THE RELATIONSHIP BETWEEN COMPATIBILITY SCORES ON THE FIRO-B AND OUTCOME IN COUPLES THERAPY

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PREFACE

This study is concerned with an investigation of the relationship between compatability scores on the Fundamental Interpersonal Relations Orientation-Behavior (FIRO-B) and outcome in couples therapy. Compatability was based upon scores from the FIRO-B questionnaire. Outcome levels were established on the results of a pilot study.

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CHAPTER I

INTRODUCTION

The importance of identifying how diagnosis and evaluation are linked to the intervention process has been emphasized by Cromwell, Olson, and Fournier (1976). This need was identified in reference to the field of marriage and family therapy and reflects the focus of this study.

The use of assessment instruments in marriage and family therapy seems to be relatively widespread, even though the validity of many of the instruments in use is questionable. The limited amount of related research that has been accomplished on some of the instruments makes it difficult to ascertain whether or not they are valid when used with the marital dyad or family. Instruments that have been developed for work with individuals have provided the major source of assessment information for work with couples and families as well. Yet, little research has been accomplished that demonstrates the effectiveness of these instruments in work with couples.

The Fundamental Interpersonal Relations Orientation-Behavior (FIRO-B) is one instrument that has been used with individuals, groups, couples, and families, but has significant supportive research only in relation to its application to individuals and groups (Schutz, 1958, Appendix A). This is not to suggest that because the FIRO-B has not been thoroughly researched in work with couples and families, it

has no value in such work. The FIRO-B can provide both a stimulus and a communicative framework to talk about different aspects of relationships, confirming its positive therapeutic potential (Robbins & Toomer, 1976). Nevertheless, identifying what useful information can be gathered from the FIRO-B as applied to couples and families is severely limited.

The FIRO-B has been promoted as an instrument to study compatibility of couples. Schutz (1958) provided mathematical calculations for three types of interpersonal compatibility: reciprocal, originator, and interchange. Reciprocal compatibility is based upon reciprocal need satisfaction. Originator compatibility indicates differences in tendencies to originate or initiate behavior. The third type of compatibiilty, interchange, reflects the desired amount of interchange between self and others. The three interpersonal interaction variables (inclusion, control, and affection), which are utilized to calculate compatibility scores, may also be useful in understanding couples. The first, inclusion, refers to the degree to which a person moves toward or away from people. The second interaction variable, control, indicates the extent to which a person wants to assume responsibility or make decisions. And affection, the third interaction variable, represents the degree to which a person becomes closely involved with others. Ryan (1977) proposed that Schutz's compatibility scores could help identify problem areas and direct the therapist's attention to relevant areas quickly and efficiently. Research to examine this claim and to define at least part of what the FIRO-B scores can tell us about couples and families may enhance the efficient, therapeutic use of the instrument.

Purpose of the Study

Although Ryan (1977) proposed that the FIRO-B, specifically through its measures of reciprocal, originator, and interchange compatibility, can facilitate marital therapy by providing insight into problem areas, there is no research evidence to support this proposition at present. Since the FIRO-B is currently being utilized to provide information for therapy with marital couples and other dyads, it is important to research the validity of such practices and, at the same time, determine what kinds of information the FIRO-B can consistently provide to the family therapist. The purpose of this study is to explore the relationships that interpersonal interaction and compatibility variables have to outcome in couples therapy.

The interpersonal interaction and compatibility variables were measured using the FIRO-B. Dimension scores on the FIRO-B represent the degree to which an individual expresses or wants from others behaviors of inclusion, control, or affection. FIRO-B compatibility calculations provide three scores which indicate: (1) the degree of reciprocal need satisfaction in reference to the three dimensions measured by the FIRO-B (inclusion, control, and affection), (2) an originator measure of dominance and preference for interpersonal activities, and (3) an interchange component representing the mutuality of interaction with others. This study's focus was upon the relationship of the interaction variables and compatibility scores of the FIRO-B to outcome in couples therapy. Outcome was based upon the results of a pilot study where practicing counselors rated six possible

outcomes in terms of preference. The therapeutic outcome for each subject was coded in terms of the same six possible outcomes.

Statement of the Problem

The problem investigated was: What is the relationship of the FIRO-B interpersonal interaction variables and compatibility variables to outcome in couples therapy?

Background and Significance of the Study

The measurement tools utilized in marriage and family therapy have been largely borrowed from other fields, especially psychology, and many of them were developed to assess social units other than the couple or the family. Cromwell, Olson, and Fournier (1976) indicated in a review of diagnostic tools and techniques for marriage and family therapy, that in the few cases where measurement was used for diagnosis of the family, the instruments involved were primarily standardized personality instruments.

Jones (1980) provided an historical explanation that gives some insight into the process that led to the use of standardized personality instruments in family therapy. She noted that the family approach began in the 1950's with several therapists seeing families in relation to symptoms manifested by only one family member. Haley (1971) provided the insight that treating families was not a respected therapeutic modality at the time and could result in professional isolation. However, as therapists worked with families, the system dynamics were observed and perceived as a potential intervention structure. Thus, individual therapists made a rather natural

transition into family therapy and, as might be expected, brought their individual-oriented assessment instruments with them. The fact that individual assessment instruments were utilized with families until more appropriate instruments were developed represents an expected sequence of development. Bodin (1968) and Phillips (1973) provided additional evidence of the abundant use of personality tests in marital therapy.

Olson (1975) attributed the historical precedent for seeing a family together to Bell (1953). Bell's "family group therapy" was developed and continued through Ackerman's experimentation with family treatment in the late 1940's. In 1957, Ackerman became the director of the first Family Mental Health Clinic opened in New York City, which fostered the origin of the Family Institute.

Bowen's (1961) work in 1954 with families of schizophrenic patients marked another milestone in the development of family therapy. Boszormenyi-Nagy and Framo's (1965) work at the Family Therapy Project at the Eastern Pennsylvania Psychiatric Institute investigating the psychoanalytic approach to family therapy, and Jackson's (1959) studies and his training of professionals in conjoint family therapy, provide two additional examples of early efforts to treat families. As a result of these efforts, the fields of marital and family therapy have developed, although their subsequent development has been, for the most part, independent of each other.

Research in the field of marital and family therapy is also relatively new. Very little existed before the 1950's. This early research was largely focused upon outcome studies, with shortcomings subsequently identified in many of the initial efforts. Olson (1970),

in reviewing research efforts up until 1969, found fewer than 20 studies that he considered marriage and family research. He found only 13 studies that evaluated the effectiveness of marital therapy. Olson concluded that more methodological research was needed in the field before adequate research methods could be developed. Gurman (1971) began publishing what was to become a series of reviews of outcome literature in marital and family therapy. By 1978, Gurman and Kniskern (1978) were able to report on over 200 cases of family therapy outcome research. This report indicated a surge of new research in the area of marital and family therapy. By mid-1979, Kniskern and Gurman had identified 32 reviews of marital and family research; a further confirmation of the rapid expansion of the field. However, the expansion of research in the field was not accompanied by the same effort in identifying the usefulness of assessment instruments that were also being utilized. As recently as 1981, reviewers emphasized the need for reliable assessment procedures which could measure dyadic functioning in areas other than specific communication skills or behavior exchange patterns (Williams & Miller, 1981).

The FIRO-B is an instrument that was originally developed for work with individuals and groups (Schutz, 1958). As previously indicated, the FIRO-B also included calculations for computing compatibility indices. The FIRO-B's target populations and compatibility indices, accompanied by its ease in administration and scoring, made it an attractive instrument for use in the marriage and family setting as well. However, even though the instrument is currently being used in therapeutic environments, little related research has been accomplished to date that can inform us as to what information can be

reliably gathered from administering the instrument to couples or families. Subsequently, the major focus of this study will be upon identifying the relationships of the various measures of the FIRO-B to outcomes for relationship dyads seen in marriage and family therapy. Some of the limitations of the FIRO-B, an instrument with established reliability only for individuals and groups (as discussed in previous sections of this paper) will also be addressed. An additional note of importance is attached to this study because the FIRO concepts have been used recently to develop a model for organizing family treatment (Doherty & Colangelo, 1984). Research on the FIRO-B, and the FIRO concepts in general, can only enhance the utilization of such a treatment model.

A limitation of a considerable amount of marriage and family research is the lack of focus upon how interpersonal variables are related to outcome. According to Kniskern and Gurman (1981) most of the research completed at the time of their review focused upon demonstrating the effectiveness of one type of therapy over another with competitive and non-cooperative comparisons. They addressed the need to recognize that there is no unitary family therapy. In recognizing this need, the present study, which assesses the relationships of the various interpersonal interaction variables represented in the clients and the subsequent outcome of treatment, may be identified as having research value.

Research Questions

The following research questions were tested:

1. Will there be significant differences in correlations between

FIRO-B interaction variables and desired outcome for couples whose pretest, FIRO-B, scores indicated compatibility when compared with those couples whose scores did not indicate compatibility?

2. Will there be significant differences in correlations between FIRO-B compatibility measures and desired outcome for couples whose pretest, FIRO-B, scores indicated compatibility when compared with those couples whose scores did not indicate compatibility?

3. Will there be a significant correlation between FIRO-B interaction variables and desired outcome in couples therapy?

4. Will there be a significant correlation between FIRO-B compatibility measures and desired outcome in couples therapy?

5. Will the results of a factor analysis of the FIRO-B using a sample of couples be similar to other factor analyses of the FIRO-B that were based upon different populations?

CHAPTER II

REVIEW OF THE LITERATURE

The body of literature on marriage and family therapy has grown rapidly in the last two decades. The first reviews of family research published in the early seventies by Olson (1970), Gurman (1971), and Wells, Dilks, and Trivelli (1972) were rather disappointing in terms of identifying both numbers of studies and quality of research. For example, Olson was able to find fewer than 20 studies that could be considered marital therapy research after surveying over 200 articles. The research that Olson examined was of several different types: case follow-ups, analyses of the various disadvantages and advantages of various therapy formats, reports of difficulties in accomplishing research in marital therapy, and comparisons of the characteristics of the clients and the marital therapists. Olson found only one study (Ely, 1970) that included a control group. Gurman reviewed 26 articles concerning marital therapy done in a group format. He was able to identify three studies that included systematic evaluations (Maizlish & Hurley, 1963; Targow & Zweber, 1969). However, Gurman contended that even these studies lacked the methodological sophistication needed to substantiate their reported results. Wells, Dilks, and Trivelli (1972) focused upon identifying outcome studies in the family area. They could locate only 13 relevant reports. Other reviews of

marital and family interaction demonstrated further growth in the field (Riskin & Faunce, 1972; Glick & Haley, 1971; Haley, 1972).

A half decade later, Gurman and Kniskern (1978) were able to locate and review over 200 reports of family therapy research. This finding leaves no doubt that there has been a significant increase in the amount of research in the field, considered by Hobbs (1964) to be no less than "mental health's third revolution" (p. 822). The fact remains that even considering this increase in research, there are still numerous questions that have not even begun to be addressed. A contributing factor that complicates research in the area of family therapy is the reality that there is no unitary family therapy, but instead, the existence of numerous family therapies with both similar and dissimilar characteristics. Up to the present time, much of the literature in the field of family therapy has been focused upon the effectiveness of the different forms of family therapy, contributing to a competitiveness that Kniskern and Gurman (1981) considered detrimental to the promotion of cooperative research.

Rather than developing a new rating scale or assessment instrument, the focus of this study will be on determining the usefulness of an instrument that was originally designed primarily to measure interpersonal variables of individuals, but has subsequently been utilized to assess both the marital dyad and the family unit. The parameters of this study limit it to couples, such as the marital dyad. The focus upon the relationship of the FIRO-B variables to therapeutic outcome in couples therapy reflects the cooperative nature of research (as promoted by Kniskern and Gurman) by examining another author's instrument that is already in use in a variety of settings. Additionally,

such a focus addresses the importance of defining the informational strengths and weaknesses of assessment instruments used in the diagnosis of couples.

Assessment in Marital and Family Therapy

When one examines a particular subfield of marriage and family research, such as assessment, it is to be expected that the amount of related research will be more limited. However, this does not mean that this subfield has been neglected. Lake, Miles, and Earle (1973) systematically reviewed 84 different instruments that have been used to assess various aspects of social functioning. In an earlier review, Strauss (1969) identified 314 instruments that have been used to assess families. Of these instruments, Strauss reported that only 56% had even the most fundamental types of reliability or validity. Even with the identification of a number of instruments to use with couples and families, as recently as 1975, Olson (1975, p. 24) stated that "there are presently no techniques which have been adequately tested or validated which can be used [and] unfortunately, little work is currently underway to improve this condition." Cromwell, Olson, and Fournier (1976), in an attempt to code the existing tools and techniques used for diagnosis and evaluation in marital and family therapy, reviewed 283 related sources, using the resulting information to categorize the various assessment instruments by method and unit of assessment. They examined both well known, validated measures and some rather obscure, unvalidated measures. Cromwell et al. believed that in view of the early stage of development of marriage and family therapy that the inclusion of exclusion of techniques on the basis of

current validity and reliability would not be appropriate at this time (p. 5). These same authors also identified five general weaknesses of most social and behavioral measurement that are directly applicable to the use of such tools in marital and family therapy. These weaknesses are:

1. The rarity of longitudinal and empirical instrument development and the absence of appropriate standardization, especially in the relatively new fields such as marital and family therapy.

