and personal.

   e.g. "I started feeling responsible because it seemed like nobody I'd known died, and then, as soon as my father died, everybody else started dying. I started feeling like a jinx for a while. You know, like maybe it was my fault but I couldn't have done anything about it." (Score 5)

NOTE: Intimacy (I) refers to the ego relevance of the content. It should not be confused with the congruence of affective manner of presentation which refers to the way the person sounds in relation to the content.
APPENDIX C

CONFEDERATE PERCEPTION SCALE
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<tr>
<th>PERCEPTION SCALE</th>
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<td>1.</td>
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Vita

Wesley Joseph Brockhoeft was born in New Orleans, Louisiana on May 16, 1949. He graduated from John F. Kennedy High School in New Orleans in 1967. He entered Louisiana State University in the fall of 1967, majoring in Psychology. As a result of research presented at the Southwestern Psychological Association Convention in 1970 and 1971, he received the Psi Chi award for scholarly attainment in the field of psychology for two consecutive years. In the summer of his senior year, he was selected to work as an undergraduate intern at Central Louisiana State Hospital. Completing his studies at Louisiana State University, he received the Bachelor of Science degree in May, 1972. In September, 1973 he enrolled in Graduate School at Louisiana State University, majoring in Clinical Psychology. In May of 1976, he received the Master of Arts degree. From September, 1977 to August, 1978 he was a Clinical Psychology Intern at Grady Memorial Hospital. Presently he is a candidate for the Doctor of Philosophy degree.
Candidate: Wesley Joseph Brockhoeft

Major Field: Psychology

Title of Thesis: The Relationship Between Self-Disclosure and Various Aspects of Mental Health as a Function of the Interpersonal Situation in Which Disclosure Occurs

Approved:

[Signature]
Major Professor and Chairman

[Signature]
Dean of the Graduate School

EXAMINING COMMITTEE:

[Signature]

[Signature]

[Signature]

Date of Examination:

April 30, 1979