2. The tendency of most researchers and practitioners to utilize an easily available tool without determining its applicability to a specific problem; or to develop measurement tools from scratch in order to avoid the issues of appropriateness.

3. The difficulty in accessing information on the various instruments due to its widespread occurrence in both type of publication and discipline.

4. The use of instruments based on their ease of application rather than their appropriateness, validity, or reliability.

5. Professional involved in research often fail to publish in journals commonly read by practitioners and may suffer from the lack of resources to develop or critique instruments as they are utilized in treatment settings.

These weaknesses address the complexity of some of the issues involved in the development of quality measurement tools and provide some direction for research.

There are several different approaches used by therapists to assess families. The most frequently utilized method to study marital and family interaction is the self report. Examples of the self

report include interviews, questionnaires, and standardized tests. These are measures of an individual's subjective experiences and feelings. As subjective measures, self report assessments do not measure actual interaction; they can only infer interaction. This point has significance as the overwhelming majority of assessment instruments in marital and family therapy are self report. To provide an example to illustrate this point, consider a therapist's perceptions in cases where individual family members' self reports provide a consistent scenario versus cases where information from the same sources is inconsistent. Inferences about communication, relationships, etc., can be made without identifying or understanding the specific interaction.

Other, less commonly used methods for assessment of families and related dyads include observer self reports, measures that provide more objective information from an outsider's perspective; behavioral methods that provide objective information based on observation of marital and family interaction; and behavioral self reports which rely upon the client's recording of their own or other's specific behaviors as they occur in day to day interaction. Little research has been done that utilizes collecting systematic observational data required for observer self reports. More research has been accomplished with behavioral methods such as rating scales, but the instruments utilized have had a tendency to be situationally specific, being developed for individual research purposes, a quality that creates a need for additional research to verify validity and reliability. Behavioral self reports have been utilized beneficially by therapists with a behavioral orientation. The findings of McFall and Marston (1970) support

the utilization of behavioral methods. Their research results indicated that as a person monitors his/her own behavior, the behavior tends to change in the preferred direction.

Bodin (1968, p. 234) reported that "the traditional approach to family assessment has been to test each member of the family with conventional personality techniques." Cromwell et al. (1976) also had this perception, indicating that "the overwhelming majority of marital and family therapists who utilized diagnostic measures rely on personality tests" (p. 14). Phillips (1973) provided additional support in his review of tests for marital counseling. Hurvitz (1965) indicated that in the few cases where diagnosis has been attempted with couples, the therapists have relied primarily upon standardized personality measures such as the Minnesota Multiphasic Personality Inventory (MMPI), the Rorschach, and the Thematic Apperception Test (TAT); seldom relying upon measures more specifically developed for the direct purpose of assessing the marital dyad such as the Marital Role Inventory. These reports add credibility to the idea that the major methods used for assessment in couples counseling tend to be the individual and observer self report.

As this paper is addressing assessment in marital and family therapy as somewhat synonymous, a point of clarification is needed. Although the development of the two fields of marital and family therapy was generally independent, both fields have been moving, and continue to move, in similar directions. Olson (1975) proposed that marital therapy grew out of a need for practitioners to deal with marital problems, while family therapy developed because of the observation that treating individuals was sometimes quite inadequate and

ineffective. He indicated that marital therapists work primarily on college campuses or privately with middle-class suburbanites, whereas more family therapists focus upon the middle-class population. With the passage of time, both marital and family therapists have expanded their areas of interest to be more effective with a variety of clients, and in doing so, have overlapped with each other. Two indications of the merging of the fields are: (1) the increasing amount of focus upon the marital dyad by family therapists, and (2) the involvement of children by marital therapists to facilitate work with the marital dyad. A third strong indication of this merging is the change in the name of the American Association of Marriage Counselors (AAMC) to the American Association of Marriage and Family Counselors (AAMFC). Olson and Sprenkle (1976) concluded in an overview of the growth and development in both marriage and family counseling that the "structural and functional distinctions between marriage counseling and family therapy were fading" (p. 318). Since some of the distinctions between the two fields have faded and because of the fact that many assessment instruments are easily applied in both fields, talking of assessment in one field or the other is meant to be considered the same, with the realization of the different populations to which the instruments are applied. It is also important to remember that couples in marriage and family counseling may refer to more than the marital dyad, including such other dyads as parent and child, or a couple of siblings. A final point explaining why assessment in marital and family therapy is similar is that many of the instruments already existed as these two areas developed and were borrowed for use from different fields.

Self Report Measures

Self report measures are formal test procedures, generally in the form of a written inventory or a standardized, oral questionnaire. Information from self reports can center upon the general family behavior or the behavior of a particular individual within the family. The individual provides the major source of information for self reports. By comparing this information with self reports from the other individual in the same couple or from the family, this can be a source of important input that would otherwise be unavailable or hard to access. Cromwell et al. (1976) illustrated four subdivisions of self report methods: (1) non-projective personality tests, (2) projective personality tests, (3) tests of perceived interaction, and (4) tests of inferred interaction. These subdivisions are based upon whether or not the test is focused upon intrapersonal variables or interpersonal variables, and whether or not the test is an objective or subjective type of evaluation. Examples of non-projective personality tests include the Taylor-Johnson Temperament Analysis (Taylor & Morrison, 1974), the Edwards Personal Preference Schedule (Edwards, 1959), and the Minnesota Multiphasic Personality Inventory (Hathaway and McKinley, 1940); all of which are intrapersonal measures. The Rorschach (Rorschach & Oberholtzer, 1924) and the Thematic Apperception Test (Morgan & Murray, 1935) are representative of projective tests. Tests of perceived interaction include the Marital Communications Inventory (Bienvenu, 1969), the Marital Problems Checklist (Matthews & Mihanovich, 1963), and the Fundamental Interpersonal Relations Orientation-Behavior, or FIRO-B (Schutz, 1958). The last category of

Cromwell et al. is tests of inferred ınteraction, with examples such as the Family Relations Test (Bene & Anthony, 1957) and the Kvebaek Sculpture Test (Kvebaek, 1974).

Since the focus of this paper ıs upon tests of perceived interaction, specifically the FIRO-B, the following section will examine some of the specific studies on tests of this type in work with the marital dyad and other couples.

Tests of Perceived Interaction Utilized With the Marital Dyad and Other Couples

Tests of perceived interaction focus upon an individual's or group's perception of the dyadic interaction. These tests emphasize interpsychic perceptions as opposed to ıntrapsychic ones. The basic assumption of these tests is that the personality of ındividuals within the couple is not as important as their perceptions of the interaction. The individual responses to test items are considered at face value as perceptions of interaction issues; test administrators accept client responses objectively. The following studies represent the majority of research on tests of perceived interaction to date.

One of the earliest efforts to construct a measure to assess couples was that of Burgess and Cottrell (1939), who developed the Marital Adjustment Form (MAF). A sample of 526 people who lıved in Illinois was utilızed to establısh the reliability and valıdity of the MAF. The authors indicated a Pearson correlation, based upon 66 husbands and wives, of .884, and utılızed thıs fındıng as support for relıabılıty. Validity of the MAF was based on correlatıons of .92 and .95, obtained by using the above samples of 66 and one other sample of

68 husbands and wives, for the relationship between MAF scores and couple's ratings of happiness. The authors also claim validity from a correlation of .89 for husband's and wife's reports of being divorced or separated, or having contemplated either move, compared to those who have not. Burgess and Wallin (1953) also developed the Marital Success Schedule (MSS) and the Marital Satisfaction Index (MSI), for which there exists only minimal research information.

Corsini (1956), in another early study, tested 20 couples, each with at least one spouse enrolled at the University of Chicago, using the Q-Sort Technique (Q-ST). Corsini's Q-ST consisted of 50 adjectives which could be applied to the husband or the wife. A correlation, Pearson r, was determined for the husband's and wife's responses, which was established at .28. The author suggested this correlation to mean that the husbands and wives did not see themselves in terms of the test as much more alike than men and women do in general.

The Marital Adjustment Scale (MAS) was constructed by Bowerman (1957) to assess the degree of adjustment in nine areas of the marital relationship. These areas included: (1) family expenditures, (2) recreation, (3) relationships with in-laws, (4) relationships with friends, (5) religious beliefs and practices, (6) sexual relationships, (7) homemaking duties, (8) philosophy of life, and (9) child rearing. He administered the MAS to 102 couples obtained from adult education classes and Parent-Teacher Association groups. When correlation coefficients were computed for each of the nine areas for husbands and wives, it was found that all correlations were positive, ranging from .06 to .65. The multiple correlation between all nine

areas was .78 for men and .83 for women. Bowerman suggested from these findings that the MAS would be useful in the study of marital adjustment.

In the same year that Bowerman constructed the MAS, Farber (1957) developed the Index of Marital Integration (IMI). The IMI was intended to measure two aspects of the marital relationship: the integration of ends, which is defined as the consensus between husband and wife in their ranking of domestic values; and the integration of means, which represents the mutual coordination of domestic roles. Farber (1962) utilized the IMI in a study to determine the correlation between the value rankings of husband and wife, the husband's ratings of personality traits of his wife and himself, and the wife's ratings of personality traits of her husband and herself. The sample for Farber's study was drawn from interview material of a total of 374 families on the effects of a retarded child on family relations. There were 109 families with at least one normal child selected for this study. Correlations between the IMI and measures of satisfaction were calculated. These suggested that the degree of marital integration affected parent-child relations in several ways: (1) the presence of role models for children the same sex as the parent, (2) a carryover by parents of the quality of husband-wife interaction to parent-child interaction, (3) the role of the cross sex mediator between the child and other parent, (4) the role of the mother as a primary audience for the child, (5) the presence of consensus between parents as a factor in the mother's defining the viewpoints of the father for the children, especially the son, and (6) the presence of

consensus on domestic values as a factor in the mother's satisfaction with her daughter's behavior.

A study by Brown (1959) utilized the Day at Home Questionnaire (DAH) (Herbst, 1952), in an attempt to establish that there were no differences on the DAH between couples in Australia and New Zealand. The DAH was given to 138 children (64 boys and 74 girls) from schools that were selected as representative and that were available for research. When reports of the boys and the girls were compared, it was found that, overall, boys reported more husband decisions, and girls indicated a larger number of joint decisions. Test reports also suggested less role differentiation in New Zealand than in Australia. In New Zealand, a tendency was found for wives to participate in more activities and areas of the home than for husbands. The same was found true for the Australian sample. Decision making was determined to be more of a joint activity in New Zealand than in Australia, especially in relation to child control and care. Tension was found to be approximately the same in both New Zealand and Australian populations, although a particular Australian sample showed the greatest amount. In terms of family structure, the New Zealand sample indicated a lowered incidence of wife dominance and a higher incidence of autonomic and syncretic patterns than the Australian sample. In a broad statement of the results, the author declared that there were differences in the New Zealand and Australian samples, particularly in participation and decision making. The differences in the two populations were all based upon variation in responses to the DAH.

With the intent of developing a shorter instrument to measure marital adjustment, Locke and Wallace (1959) condensed such measures

as the Locke Marital Adjustment Scale (LMAS) (Locke, 1951) to develop the Locke-Wallace Marital Adjustment Scale (LWMAS). The LWMAS focused upon the accommodation of a husband and wife to each other at a given time. The LWMAS was developed along with a marital prediction test to form the Marital Adjustment Test (MAT). Locke and Wallace's sample consisted of 118 husbands and 118 wives, unrelated to each other, who were generally white, educated, and urban. The researchers indicated the split-half reliability of the MAT, using the Spearman-Brown formula, to be .98. Locke and Wallace concluded that the short test of marital adjustment was comparable to the longer instruments utilized for similar purposes.

Hurvitz (1960) used the Marital Roles Inventory (MRI) to measure marital adjustment. The MRI is based upon similar or different rankings of role performances and role expectations by husbands and wives. The differences in rankings were labeled the "Index of Strain." The sample investigated by Hurvitz was primarily middle-class and their responses revealed that both spouses were found to be similar in that they had either high or low Indexes of Strain. However, as a group, the wives had significantly lower Indexes of Strain than did their husbands. Significant inverse relationships were found between the husband's Indexes of Strain and the marital adjustment scores of the husbands and wives. Hurvitz (1965) has also written an article describing how the MRI can be used as a counseling instrument. In his description of three cases where the MRI was employed, he prescribed the value of the test as: (1) providing unique information unavailable from personality instruments, (2) an indirect measure, (3) a

source of information concerning the interactional character of the marital relationship, and (4) as a source of diagnostic information.

The Marital Interaction Battery (MIB) (Buerkle & Badgley, 1959) was subjected to a factor analysis by Buerkle, Anderson, and Badgley (1961). Their sample consisted of 186 couples from a religious-affiliated couples club and 36 couples from a marriage counseling section of a research bureau. The authors found that the basis of the MIB, altruism, was not associated with marital adjustment, indicating that adaptibility and sympathy may prove to be more important.

Levinger (1965) tested the validity of a revised form of the MIB. He hypothesized that couples who experienced difficulty in their marriage would show a lower proportion of altruistic choices than couples reporting no difficulty, and that couples who displayed extreme patterns of marital disruption would show a larger incidence of items in which neither partner chose the altruistic action. The subjects consisted of 29 non-troubled couples who were parents at an elementary school, 18 couples receiving counseling at a family agency, and 40 couples applying for divorce. Each individual was given the test, which consisted of 12 situations where a husband and wife feel differently. Neither hypothesis was supported by the results; however, there was a significant finding ($p < .001$) reported that half of the divorce applicant couples showed one or more impasse responses, compared to only 13% of the other two samples. Levinger concluded that his study did not support the validity of the MIB.

In order to test the hypothesis that happy couples have the same problems as unhappy ones, Matthews nd Mihanovich (1963) constructed the Marital Problem Checklist (MPL). Of 3,800 MPL's distributed

through Catholic parishes, 1,004 were returned. The MPL assessed such areas as needs, financial and job problems, conflicts with children and extended family, sexual conflicts, religious differences, decision making, and social life. The authors reported 50 items that distinguished happy from unhappy couples, but did not establish that happy couples have the same problems as unhappy ones.

In a study to determine the relationship between parental orientations and the orientation of their children, Frye, South, and Vegas (1965) utilized the Orientation Inventory (Ori) (Bass, 1962). The Ori assesses orientation in relation to self, interaction, and task. Ninety-eight adolescents and 142 of their parents from the middle socioeconomic class were given the Ori. Contingency coefficients between the orientation of parents and their children were all significant at the .05 level of confidence, indicating that children tend to have orientations similar to those of their parents. Bass (1967) provided a review of research on the Ori; however, the only study related to couples such as the marital dyad was the one previously discussed.

Katz (1965) constructed the Semantic Differential Test (SDT) to investigate whether or not happily married spouses show greater agreement in affective judgment or connotative meaning in issues of importance than do unhappily married spouses. The SDT is composed of four polar adjective scales to represent each of three semantic factors: evaluative, potency, and activity. Twenty couples who applied for counseling at selected centers made up the experimental group, and 20 couples not seeking counseling made up the control group. Katz predicted that the overall discrepancies would be greater for troubled

spouses than for untroubled spouses. This hypothesis was confirmed at the .001 level of confidence. The author also predicted that troubled spouses would be more discrepant on marriage-related concepts than would be untroubled spouses. This second hypothesis was also confirmed at the .001 level of confidence. The third expectation that troubled spouses would show greater overall discrepancies in their judgments of concepts having no relevance to marriage was also confirmed at the .001 level of confidence. Troubled wives perceived concepts related to husband and sex relations as most negative, and troubled husbands found the concept of compatibility most negative.

In a factor analysis of the Interpersonal Check List (ICL), Murstein and Glaudin (1966) administered the test to 26 couples with marital difficulty and to 24 control couples. Each subject took the test six times under different "sets": perception of self, spouse, ideal self, ideal spouse, mother, and father. The purpose of the study was to determine whether the independently defined variable of "marital adjustment" related to the personality dimensions measured by the ICL. The author's results suggest that marital maladjustment for men is not strongly tied to personality as measured by the ICL. However, for women there was a moderate relationship for some personality factors, but no high relationship to any one of the extracted personality factors. The personality factors in women for which there was a moderate relationship included positive perceptions of men as spouse-dominant, spouse-good; and ideal self not rebellious-distrustful, and self not rebellious-distrustful. The authors considered that these findings inferred that marital adjustment for this sample of women was related to both the perception of their husbands as dominant and

managerial, but in a loving and kindly manner, and their own self perception as wanting to be trusting and unrebellious.

The interrelationship between communication and adjustment in marriage was studied by Navran (1967). He employed the Primary Communication Inventory (PCI) to study communication in marriage. The PCI is composed of 25 questions and is based upon a five point response scale. The response scale ranged from "very frequently" to "never," assessing the verbal and non-verbal communication in the marriage. Navran sampled 24 happy couples and 24 unhappy couples who were marriage counseling applicants. When the results of the PCI were correlated with the Locke Marital Relationship Inventory, Navran found a correlation of .82, which indicated that marital adjustment is positively correlated with the capacity to communicate.

Bodin (1968) utilized the Family Agreement Measure (FAM) to assess 36 families. The families were of three types: father, mother, and delinquent son; father, mother, and non-delinquent son; and father, mother, and non-delinquent son; but each from a different family and all total strangers. These three family types were respectively called: problem, normal, and synthetic. The participants were closely matched on a variety of details. The FAM was used as part of the study to measure: (1) strengths, (2) problems, (3) authority, (4) communication, (5) defensiveness, and (6) discipline. The FAM is a two-stage questionnaire combining elements of an "unrevealed differences" task with the format of a multiple-choice sentence completion test, modified to require ranking all alternative completions. The FAM results supported consistently higher overall and parental agreement in real than in artificial families, greater maternal compromise

in synthetic than normal families, more efficient joint decision making in actual than in artificial families, greater father-son agreement in normal than in problem families, greater maternal influence in normal than in problem families, and more perceptual distortion by mothers, as they overrated their husbands and underrated themselves, in normal than in problem families.

In a study of differences in attitude, Pang and Frost (1968) sampled a group of volunteer undergraduate college couples, members of which belonged to either Greek or Independent organizations, and were either going steady or were engaged. The Caring Relationships Inventory (CRI) (Shostrom, 1966) was utilized to examine the differences in attitudes between these groups. The CRI was administered to 10 engaged couples, 5 Greek and 5 Independent, and 10 couples that were going steady, 5 Greek and 5 Independent. The authors reported high scores from all couples, similar to those Shostrum found in happily married coupled when initially developing the CRI. Greek couples indicated more satisfaction with their partners than Independent couples, and engaged couples indicated more satisfaction with their partners than steady couples. Males, in both engaged and steady groups, tended to be more satisfied with their partners than were females.

The Interpersonal Perception Technique (IPT) (Drewery, 1969) was applied by Drewery and Rae (1969) to a sample of 22 male alcoholic patients and their wives, to anlayze their marital relationships. The IPT required each member of the sample to complete the Edwards Personal Preference Schedule (Edwards, 1959) three different ways: myself as I am, my spouse as I see him/her, and myself as I think my spouse sees me. Measures of similarity were then computed by

combining the three different response sets of husband and wife. The IPT was also administered to a control group of 26 married couples chosen for their similarity to the couples in the experimental group in terms of occupational status and social class. The results of comparing the two groups on the IPT suggest that the experimental group was not inferior to the control group on measures of marital insight. The one difference between the groups was the finding that the wives of the control groups described their husbands in ways consistent with their husbands' own self descriptions. In the experimental group this was not the case.

Delhees, Cattell, and Sweeney (1970) developed the Family Attitude Measure (FAtM) to measure 12 basic "sentiments," a term developed by Cattell to mean the totality of interest in an object, representing interspouse and parent-child axttitudes. The FAtM has four parts: the Estimates Test, Paired Words, Learning Language, and Memory. The Estimates Test provides an approximation of the frequency of some phenomenon related to a particular intrafamily attitude. Paired Words was designed as a measure of the integrated aspects of motivation. Learning Language was an association learning task, also designed to measure integrated motivation, and Memory was developed as another separate measure of integrated motivation. With the purpose of providing a large sample validation of the FAtM, Barton, Dielman, and Cattell (1973) administered it to 250 junior high school children and factored the results. The researchers found that the identified factors of the FAtM subtests were more complex than originally postulated by Delhees et al. Few of the factors identified were interpretable in

the way that Delhees et al. had defined them, raising questions as to whether or not this study validated the FAtM.

As assessment instrument developed to be utilized as both a research tool and a diagnostic tool specifically for marital therapy was the Inventory of Marital Conflicts (IMC) (Olson & Ryder, 1970). The instrument, which consists of 18 vignettes of marital issues, was first given to each individual who was later asked to respond to four questions concerning: responsibility for the problem, a possible solution to the problem, whether or not the individual has known other couples with similar problems. Subsequently, the spouses were brought together and asked to discuss each of the vignettes to determine responsibility for the problem, and to choose the best way to resolve the conflict. Results include both the paper and pencil responses, as well as a tape recording of the joint husband and wife segment. The authors report data collection from approximately 1,000 couples married one and two years, who were part of the beginning of a longitudinal study.

Jourard (1971) devised the Self-Disclosure Questionnaire (SDQ) to measure the amount and content of self-disclosure to selected persons. In a study of 300 subjects drawn from three Alabama colleges, he found no differences in the total amount of self-disclosure between married subjects and unmarried ones. However, he did find a redistribution of self-disclosure among married subjects, indicating they disclosed less to parents and same sex friends and more to spouses. In fact, there was more self-disclosure to spouse than to any other selected person by married or unmarried subjects.

With the purpose of assessing the effects of specific premarital experiences, impressions, attitudes, and their influence upon marital relations, Ziegler (1972) developed the El Sensoussi Multiphasic Inventory (SMMI). The initial standardization sample consisted of 197 divorced or separated subjects, and 106 subjects with stable marriages of at least 10 years. The split-half reliability of the total scores was reported at .94 for women and .95 for men. No additional research on this instrument has been published since the SMMI's development.

The Marital Conventionalism Scale (MCS) (Edmonds, 1967) was utilized as a secondary measure by Murstein and Beck (1972) in a study predicting that similarity, self-acceptance, accuracy of prediction of other's responses, and role compatibility would be correlated with marital adjustment. The sample consisted of 60 volunteer couples who were regarded as middle- to upper-class. Utilization of the MCS allowed the researchers to determine that marital conventionalization was not a major contaminating factor in assessing marital adjustment.

In a study by Amanat and Able (1973) to evaluate the relative importance of marriage role conflicts and/or temperamental discrepancies in the psychopathology of children, the Marital Roles Questionnaire (MRQ) (Tharp, 1963) was administered to the parents of 24 adolescents who displayed aggressive and/or running away behavior. The adolescents were all outpatients of St. Louis State Hospital. The results indicated that, although the parents of children referred for psychiatric evaluation had greater expectation enactment discrepancy scores than norms, there was no significant correlation between the degree of the deviation scores and the severity of symptoms in

children. The study also failed to show any significant correlation between severity of symptoms and deviation scores.

Quick and Jacob (1973) used the MRQ to assess whether or not it could discern between normal and disturbed couples. They also administered the Relationship Inventory (RI) (Barrett-Lennard, 1962) to assess the difference between the normal and disturbed couples, expecting significantly higher scores from the normal couples. A third focus of this study was to determine if there was any relationship between the MRQ and the RI. Disturbed couples, 26 in number, were defined as marital pairs in which one or both partners were seeking outpatient counseling and were selected from a number of local mental health agencies. There were also 26 control couples, neither partner seeking psychiatric counseling, who were selected on the basis of demographic characteristics matching those of the subjects in the experimental group. The MRQ successfully discriminated between disturbed and normal couples, with disturbed couples having higher discrepancies in their scores. The RI was also successful at discriminating between the two groups with normal couples obtaining significantly higher scores. When the relationship between the MRQ and the RI was examined, it was noted that the two tests shared a significant component of common variance. However, the RI accounted for a significant proportion of specific variance after the variability associated with the MRQ was partialed out. A more recent publication by Wampler and Powell (1982) described the advantages of the RI as a measure of marital satisfaction.

To assess the degree of harmony, acceptance, and trust between spouses, Ely, Guerney, and Stover (1973) administered the Conjugal

Life Questionnaire (CLQ), a 24-item modification of Guerney's Family Life Questionnaire. The subjects consisted of 46 married graduate and undergraduate students (23 couples) at Rutgers University who responded to letters outlining a new skill training service at the Psychological Clinic. The training was focused upon couples with marital problems and was intended to improve mutual understanding through communication skill training. Subjects were always treated as couples and were randomly assigned to a control or experimental group. The CLQ was utilized only with the control group as a minimal estimate of test-retest reliability. The correlation of pretest to posttest scores was reported as .61. While the change in the CLQ scores was greater for the experimental group than for the control group, the difference was not significant ($F=1.0$, $p > .10$). In their study, the researchers also utilized the Ely Feeling Questionnaire (EFQ), an instrument designed to measure direct expression, or reflection, of feelings of what the spouse says in conflict situations. There were two categories of instructions: would and should. From the previous sample, 26 questionnaires were reviewed by two judges. Pearson product moment correlations were calculated for the scores of the two judges. A correlation of .79 was obtained for the Feeling Expression category. For the Feeling Clarification, or reflection, category, a correlation of .64 was calculated. When pre-training scores were compared with post-training scores, the results on the Feeling Expression component demonstrated a significantly greater increase for the experimental group than for the control group under the "would" instructions ($F=4.76$, $p < .05$). In the Feeling Clarification category, the mean number of statements also increased significantly more for

the experimental group than for the control group for both the "would" and "should" categories ($F=6.30$, $p < .05$; $F=11.16$, $p < .01$). The EFQ was also utilized in role playing situations using 12 standard situations, which also used a pre-post measure. Independent scorings by two judges on 11 of the pre-post treatments yielded an interjudge correlation of .72 for Feeling Expression and .91 for Feeling Clarification. The Feeling Clarification statements improved significantly more in the experimental group than in the control group ($F=7.76$, $p < .05$).

In examining the relationship between marital communication and adjustment, Murphy and Mendelson (1973) utilized the Locke Marital Adjustment Scale (LMAS) (Locke, 1951). The LMAS was given as a measure of marital adjustment to 30 married couples, at least one of whose spouses was enrolled in undergraduate or graduate classes at Florida State University. The couples were also given the Marital Communication Inventory (MCI) (Bienvenu, 1970), a 46 item scale on the patterns and styles of communication. The hypothesis under study was that there would be no significant relationship between marital communication scores and marital adjustment scores. A Spearman rank correlation coefficient of .846 was determined, which suggested that adjustment in marriage and communication in marriage are highly interrelated. A more recent study by Haynes, Follingstad, and Sullivan (1979) indicated discriminant validity for the LMAS.

Pleiss and Satterwhite (1973) developed the Family Functioning Index (FFI) as an indicator to doctors that families required further attention. The idea was to develop an instrument that could be used in the clinical setting. The authors administered the FFI to the

parents of 339 school age children, a random sample of Monroe County, New York. The intent of the study was to determine validity and reliability for the FFI. Validity was established three ways. First, both the mother's and father's index scores were compared to independent ratings by social workers, with the results that the mother's FFI scores were significantly correlated at the .01 level and the father's at the .013 level. Second, index scores from six non-professional counselors were correlated with the random sample. The results, once again, were signifcant, but this time at the .001 level. The third method employed compared the mean score of a sample derived from counseling agencies. The expectation was that the FFI scores would be lower for the counseling agency sample than for the parental sample. This expectation was confirmed at the .001 level of significance. Reliability of the FFI was indicated by a correlation of .72 between the FFI scores of husbands and wives, obtained independently. The authors viewed this reliability measure as a special example of test-retest reliability.

Focusing upon measuring different areas of sexual behavior, Harbison, Graham, McAllister, and Woodward (1974) developed the Sexual Interest Text (SIT). The SIT is based on two concepts: men are sexual to me, and women are sexual to me. The authors report internal consistency, test-retest reliability, and validity, all established using different sample populations. Test-retest reliability ranged from .75 to .98 on a sample of 15 subjects, all correlations significant at the .01 level. Validity was established by comparing 40 normal males and females, 20 psychogenically impotent patients, and 15 frigid

patients. The two patient groups were found to differ significantly from the normal group on SIT scores.

The Dyadic Adjustment Scale (DAS) was developed by Spanier (1976) to assess the quality of marital or other dyads. A considerable amount of research has been done on the DAS since its development. In the original construction of the DAS, Spanier factor analyzed it, established content, criterion, and construct validity; and determined reliability for the DAS and each of its four subscales. The subscales include Dyadic Consensus, Dyadic Satisfaction, Dyadic Cohesion, and Affectional Expression. The DAS was examined by judges to establish content validity. For criterion validity the DAS was administered to 218 married individuals and 94 divorced individuals; the results significantly differentiated the divorced sample from the married sample. Construct validity was established by comparing the results of the DAS to the Locke-Wallace Marital Adjustment Scale (LWMAS) (Locke & Wallace, 1959); a revised version of the LMAS. Cronbach's Coefficient Alpha was utilized to establish reliability for the DAS and each of its four subscales. Reliability was listed at .90 for Dyadic Consensus, .94 for Dyadic Satisfaction, .86 for Dyadic Cohesion, .73 for Affectional Expression, and .96 for the DAS overall. A later study by Spanier and Thompson (1982) supported the notion that confidence in the DAS is warranted. They sampled 205 separated or divorced individuals from Pennsylvania (50 separated persons and 155 divorced persons). Spanier and Thompson found internal-consistency reliability using Cronbach's coefficient alpha to be .91. These authors concluded that the four subscales of the DAS were robust and accounted for 94% of the covariance among items. The validity of the

DAS was further confirmed in the research of Autill and Cotton (1982). The only questionable research findings concerning the DAS were those of Sharpley and Cross (1982), who supported the reliability of the scale, but found the majority of the items to be unnecessary. These authors sampled 95 unrelated married pesons, 58 women and 37 men, from Australia. Using only six items (8, 10, 11, 25, 27, 28), the authors correctly classified 92% of the cases. Sharpley and Cross found the overall reliability of the DAS to be .96.

The Marital Satisfaction Inventory (MSaI) was designed by Snyder (1979) to assess married couple's satisfaction. Snyder tested 42 couples from the general population who were matched with 13 couples in therapy, reporting test-retest reliability of .89. Snyder and Regts (1982) developed two new factor scales for the MSaI: Disaffection and Disharmony. When tested on a sample of 754 married individuals, the two factor scales discriminated between normal and clinical samples. Criterion validity was demonstrated for the two scales by comparing the scales' ratings of couples entering marital therapy. The authors indicated clinical utility for the two new scales.

Weiss and Cerreto (1980) developed the Marital Status Inventory (MStI) to determine the severity of marital counseling cases in terms of the potential for dissolution of the marriage. The MSTI is a 14 item self-report scale with true-false responses. The authors administered the MStI to 143 married students at the Universities of Oregon and Washington, and to 56 married couples who were seen at the Psychology Clinic of the University of Oregon. Preliminary discriminant validity was reported based upon scores of the 56 married couples who were tested. Weiss and Cerreto indicated the need for additional

research on the MStI and they would not endorse the test as a valid scale. The MStI was tested by Crane and Mead (1980) to ascertain its capacity to determine the potential for dissolution of the marriage. They administered the MStI to a sample of 30 marital counseling couples and 13 family counseling center couples at the Brigham Young University Marriage and Family Counseling Clinic. Using 17 cases, the rest not being used due to loss, a Spearman-Brown split-half reliability of .86 was obtained. Consistent with their prediction, the authors also found that marital counseling couples scored higher on the MStI than did family counseling couples. Marital counseling couples were considered to have a higher risk of dissolution. Marital counseling wives scored significantly higher than family counseling wives, and marital counseling husbands scored similarly, though they were not significantly different than family counseling husbands. Crane and Mead concluded that prevention and treatment of marital problems should concentrate on improving perceived satisfaction in the areas of companionship and sex, as these two areas of the MStI were the most significant. The MStI was also compared by Butler and Crane (1980) to the LWMAS and the Areas of Change Questionnaire (A-C) (Weiss and Birchler, 1975). The focus of their study was the marital adjustment of abusive and non-abusive parents. The results of their sample of 14 abusive parents and 29 non-abusive parents, indicated that the couples' marital dissolution potential was identical in each group; suggesting that there is no more potential for marital dissolution by abusive parents than by non-abusive parents.

In the previous exhaustive review of assessment instruments exploring perceived interaction that are utilized in marital therapy, it

is readily apparent that there is an absence of published material concerning the FIRO-B in its application to couples such as the marital dyad. This absence does not in any way reflect the reality that the FIRO-B is in fact utilized by many agencies to assess couples. The previous review was intended to describe the type and quality of research being accomplished on tests of perceived interaction used with couples. As there is a virtual absence of such research on the FIRO-B, the next focus will be upon relevant FIRO-B research and will also address the model of family therapy based upon the FIRO concepts which, in itself, is a supportive reason for pursuing research on use of the FIRO-B with couples.

Relationship of Existing FIRO-B Research to Work With Couples

With the virtual absence of published research on the use of the FIRO-B with couples such as the marital dyad, it is appropriate to examine research with other populations in order to establish a base for comparison. The studies that follow provide examples of FIRO-B research whose results may be applied to similar efforts with couples or other family dyads.

Sapolosky (1965) examined the relationship between compatibility as indicated by the FIRO-B and outcome in doctor-patient dyads. In the first part of his study, Sapolosky administered the FIRO-B to 22 psychiatric patients on their admittance to the hospital. The test was readministered after one month of their stay in the hospital and was subsequently administered to their doctors. A Pearson product-moment correlation of .45, significant at the .05 level, was obtained

when the patient-doctor compatibility scores were compared to supervisors' ratings of patient improvement. In other words, highly compatible patients demonstrated greater effects of their doctor's influence than did low compatibility patients. As a check of the resulting correlation, the patients' scores and the doctors' scores were randomly mixed and compared. This resulted in doctors being compared with patients with whom they had not worked. The resulting correlation with the supervisor's ratings was -.28, supporting the idea that improvement did benefit from patient-doctor compatibility. This finding may be important in comparison of individuals within family-related couples and in selection of the therapist or therapists to work with the specific couple.

In a study of group psychotherapy with married couples, Hooper and Sheldon (1968) administered the FIRO (a test similar to the FIRO-B by the same author) to an experimental group of married psychiatric patients and their spouses, and a control group of five non-patient couples. Of the compatibility measures of the FIRO, differences on the Originator type provided the only significant differences (.05 level) between the experimental groups. The researchers interpreted this to represent a passivity in the patient couples, as both wanted to be the recipient of behavior from the other instead of wanting to express behavior. Another finding, differences in control scores of men in therapy groups compared to those not in therapy groups, was close to significant. In non-therapy couples it was found that men had much higher control scores than their wives and that women in the non-therapy group had a much higher affection score than control score, neither finding holding for the other group.

Gluck (1979) attempted to clarify the difference in findings in relation to construct validity between Kramer (1967) and Froehle (1970). Gluck administered the FIRO-B to 23 undergraduate psychology students and then asked the same subjects to predict their own scores following an explanation of the test. This study was more of a replication of Kramer's work and resulted in similar findings. The correlations of the students' predictions with the actual test scores on the six dimensions of the FIRO-B ranged from .87 to .95. Gluck indicated his findings were supportive of construct validity for the FIRO-B.

In studying the relationship between client-counselor compatibility and counseling outcome, Mendelsohn and Rankin (1969) administered the FIRO-B to 162 first time clients at the University of California (at Berkeley) Counseling Center. Counselors at the Center took the same instrument prior to collecting any data from the subjects. The authors' findings are somewhat ambivalent, as several of the female compatibility scores proved significant ($p < .05$), but none of the male scores did. It is interesting to note that Sapolosky's (1965) subjects were all females. In a general sense, compatibility in the control dimension was positively related to outcome, but compatibility in the inclusion and affection dimensions was negatively related to outcome. Mendelsohn and Rankin concluded that FIRO-B scores can generate some remarkably good predictions of outcome, at least for females.

Gassner (1970) studied the relationship between patient-therapist compatibility and the effectiveness of treatment. She administered the FIRO-B to 24 pastoral counseling students at Worcester State

Hospital and 150 patients, from which she selected the 24 most compatible and 24 least compatible to the counseling students. The results indicated that high compatibility patients viewed their counselors as significantly more positive than low compatibility patients ($p < .05$). Therapists also had a more favorable reaction to high compatibility patients, but this was not significantly different from the low compatibility group. It was also demonstrated that initial impressions did not significantly change over the course of the 11 week study.

In perhaps the first detailed description of use of the FIRO-B with couples, Robbins and Toomer (1976) described two case studies. These authors used the FIRO-B to encourage client involvement in constructive management of conflict. The instrument was also utilized to provide structure and as a vehicle for clarification of conflicts. Robbins and Toomer concluded that the psychological testing can be valuable for use with couples when used with concern, creativity, and discretion.

Perhaps the best factor analysis of the FIRO-B published to date was by Wiedemann, Waxenberg, and Mone (1979). At the same time, this factor analysis is also limited to 53 subjects who were staff members and trainees at the American Foundation of Religion and Psychiatry. These authors found that 90% of the total variance was accounted for by three factors: one related to inclusion and affection, another to control expressed, and the third to control-wanted. They concluded that the six FIRO-B scales revolved around warmth and control. An earlier factor analysis by Gard and Bendig (1964) had resulted in the

FIRO behavior checklist variables loading on the same factors as the FIRO-B scales.

Malloy (1980a) undertook the task of assessing the nature of the distribution of interpersonal compatibility scores for therapists and clients as determined by the FIRO-B. He assessed 48 client-therapist dyads at the University of Northern Colorado. The results of a chi square analysis suggested that among this sample the observed distribution of scores conformed to what might be expected from the theoretical normal distribution. Malloy and Copeland (1980) later suggested a modification for calculating the FIRO-B compatibility scores and, in the same journal, Malloy (1980b) presented a computer program for the computation of interpersonal compatibility.

The FIRO-B lends itself to use in marital therapy in two apparent ways. First, the fundamental dimensions (Inlcusion, Control, and Affection) of the FIRO-B may be applied directly to couples such as the marital dyad. Second, the compatibility scores of the FIRO-B (Interchange, Originator, and Reciprocal) can be applied similarly. As the dimensions are the basis for understanding the FIRO-B and its compatibility scores, a brief explanation of each one is appropriate:

Inclusion is defined as the interpersonal need to maintain a satisfactory relationship with respect to interaction and association. This definition includes the understanding of a comfortable interaction with people maintaining a balance of initiating and eliciting interactions, the ability to take an interest in people as well as elicit an interest from them, and the need for self to feel significant and worthwhile. Two important qualities of inclusion are its

relation to identity and the perception of the uniqueness of the individual.

Control is described as the interpersonal need to establish and maintain a satisfactory relation with people with respect to influence and power. The balance in relation to this dimension is between controlling and being controlled by others, as well as the ability to offer and receive respect. Control is also related to individual feelings of competency and responsibility. The manifestation of control is the desire for power and authority over others and, conversely, the willingness to have control or responsibility taken away. Control differs from inclusion in that it does not require attention or prominence.

The need to establish and maintain satisfactory relations with others with respect to love and affection is a definition of the third dimension, affection. Initiating and receiving close, personal interactions is the balance to be maintained for this dimension. One needs to be loved as well as to see self as loveable. Affection is a dyadic relation that refers to close personal and emotional feelings between two people. Affection focuses upon emotional closeness rather than prominence or power.

Doherty and Colangelo (1984) have attempted to categorize family issues according to the FIRO dimensions. They interpret inclusion to address the extent to which family members are part of the family unit and, at the other end of the continuum, apart from it. Inclusion becomes the family members' level of involvement in one another's lives, ranging from boundary-less enmeshment to uncommitted disengagement from each other. The balance between belonging to the family and

maintaining a separate identity is an inclusion issue. Control includes the aspects of responsibility, discipline, power, decision making, and role negotiation. Control issues are more subtle, visible in relation to conflict or status within the family. Doherty and Colangelo have prioritized treatment issues according to the FIRO dimensions. They perceive that inclusion is the first issue to be dealt with, believing that little can be done in the areas of control and affection without first resolving this issue. These authors also conclude that all three dimensions exist in every family and that the emphasis changes according to the family's life cycle stages and other circumstances. They also indicate that problems existing in one dimension may negatively impact other dimensions. A specific treatment sequence is prescribed beginning with the inclusion area, specifically to help the family to develop more individual identity in enmeshed families and to clarify levels of investment in disengaged families. Doherty and Colangelo placed the treatment of control issues before affection issues, as they feel that discrepancies in control prohibit affection. These authors have also attempted to identify how major schools of family therapy have focused upon FIRO issues. They link Minuchin's (1974) Structural approach to the inclusion area. Haley's (1976) Strategic; Watzlawick, Weakland, and Fisch's (1974) Interactional; and Jacbson and Margolin's (1979) Behavioral school are all linked to control. Bowen's (1978) Family Systems Theory, Whitaker and Keith's (1981) Symbolic Experiential, Framo's (1981) Psychoanalytic, and Satir's (1972) Humanistic schools are linked to affection. Doherty and Colangelo proposed that the

various family therapies tend to specialize in one of the three FIRO dimensions.

The preceding review of literature has focused upon three areas: (1) the review of studies on instruments that are similar to the FIRO-B, (2) the review of research on the FIRO-B that can be applied to couples such as the marital dyad, and (3) the presentation of a model of therapy based upon the FIRO-B. Although material exists for each of these three areas, there is very little research on the use of the FIRO-B specifically with couples. It is proposed, therefore, that the focus of this study, establishing the relationship between FIRO-B scores and outcome in couples therapy, is an appropriate and needed contribution.

Summary

The following is a summary of the preceding chapter:

1. In reference to research on instruments of perceived interaction that are similar to the FIRO-B and used to assess couples such as the marital dyad, a number of completed studies have been correlational in nature.

2. A tendency continues for researchers of couples to develop their own assessment instruments instead of relying on those already in existence. This indicates minimal cooperative effort in the field to develop valid and reliable measures.

3. Few assessment instruments of perceived interaction of couples similar to the marital dyad have had a considerable amount of follow-up research to verify or even explore their utility. The

DAS and the LWMAS seem to have more supportive research than other measures.

4. Confirmation of the utility of the FIRO-B for use with couples seen in marital and family counseling is needed, since it is being utilized with that population with little supportive research. Although the use of the FIRO-B with couples may be currently limited to its function as a structured interview to clarify therapeutic issues, the determination of the relationship of its scores to outcome in couples therapy can enhance its utility. This determination becomes even more important when it is considered that the FIRO dimensions have been developed into a model of therapeutic intervention for couples and the family.

5. One approach to assessing the utility of an assessment instrument is to compare its results to outcome ratings of supervisors, practitioners, or clients. Since the outcome ratings for the present study consist of a more global perception of preferred outcomes by practicing counselors, a pilot study was undertaken to determine a continuum of outcome from most preferred to least preferred.

6. The relationships investigated by this study are suggested by the preceding review of literature as a logical step in determining the utility of the FIRO-B with family related couples.

CHAPTER III

METHODOLOGY

Subjects

The subjects for this study were couples, identified from already existing files in a university marriage and family clinic and a university counseling center. Both the marriage and family clinic and the counseling center were located at a university in the Southwest portion of the United States. All of the subjects had at one time been seen as clients in one of the previously mentioned settings. The major criteria for being included in this study was that the couples had completed FIRO-Bs which were administered prior to their therapeutic work. Eighteen couples meeting the established criteria were identified in the marriage and family clinic files, and three more couples were identified in the counseling center. The 21 couples consisted of 18 heterosexual couples, 2 brothers, a mother and a daughter, and 2 females in a homosexual relationship. Eight other couples identified at the marriage and family clinic had files with inadequate information for the purposes of this study. These couples were examined to determine if there was a relationship between the number of sessions they were seen and positive therapeutic outcome.

An additional group of subjects, 44 in number, were identified in order to meet the minimal numbers required for a factor analysis of

FIRO-B test items. The criteria for this group of 44 subjects was that they had to have completed FIRO-Bs from either the marriage and family clinic, or the counseling center. Sex of the subjects for this group was not used as a criteria for selection, but will be reported in the results. As the focus of this study was the relationship between FIRO-B dimension and compatibility scores and outcome in couples therapy, subjects were selected for their capacity to meet the previously described criteria rather than through randomization.

Classification of Subjects

Subjects were classified based upon information from the files of the two university counseling agencies. The classifications were: (1) couple--referring to the fact that the subjects were seen jointly for therapy, (2) single--referring to being seen as an individual, and (3) child--referring to being seen with one or both parents as a family concern. Three additional subject factors classified were: birth order of the child, sex, and outcome of treatment. Sex was classified as being either male or female. Outcome was based upon being placed in one of six categories, established in the pilot study, related to termination status: (1) agreed upon termination by both therapists and clients upon achievement of goals, (2) agreed upon termination by both therapists and clients, although goals have not been achieved, (3) referral, (4) termination by therapists without clients' approval, (5) termination by clients without therapists' approval, or (6) failure to show by client.

Protection of Subjects

The following procedures were followed to ensure the protection of all subjects:

1. All of the files were examined, either in the marriage and family clinic or in the counseling center. Files never left the premises.

2. FIRO-B scores for each subject were collected and coded by graduate students in a counseling psychology program who were selected for that purpose alone and who otherwise were not involved with the study.

3. Information for each subject was coded with a generic code which represented the subject's status in relation to being: (a) a member of a couple, single, or a child; (b) sex; and (c) birth order of the child. The information for each subject was also assigned a number. The names and addresses for each subject were paired with the assigned number and saved on a master list that never left the locked files of the agency, nor was it seen by the researcher.

4. Data collection was accomplished during times that the respective agencies were open, providing for the presence of supervisors to clarify any issues concerning client welfare.

Procedure for Data Collection

As stated earlier, the data for this study was collected from a marriage and family clinic and a counseling center at the same university. Three graduate students in the counseling psychology program performed the duties of data collectors and were given the instructions

that are included in Appendix B. Each of the data collectors was also provided with instructions on the sequence of data collection. The instructions were the same for collection of data in both the marriage and family clinic and the counseling center.

Description of the Instrument

The FIRO-B is a questionnaire that consists of 54 items. It was first published by Shutz in 1958 (alternative spelling of Schutz). The FIRO-B is a test of perceived interaction that measures three dimensions of interpersonal interaction: inclusion, control, and affection. For each dimension there are two scores: expressed behavior and wanted behavior. Expressed behavior (e) is that which is observable and is directed from self to others. Wanted behavior (w) is that which is preferred from others directed towards self.

The FIRO-B consists of six questions that are stated nine different ways. Subjects are asked to select one of six possible answers, ranging from "never" to "usually," as their response to each question. The only way for a subject to invalidate the test is to consistently provide answers that are in contrast to other answers that have been recorded on the different forms of the same question. Ryan (1970) suggested that the FIRO-B does not contribute to anxiety and therefore discourages faking.

According to Schutz (1967), the primary purposes of the FIRO-B are to measure how an individual acts in interpersonal situations and to provide an instrument that will facilitate the prediction of interaction between people. The dimensions of the FIRO-B (inclusion, control, and affection) represent the behavior that is produced in

relation to needs that an individual has in the same three areas. Schutz (1966) stated this relationship in his first postulate of interpersonal needs:

> . . . inclusion, control, and affection, and b) Inclusion, control, and affection constitute a sufficient set of areas of interpersonal behavior for the prediction and explanation of interpersonal phenomena (p. 88).

Thus, the FIRO-B is designed to measure the existence of needs related to the three dimensions and the degree to which an individual can meet these same needs; all based upon the behavior of the individual.

Ryan (1977) provided the behavioral definitions for the three dimensions of the FIRO-B, which also constitute the interaction variables in this study, as follows:

Inclusion. The interpersonal need for inclusion is the need to establish and maintain a satisfactory relationship with people with respect to interaction and association. The need to be included is evident in an individual's pursuit of attention, prominence, belonging, and identity.

Control. The interpersonal need for control is the need to establish and maintain a satisfactory relationship with others with respect to control and power. Control behavior is concerned with the decision making process between people. The need for control is demonstrated in the individual desire for power, authority, independence, and superiority. When the need for control is low, it may be represented as submissiveness or avoiding responsibility. The need for control may exist quite differently in terms of what one wants from others and what one expresses to others.

Affection. The interpersonal need for affection is the need to have a satisfactory relationship with others with respect to love and affection. An individual's emotional feelings and intimacy with others reflects the quality of this dimension. Affection is a dyadic relation that occurs only between pairs of people; whereas, inclusion and control may occur with an individual, dyad, or group. Relations between family members, friends, or lovers are exemplary of affection.

The FIRO-B dimensions are each assessed two ways: expressed behavior (e)--that which is observable by the other person, and wanted behavior (w)--that which is preferred from others.

Calculations for compatibility indices are also provided by Schutz (1966). Regarding the FIRO-B, compatibility is a property of a relation between two or more persons that leads to mutual satisfaction of interpersonal needs and harmonious coexistence. The three types of compatibility provided for by Schutz are: reciprocal, originator, and interchange. Each will be illustrated in more detail.

Reciprocal Compatibility. This is compatibility based upon reciprocal need satisfaction, primarily applicable to dyads. According to Ryan (1970), this type of compatibility yields the most meaningful information. Reciprocal compatibility is purported to assess the degree to which the expressed behavior of one person equals the wanted behavior of the other, and vice versa.

Originator Compatibility. This is compatibility based on differences in tendencies to originate or initiate behavior, primarily applicable to dyads. This type of compatibility is illustrated by: (1) a preference for applying, joining, or always being in interpersonal activities, but not wanting to be asked in by others; (2) a

preference for always dominating and controlling the actions of others and strongly resisting their influence; (3) a preference for loving over being loved. For two people to operate effectively together, the originating and receiving aspects of their behavior should be complementary. Conflict arises when there is disagreement over who shall originate relations and who shall receive them. The highest compatibility in this area is achieved when two persons' scores are complementary.

Interchange Compatibility. This is compatibility based on desired amount of interchange between self and others. This type of compatibility is explained as: (1) high interaction with others in terms of general activities, a desire to associate with others and have them associate with self; and (2) a preference to be both toward people and from them toward self. Interchange refers to the mutual expression of the behavior that is related to an identified need. An example would be the need for affection within a married couple and the mutual expression of affection to each other. Incompatibility arises when members of the dyad disagree on the amount of interchange in a particular area of interpersonal relations.

Nine scores are obtained from the FIRO-B: inclusion, wanted and expressed; control, wanted and expressed; affection, wanted and expressed; reciprocal compatibility; originator compatibility; and interchange compatibility. Scores on the three dimensions of inclusion, control, and affection range from 0 to 9. Reciprocal and interchange compatibility scores range from 0 to 18, and originator compatibility range from -18 to 18. Each of these obtained scores are considered as ordinal data to be correlated with the outcome variables which were

ordered based upon the results of the pilot study. Additional information on scoring can be found in The Interpersonal Underworld (Schutz, 1966).

Reliability of the FIRO-B

Coefficient of Internal Consistency. Since the scales of the FIRO-B are all Guttman scales, unidimensional scales that produce a cumulative scale, reproducibility is the appropriate measure of internal consistency (see Appendix C). This measure indicates the degree to which the items of a test assess the same thing. As reproducibility requires that all items are unidimensional and that the items occur in a certain order, it is proposed that it is a more stringent criterion than other measures of internal consistency. Schutz (1978) indicated coefficients of internal consistency of .93 to .94 for the six basic questions of the FIRO-B, with a mean of .94. The FIRO-B scales were developed from the responses of approximately 150 college student subjects. The reproducibility was calculated using 1,550 subjects.

Coefficient of Stability. This measure refers to the correlation between test scores and scores on a retest after a time lapse (see Appendix C). Schutz (1978) reported coefficients of stability ranging from .71 to .82 for the six FIRO-B questions, with a mean of .76. Schutz's coefficients of stability were based upon test-retest reliability results among Harvard students over a one month period, except the coefficients related to the affection dimension which were based on an interlude of one week.

Validity of the FIRO-B

Content Validity. Schutz (1978) argued that content validity is a property of all legitimate cumulative scales, and therefore of the FIRO-B, if the theory underlying the use of Guttman scales is accepted. Gilligan (1973) found that reliability coefficients of the FIRO-B were lower than those reported in the manual. However, the highest internal consistency of the overall scales was found to be .81, with the sums of the wanted and expressed scales being .75. Similar populations of college freshmen were utilized in each study.

Construct Validity. Kramer (1967) concluded that the three basic dimensions of the FIRO-B shared significant common variables which normal subjects could perceive in themselves. Froehle (1970) could not reproduce Kramer's results, but Gluck (1979) attributed this to a difference in the design used by Froehle and supported Kramer's findings. Malloy and Copeland (1980) provided additional support for the reliability and validity of the FIRO-B, but suggested caution in using it as a clinical measure.

Concurrent Validity. This type of validity refers to how well test scores correspond to measures of concurrent criterion performances or status. Schutz (1978) suggested that the FIRO-B has concurrent validity, as it has been demonstrated that it can differentiate between groups with already known attitudes in ways consistent with earlier differentiations. Schutz cited a study on 12 occupational groups as the primary support for concurrent validity of the FIRO-B.

Intercorrelation of Scales

Based on a sample of 1,340 subjects, Schutz (1978) indicated significant correlations between expressed and wanted scores, for inclusion and affection. He also indicated a smaller, but statistically significant correlation between the inclusion and affection scales. Schutz concluded that the correlation between the inclusion and affection scales is small enough that it could hamper the predictive function of the FIRO-B and therefore considers it advantageous to retain the scales in their present form.

Definition of Variables

Interaction Variables

The three interaction variables of inclusion, control, and affection will be examined on two levels, wanted and expressed, as measured by scores on the Fundamental Interpersonal Relations Orientation-Behavior Scale (Schutz, 1958). The inclusion scale measures the degree to which a person moves toward or away from people. The control scale measures the extent to which a person wants to assume responsibility or make decisions. And the affection scale measures the degree to which a person becomes closely involved with others.

Compatibility Variables

The three compatibility variables of reciprocal, originator, and interchange will be examined as calculated from scores on the FIRO-B. Reciprocal compatibility indicates the compatibility based on reciprocal need satisfaction. Originator compatibility indicates compatibility

based on differences in tendencies to originate or initiate behavior. Interchange compatibility indicates compatibility based on desired amount of interchange between self and others.

Outcome Variables

The outcome variables were determined in the pilot study (described below) and were as follows:

1. Agreed upon termination by both therapists and clients upon achievement of goals.
2. Agreed upon termination by both therapists and clients, although goals have not been achieved.
3. Referral.
4. Termination by therapists without clients' approval.
5. Termination by clients without therapists' approval.
6. Failure to show by clients.

Assumptions

The following are assumptions made by the researcher for purposes of this study:

1. It was assumed that the couples under study were representative of couples that pursued marital therapy in a university community of approximately 50,000 in the Southwest United States.
2. It was assumed that, although the FIRO-B was administered in different settings, the adminsitration of the test was uniform.
3. It was assumed that all participants both understood the directions of the FIRO-B and answered it honestly.

4. It was assumed that the FIRO-B was given prior to therapy and that it was utilized in the planning of therapy.

Pilot Study

A questionnaire was constructed which asked each subject to rank in order from "most preferred" (1) to "least preferred" (6), the six outcome variables listed above (Appendix D). The six outcome variables were randomized, using a random table of numbers, and listed on the questionnaire accordingly. The subjects consisted of 30 practicing counselors and doctoral level counseling students. Thirty questionaires were distributed, and 22 were returned completed. One questionnaire was disqualified due to failure to follow instructions. The resulting number of complete questionnaires was 21.

Additional categories of variables were asked for, but none were recommended. The only notable comments were: (1) "Ranking of the outcomes really depends on when in process they occur--you should specify or at least provide concrete examples"; and (2) "Referral could actually result after any of the other outcomes."

Means for each outcome possibility were computed for the responses and are recorded in the following ranking of outcome variables based upon the results of the pilot study:

1. Agreed upon termination by both therapists and clients upon achievement of goals (mean=1.00).

2. Agreed upon termination by both therapists and clients, although goals have not been achieved (mean=2.38).

3. Referral (mean=2.71).

4. Termination by therapists without clients' approval (mean=4.40).

5. Termination by clients without therapists' approval (mean=4.74).

6. Failure to show by clients (mean=5.76).

Outcomes 1, 2, and 3 are considered to be more positive outcomes. Outcomes 4, 5, and 6 are considered to be more negative. The results were consistent with the researcher's own expectations.

Statistical Analysis

Because there is no factor analysis of the FIRO-B on an adequately large population, and there is some question whether the population under study from the university in the Southwest United States was similar to those in the two identified factor analyses that had been done on other populations (Wiedemann, Waxenberg, & Mone, 1979; Gard & Bendig, 1964), a factor analysis was done as part of the present study on the 29 couples and 44 single individuals that formed the total population of 102 subjects. This factor analysis was not the primary concern of the study, but it was important because it identified how the results of the present study might generalize to populations already studied with the FIRO-B.

The primary focus of the present study was to determine the relationship of FIRO-B dimension and compatibility scores to outcome in couples therapy. Scores on the FIRO-B are most appropriately considered ordinal data, as they are actually a composite of Guttman scales. Therefore, Spearman p (rho) correlations, as calculated by Linton and Gallo (1975), and as determined by the SAS statistical

program, were computed on the relationship of: (1) the interaction variable scores and the six identified outcomes in couples therapy, and (2) the compatibility scores and the six identified outcomes in couples therapy. The appropriate tables were entered to check the results of the Spearman rho correlations for significance at the .05 level of probability. Regression lines were computed for each of the correlations, as were standard errors of estimate. The Kruskal-Wallis H statistic was also applied to determine if differences between groups with the six different outcomes existed.

Limitations

As in all correlational studies, when evidence is found that supports the existence of a relationship between variables, it does not mean that one factor has caused another. The only question that correlational research answers is whether or not a relationship exists. At the same time, there is a close relationship between correlation and prediction. The stronger the relationship between two variables, the more accurately one can predict one variable from the other. It must also be considered that knowledge of the value of a correlation coefficient does not always give precise information about predictability of one variable from the others.

Since the data was collected from already existing files and only completed files were utilized, negating any chance of random sampling, it is possible that the population studied may be unrepresentative of some larger population. At the same time, for the purposes of this study, the results were considered generalizable to those couples from the same or similar university communities of approximately 50,000

population in the Southwest United States, who would, for some reason, be given the FIRO-B.

Two additional, related limitations were: (1) the restriction of the sample size to 29 couples (the total number available from the two cooperating agencies), and (2) the fact that the data was collected from two different counseling agencies, even though both agencies were on the same campus. The restricted number of couples available was a strong consideration in the type of statistics selected. In addition, the second group of 44 subjects was identified to meet the criteria for a valid factor analysis. Even with the compensations, both of these factors are considered as limitations to this study.

It must also be cautioned that this study only determined the FIRO-B's capacity to predict outcome in relation to pre-therapy and the results do not apply to its capacity to be predictive of outcome when administered during the course of therapy.

Therapist-couple compatibility was an area that was not examined in the present study and is a limitation in that it may have had an effect on outcome.

A final limitation is related to the fact that there may have been variables outside of the therapeutic relationship and unrelated to FIRO-B scores that produced either positive or negative therapeutic outcomes.

CHAPTER IV

RESULTS

Relevant Demographic Information

One hundred and two subjects were identified from the files of the marriage and family clinic and the university counseling center. These subjects represented all of the clients who had been seen by one of the two agencies and who had completed the FIRO-B. Subjects included 29 couples. Twenty-one of these couples formed the population that was examined in detail for information on the relationship between compatibility scores and outcome in therapy. The files for the remaining eight couples had inadequate information for the identification of the final outcome of treatment. These eight couples were examined in terms of the number of sessions that they were seen, to determine a possible correlation with outcome. The remaining subjects consisted of 16 single females, 20 single males, 3 married females, 3 married males, and 2 children. The total 102 subjects were utilized for a factor analysis of the items on the FIRO-B.

Research Questions

Research Questions 1 and 2

Will there be significant differences in correlations between interaction variables and desired outcome for couples whose pretest,

FIRO-B scores indicated compatibility when compared with those couples whose scores did not indicate compatibility?

Will there be significant differences in outcome for couples whose pretest, FIRO-B scores indicated compatibility when compared with those couples whose scores did not indicate compatibility?

Spearman rho (p) correlations were calculated using data from the 21 couples with complete information in their files. The criterion variables of the compatibility measures and their relationship to outcome in therapy were examined. Outcome was based on results of the pilot study, which determined a six point ranking scale for desired therapy outcomes (1=most positive; 6=most negative). The resulting correlations from the comparison of criterion variables of the compatibility scores to outcome in therapy are indicated in Table III (see tables located in Appendix E). There was only one significant correlation ($p < .05$) between more negative outcomes, delineated as 4 through 6, and FIRO-B compatibility criterion variables. The significant correlation was found for originator compatibility-total area, and indicated that as scores went up on FIRO-B compatibility, so did the occurrence of negative outcome. For relationships with more positive outcomes, 1 through 3, no significant correlations ($p > .05$) were found.

When the sample of 21 couples was separated into two groups representing high and low compatibility, no significant correlations ($p < .05$) were found (Table IV). The high compatibility group was composed of the lowest ten or more, as determined by the next score change, compatibility scores which indicated greater compatibility. The group of low compatibility was composed of the remaining scores,

all of which were greater than the scores of the high compatibility group and indicative of greater compatibility.

Research Question 3

Will there be a significant correlation between FIRO-B criterion variables and desired outcome in couples therapy?

In order to compare the initial work accomplished by Schutz (1967) with the results of this study, an intercorrelation of the criterion variables was calculated (Table V). Eight criterion variables had significant ($p < .01$) correlations with each other. These relationships were: inclusion-expressed with inclusion wanted, control-expressed with inclusion-expressed, inclusion-wanted with control-expressed, inclusion-expressed with affection-expressed, inclusion-wanted with affection-expressed, inclusion-expressed with affection-wanted, inclusion wanted with affection-wanted, and affection-expressed with affection-wanted.

Working with the same group of 21 couples who had completed data, criterion variables from the compatibility scores were correlated with outcome in couples therapy. With regard to reciprocal compatibility, none of the criterion variables correlated significantly ($p > .05$) with outcome (Table VI). The lack of significance ($p > .05$) was also found for the criterion variables of both originator and interchange compatibility in their relationship to outcome (Tables VII and VIII).

Regression lines were calculated for criterion variables and their relationship to outcome (Figures 1 through 6). (All figures are located in Appendix F.) Three regression lines were accompanied by significant ($p < .05$) F statistics: inclusion-expressed, originator

compatibility-affection, and interchange compatibility-total area. Tables were developed to illustrate the regression sums of squares (Table IX), the residual sums of squares (Table X), the standard error of estimate (Table XII), the variance of estimate (Table XIII), and the F-test of significance (Table XIII) for the criterion variables.

In looking for differences between the criterion variables, the Kruskal-Wallis H statistic was applied to each variable and its relationship to outcome. Four of the six criterion variables differentiated between outcomes at a significant level ($p < .05$). Control-expressed and affection-wanted were unable to differentiate between outcome at a significant level ($p > .05$). The related information is contained in Table XIV.

When the criterion variables of the compatibility measures were examined with the H statistic, it was found that all nine measures could differentiate between outcome groups at a significant level ($p < .05$) (Table XV).

Research Question 4

Will there be a significant correlation between FIRO-B compatibility measures and desired outcome in couples therapy?

As indicated previously, when the criterion variables of the compatibility scores, as well as the area scores, were correlated (p) with outcome, there were no significant relationships (Tables VI, VII, and VIII).

In examining the regression lines that were calculated on the relationship between the compatibility scores and outcome (Figures 7-18), two of the relationships between compatibility and outcome were

significant ($p < .05$) based upon the F statistic (Tables IX to XIII). The two compatibility measures indicated as significant ($p < .05$) were: interchange compatibility-total area and originator compatibility-affection.

The findings of the application of the Kruskal-Wallis H statistic to the compatibility scores indicated that both the criterion variables of the compatibility scores and the compatibility area scores could significantly ($p < .05$) differentiate between outcomes (Table XV). Applying Ryan's procedure to the area, compatibility scores indicated that the significant difference between groups was limited to two out of the six possible outcomes, and that further differentiation was not significant ($p > .05$).

When the criterion variables of the compatibility scores and the area compatibility scores were compared with the number of sessions attended by the sample of eight couples with incomplete data, no significant relationships were found.

Research Question 5

Will the results of a factor analysis of the FIRO-B using a sample of couples be similar to other factor analyses of the FIRO-B that were based upon different populations?

The results of the varimax rotation method of factor analysis, SAS statistical program, applied to dimension scores of the FIRO-B on all 102 subjects, indicated two factors responsible for virtually 100% of the variance (Table XVI). The first factor seemed to consist largely of the inclusion-expressed, inclusion-wanted, control-expressed, and affection-expressed dimensions. The second factor

consisted mostly of the two affection dimensions. Control-wanted contributed very little to either factor.

The same data was also subjected to discriminant analysis, since it was determined that such an operation may have been more appropriate, providing a possible 17 sets of scores for each dimension. The discriminant analysis yielded eight different groups based upon 49 of 51 observations. Not one of the eight groups was delineated along the lines of a single FIRO-B dimension. Group 1 had elements of five different dimensions, excluding affection-expressed. Groups 2, 3, 4, 5, and 6 also shared elements of five of the FIRO-B dimensions, this time excluding only affection-wanted. Group 7 contained elements of inclusion-expressed, inclusion-wanted, and control-expressed. And finally, Group 8 contained elements of inclusion-expressed, inclusion-wanted, and affection-wanted. The discriminant function, upon examining the generalized squared distance to group, distinguished best between Groups 2 and 7 (distance=21980.7). The classification results for calibration data indicated that there were 13 cases of misclassification out of 51 observations, demonstrating the inability to distinguish between FIRO dimensions. If the results had produced an equal distribution, 12.5% of the sets of FIRO-B scores would have fallen into each of the eight groups. However, the results indicated that 19.61% of the sets of FIRO-B scores fell into Group 1, 13.73% into Group 2, 7.84% into Group 3, 11.76% into Group 4, 11.76% into Group 5, 11.76% into Group 6, 13.73% into Group 7, and 9.8% into Group 8.

There were 5,508 items derived from the individual answers to 54 questions on the 102 FIRO-Bs which were subjected to a factor analysis.

On the first computer run, 25 different factors were identified. As 79% of the variance was explained by the first eight factors and all items in the FIRO-B were represented in the first eight factors, the items were resubmitted for a factor analysis, this time limiting the number of factors to eight. The varimax method factor analysis that resulted (Table XVII) indicated five factors, accounting for 84% of the variance and including 48 of the original FIRO-B items. Regression lines for the five factors were calculated and scatterplotted (Figures 19 through 23). Related information on the regression sums of squares (Table XVIII), the residual sum of squares (Table XIX), the estimate of variance (Table XX), the standard error of estimate (Table XXI), and the F statistics (Table XXII) is included. The F statistic proved significant ($p < .05$) for the first four of the five factors (Social, Leadership, Relationship, and Submission). The regression lines indicated that, as the score on the item increased, so did the tendency for a positive outcome.

Summary of Responses to Research Questions

Questions 1 and 2

There was only one significant correlation ($p < .05$) between FIRO-B criterion variables and negative outcome as rated on the pilot study scale, and no significant correlations between the criterion variables and positive outcome. Originator compatibility-total area indicated a significant positive relationship ($p < .05$) between the increase of scores on the FIRO-B, which suggests greater incompatibility, and the occurrence of negative outcome. These findings provide

tentative support for the predictive ability of only one of the FIRO-B compatibility scores, originator compatibility-total area, in regard to negative outcome.

No significant correlations ($p > .05$) were found for the FIRO-B's criterion variables in the relationship between their ability to predict either high or low compatibility and outcome.

Question 3

An initial correlation (r) of the criterion variables yielded eight cases of significance ($p < .05$). In addition, not one of the reciprocal compatibility criterion variables demonstrated significant relationships with outcome. Only one of the regression lines based upon the criterion variables, inclusion-expressed, was accompanied by a significant ($p < .05$) F statistic. In contrast, when the Kruskal-Wallis H statistic was applied to the criterion variables, four of the six criterion variables were able to differentiate between outcomes at a significant level ($p < .05$). Furthermore, all nine of the compatibility criterion variables were demonstrated to differentiate between outcome groups at a significant level ($p < .05$). These findings indicate a lack of support for the relationship between FIRO-B criterion variables and outcome. At the same time, the FIRO-B's capacity to distinguish between interaction variables was given some support.

Question 4

No significant relationships were determined between compatibility criterion variables and area scores when correlated with outcome. Regression lines calculated on relationship of compatibility scores

and outcome yielded two significant ($p < .05$) F statistics: originator compatibility-affection and interchange compatibility-total area. Although Kruskal-Wallis H statistics indicated the capacity of the criterion variables and compatibility scores to differentiate between groups at a significant level ($p < .05$), the application of Ryan's Procedure to the area compatibility scores indicated differentiation between only two of the six groups at a significant level ($p < .05$). When criterion variables and compatibility scores of the eight couples with incomplete data were compared to the number of sessions attended, no significant relationships ($p > .05$) were indicated. These findings provide no support for a relationship between FIRO-B compatibility measures and outcome.

Question 5

The results of a varimax rotation factor analysis, SAS statistical program, applied to the dimension scores of the FIRO-B, indicated two primary factors that accounted for virtually 100% of the variance. A discriminant analysis of the same data indicated eight groups, none of which were defined along the lines of a FIRO-B dimension. A factor analysis of the FIRO-B items on all 102 subjects initially identified 25 factors for the 54 items. As 79% of the variance was accounted for in the first eight factors, the data was resubmitted for analysis with a limit of eight factors. The second varimax rotation analysis yielded five factors that accounted for 84% of the variance. Regression lines on these five factors were calculated, with four factors indicating significance ($p < .05$). The regression lines demonstrated that as the score on the item increased, so did positive outcomes. These findings

suggest no support for the current scales of the FIRO-B. The relationship between item scores and outcome for the five identified factors was demonstrated to be: as scores increased, so did positive outcome.

CHAPTER V

CONCLUSIONS AND IMPLICATIONS FOR FUTURE RESEARCH

This discussion of the results of the study includes comments on the statistical analysis, the answers to the five research questions, and the implications for further research. Weaknesses and limitations of the study will be addressed in relation to the answers to the five research questions.

Statistical Analysis

Before examining the statistical analysis for each of the research questions, a brief note on the population under study is warranted. The 21 couples who were the focus of this study consisted of 18 heterosexual couples, two brothers, a mother and daughter, and two females in a homosexual relationship. All of these relationships were dyadic and appropriate for calculating compatibility scores. One criticism of this study that could be argued is that all couples should have been heterosexual dyads. However, it could also be argued that the population that was studied is more indicative of the range of the relationships for which the computation of compatibility scores is appropriate and more representative of dyads seen in marriage and family counseling.

Research Questions

Research Questions 1 and 2

The attempt to identify the relationship of FIRO-B criterion variables to outcome in therapy provided mixed results. An initial correlation (p) between compatibility interaction variables and outcome indicated one significant ($p < .05$) relationship for more negative outcomes (4 through 6), but none that were significant ($p > .05$) for more positive outcomes. Relationships between more negative outcomes and compatibility area scores illustrated that as scores increased, so did negative outcomes. This relationship was consistent with the way that the FIRO-B compatibility scores were intended to function. These findings provide some support for the ability of the FIRO-B to be predictive of outcome when using only its originator compatibility-total area score. However, the predictive ability was limited in this case only to one compatibility score and more negative outcome. The number of cases with more positive outcome (12 cases) higher than those with more negative outcome (9 cases), and this may have had some influence upon whether or not significance was achieved. The only way to determine this would be to increase the number of subjects.

When the couples were separated into groups representative of positive and negative compatibility scores, no significant relationships ($p > .05$) were found. This finding provides no support for the FIRO-B's predictive ability in relation to outcome in couples therapy.

Combined, these findings provided only minimal support for the predictive ability of the FIRO-B, indicating instead many insignificant relationships between compatibility measures and outcome.

Research Question 3

An intercorrelation (r) of the FIRO-B scales was done in order to compare them to the findings of Schutz (1978) (Table V). Schutz determined that the FIRO-B scales were non-independent, but considered it to be advantageous to retain the scales in their present form. He concluded that there were significant intercorrelations between expressed and wanted, for the inclusion and affection scales. Furthermore, he indicated that there was a significant correlation ($p < .05$) between the inclusion and affection scales.

The intercorrelation (r) performed in this study (Table V) indicated that the scales of the FIRO-B were definitely non-independent, with 8 of the 15 possible scale correlations being significant ($p < .05$). This finding suggests that there is more interrelationship between the scales that might indicate leaving them in their present form. The scales are poor in their ability to differentiate when applied to the population in the present study. The factor analysis of the FIRO-B items discussed on the following pages is also supportive of the poor differentiation of the current FIRO-B scales. Schutz's finding that there was significant ($p < .05$) intercorrelation between the inclusion and affection scales was confirmed in this study. The difference between the findings of Schutz and this study, regarding intercorrelation, was that there were a greater number of scales that were intercorrelated at a significant level (p .05) in this study than in the one conducted by Schutz.

The absence of any significant ($p > .05$) relationships between compatibility criterion variables for all three types of compatibility

(reciprocal, originator, and interchange) and outcome was another finding that provided no support for the predictive ability of the FIRO-B criterion variables. This finding was based upon Spearman (p) correlations.

When regression lines were calculated for criterion variables, only inclusion-expressed demonstrated a significant relationship ($p < .05$) with outcome. However, examination of Figure 1 demonstrates that this relationship is caused by the wide and consistent scatter of the scores, not from close adherence to the regression line. The significance for the inclusion-expressed variable was determined by an F statistic. These same statistics calculated for the other scales yielded non-significant results. This further supports the lack of meaningful information provided by the FIRO-B criterion variables in relation to outcome.

The Kruskal-Wallis H statistic was applied to each variable and its relation to outcome, to determine how well each variable could differentiate between outcome groups. Four of the six variables were determined to be able to differentiate between outcomes at a significant level: inclusion-expressed, inclusion-wanted, control-wanted, and affection-expressed. When criterion variables of the compatibility measures were examined and were also found to differentiate outcome groups at a significant level ($p < .05$), it could have been construed as support for the FIRO-B. However, it must be remembered that the H statistic does not demonstrate how many or which variables can differentiate between outcome. Comparisons of groups, regarding compatibility using Ryan's Procedure, indicated that the differentiation between variables and outcome was limited to only two variables,

with non-significance ($p > .05$) indicated for the ability of the other four variables to differentiate between outcomes.

Research Question 4

The absence of significant ($p > .05$) relationships between compatibility criterion variables and outcome provided initial evidence that there was no predictive ability that could be attributed to FIRO-B compatibility scores. This finding was largely supported when significant ($p < .05$) F statistics for the regression lines calculated on the relationship between compatibility scores and outcome were determined only for originator compatibility-affection and originator compatibility-total area. Further examination of Figures 13 and 18 indicates that, once again, it is the wide and consistent scatter of scores that provides the relationship, not the close adherence to the regression line.

As referred to earlier, even though the results of calculating the Kruskal-Wallis H statistic provided significant results ($p < .05$) as to the ability of the criterion variables and compatibility scores to differentiate between groups of outcome, the inability of at least the compatibility scores to differentiate between more than two of the six possible outcomes raised a question as to whether the H statistics were really meaningful. For the sample of eight couples with incomplete data, no significant relationship ($p > .05$) was found between FIRO-B scores and outcome. In other words, there was virtually no supportive evidence provided by this study for a significant relationship ($p > .05$) between FIRO-compatibility measures and outcome.

Research Question 5

The results of the varimax rotation method of factor analysis (Table XVI) indicated that two factors were responsible for virtually 100% of the variance. In the factor analysis conducted by Wiedemann, Waxenberg, and Mone (1979) (Table XIII), three factors were reported to account for approximately 90% of the total variance. The first of the two factors identified in the current study was largely comprised of four of the FIRO-B criterion variables: inclusion-expressed, inclusion-wanted, control-expressed, and affection-wanted. The first factor identified by Wiedemann et al. was predominantly made up of the two inclusion variables, with additional elements of the two affection variables as well. Thus, there is some difference between the findings of this study and that of Wiedemann et al. The second factor identified by the current study received most of its composition from the two affection scales, whereas Wiedemann et al. identified control-expressed as the predominant element of their second factor. Wiedemann et al. also indicated that the third factor they identified was related to the control-wanted variable, which has no counterpart in this study.

The differences in these findings may be explained in several ways. First, it could be that the populations under study were very different. Weidemann et al. obtained their subjects from a religiously-oriented mental health clinic. The population for this study was clients seen at a university marriage and family clinic and university counseling center. The variables might factor differently as a result of the variance in populations. A second explanation could focus upon

the possibility that there may be no consistent factors derived from the FIRO-B. Whatever the actual reason, neither the results of this study nor that performed by Weidemann et al. provides support for the current construction of the FIRO scales. The study by Weidemann et al. did support the existence of the two control scales as separate factors, but in both their study and the present one, the first factor identified was quite general in nature and was comprised of elements of several of the FIRO-B scales.

The discriminant analysis applied in this study produced results similar to the factor analysis in that it was not possible to delineate any groups that were similar to the individual FIRO-B scales. All eight groups that were identified were composed of multiple elements of FIRO-B scales, which provided no support for their current composition.

One positive note on the FIRO-B was provided by the results of the factor analysis of the FIRO-B items. These results suggested that, although in the current study the FIRO-B scales were unable to differentiate between the subjects, four different scales that were based upon items from the FIRO-B were accompanied by significant ($p < .05$) regression lines. The regression lines indicated that as scores on the FIRO-B increased so did the tendency for positive outcome. Ryan (1977) indicated that higher scores reflect more observable compulsive qualities in an individual's behavior. The relationship between FIRO-B scores and outcome provides some support for the ability of the FIRO-B items to be predictive of outcome. However, there was no identified way to calculate compatibility scores based

upon the factors of this item analysis and therefore no way to identify any relationship between the same and outcome.

Additional research is warranted to determine the validity of the four factors identified in this study. The first of these four factors, Social, seemed to be largely composed of the inclusion scales; the second factor, Leadership, consisted primarily of the control-expressed scale; the third, Relationship, related to the affection scales; and the fourth, Submission, to the control-wanted scale. The Social factor seems to measure the general need to establish and maintain satisfactory relationships with people, combining and possibly confusing what people have with what they want in regard to this need. Leadership reflects the control and power that people feel they already possess. Relationship is another factor that seems to be quite general, only this time in relation to love and affection. Submission, the fourth factor identified in this study, indicates the willingness of an individual to let other people control his/her life.

This particular breakdown of FIRO-B scales into four factors has some similarities to the findings described by Wiedemann et al., but it must be remembered that this study was an item analysis while that of Wiedemann et al. was an analysis of the FIRO-B scales. The similarities include the heavy emphasis of the inclusion items in factor one, the influence of the control-expressed scale on factor two, and another similarity between the third factor in the Wiedemann et al. study with the fourth factor in this study, both largely made up of control-wanted items. The major difference seems to be that factor three in this study is largely composed of the affection scales, which are included in factor one in the study by Wiedemann et al.

Implications for Further Research

This study was intended to contribute to the understanding of the usefulness of the FIRO-B for clients seen in marriage and family counseling, especially couples. The limitations of this study are relatively clear, with respect to the restricted population, the specific location, the lack of consideration of the effects of interventions on outcome, as well as the weakness of non-random sampling. Therefore, it is suggested that these findings be considered with caution in view of these limitations and weaknesses.

An apparently small sample of couples for this study is one area that could be improved upon in future studies. Studying a larger number of couples might result in more significant findings or, at the very least, would provide greater confidence in the study. The sample for the present study was limited to subjects available from the files of a university marriage and family clinic and counseling center. The inclusion of other potential sources of completed FIRO-Bs could increase the sample size and improve generalizability.

It might be suggested that the findings from research questions 1 and 2 warrant further research, as there was a significant relationship ($p < .05$) determined between one compatibility criterion variable and the more negative outcomes. At the same time, however, findings from other parts of this study regarding the same relationships seem to indicate that such research may prove futile. Additional research on this area may do nothing more than support the lack of significant relationships between compatibility variables and outcome. Even so, this could be valuable in discouraging the use of the FIRO-B in its

present form and with its current scoring criteria for predictive purposes in couples counseling.

The non-independence of the FIRO-B scales as illustrated in this study and an earlier one by Schutz (1978) is consistent and seems to indicate the need for further research to define scales that would measure different criteria, with clearer delineation than the overlapping results from the current scales. As the scales are currently constructed it is difficult to determine exactly what is being measured.

The absence of significant correlations ($p > .05$) between the vast majority of interaction variables and compatibility measures and outcome suggests that the FIRO-B should not be used to predict outcome when given prior to therapy. Since the primary purpose of this study was to assess the relationship between FIRO-B scores and outcome, and the resulting findings were insignificant, additional research to corroborate, or not, the findings of this study would be important. This is especially the case since the FIRO-B is widely used in marriage and family counseling. Comparison of the FIRO-B to other measures of interpersonal interaction, particularly those with a greater amount of research, could prove insightful.

The results of the factor analysis of the FIRO-B scales are consistent with earlier findings that the scales in their present form do not assess in the intended manner. However, the factors that were identified by this study and the one by Wiedemann et al., also had some variation. Research to confirm appropriate factors that could be derived from the FIRO-B is an important need if the instrument is to be retained for use in assessment. The findings of the discriminant

analysis and the item analysis add further support for this need. The identification of four significant ($p < .05$) factors composed of FIRO-B items suggests that the test could be valid if different scales were developed. However, further research would be required to determine the exact composition of such scales.

In conclusion, the findings of this study provide little support for the use of the FIRO-B in its present form for prediction of outcome in work with couples. Although the FIRO-B meets several positive assessment criteria (e.g., it is parsimonious, linked to a theory of intervention, easy to administer, and it may be of value to couples), these same criteria may encourage its inappropriate use. Utilizing the FIRO-B to assign labels to individuals, a task made easy by the FIRO-B manual (Ryan, 1977), would be an inappropriate use based upon the findings of this study, since the FIRO-B scales could not be replicated. For similar reasons, using the results of the FIRO-B to predetermine the direction of therapy would also be inappropriate.

Since the purpose of this study was to explore the relationships of the interaction variables and compatibility variables to outcome, and since little support was provided for the existence of such, it may be suggested that the FIRO-B be utilized only as a structured interview, a purpose for which there is obvious utility. It is further suggested that its use as an assessment instrument be limited until further research can be accomplished. Apart from the finding of the factor analysis of items that, as scores increase on items (an indication of compulsivity according to Ryan, 1977), outcome became more positive, it is difficult to determine what information, if any, the FIRO-B can provide for work with couples. At the same time, the

emphasis of the present study upon the use of the FIRO-B with couples should be noted as a new emphasis, most of the previous studies of the FIRO-B having been concerned with groups and individuals. Despite its ease of administration, its positive qualities as a structured interview, and its other positive characteristics, the FIRO-B should not be utilized for predictive purposes with any population, including couples, according to the results of the present study. However, the limitations of this study warrant caution in any interpretation of its results.

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APPENDIX A

EXAMPLE OF THE FIRO-B

For each statement below, decide which of the following answers best applies to you. Place the number of the answer in the box at the left of the statement. Please be as honest as you can.

1. never 2. rarely 3. occasionally 4. sometimes 5. often 6. usually

☐ 1. I try to be with people.

☐ 2 I let other people decide what to do.

☐ 3 I join social groups.

☐ 4. I try to have close relationships with people

☐ 5. I tend to join social organizations when I have an opportunity.

☐ 6 I let other people strongly influence my actions

☐ 7 I try to be included in informal social activities

☐ 8. I try to have close personal relationships with people

☐ 9. I try to include other people in my plans.

☐ 10. I let other people control my actions.

☐ 11 I try to have people around me.

☐ 12. I try to get close and personal with people.

☐ 13. When people are doing things together I tend to join them.

☐ 14. I am easily led by people.

☐ 15 I try to avoid being alone.

☐ 16 I try to participate in group activities.

For each of the next group of statements, choose one of the following answers:

1. nobody 2. one or two people 3. a few people 4. some people 5. many people 6. most people

☐ 17. I try to be friendly to people.

☐ 18 I let other people decide what to do.

☐ 19 My personal relations with people are cool and distant

☐ 20 I let other people take charge of things

☐ 21 I try to have close relationships with people.

☐ 22 I let other people strongly influence my actions.

☐ 23 I try to get close and personal with people.

☐ 24 I let other people control my actions.

☐ 25. I act cool and distant with people

☐ 26. I am easily led by people.

☐ 27. I try to have close, personal relationships with people.

For each of the next group of statements, choose one of the following answers:

1. nobody 2. one or two people 3. a few people 4. some people 5. many people 6. most people

☐ 28. I like people to invite me to things

☐ 29 I like people to act close and personal with me

☐ 30 I try to influence strongly other people's actions.

☐ 31. I like people to invite me to join in their activities.

☐ 32. I like people to act close toward me

☐ 33. I try to take charge of things when I am with people.

☐ 34 I like people to include me in their activities

☐ 35. I like people to act cool and distant toward me

☐ 36 I try to have other people do things the way I want them done.

☐ 37. I like people to ask me to participate in their discussions.

☐ 38 I like people to act friendly toward me

☐ 39. I like people to invite me to participate in their activities.

☐ 40 I like people to act distant toward me

For each of the next group of statements, choose one of the following answers:

1. never 2. rarely 3. occasionally 4. sometimes 5. often 6. usually

☐ 41 I try to be the dominant person when I am with people.

☐ 42. I like people to invite me to things.

☐ 43. I like people to act close toward me.

☐ 44 I try to have other people do things I want done.

☐ 45. I like people to invite me to join their activities

☐ 46. I like people to act cool and distant toward me.

☐ 47. I try to influence strongly other people's actions.

☐ 48 I like people to include me in their activities

☐ 49 I like people to act close and personal with me

☐ 50. I try to take charge of things when I'm with people

☐ 51. I like people to invite me to participate in their activities.

☐ 52. I like people to act distant toward me.

☐ 53. I try to have other people do things the way I want them done.

☐ 54 I take charge of things when I'm with people.

APPENDIX B

DATA COLLECTION FORMS

INSTRUCTIONS

Important Guidelines:

1. All materials must remain in the Marriage and Family Clinic.
2. Data collection, if at all possible, must be accomplished on the nights that the Marriage and Family Clinic is open. If this is a problem, please contact me and I will make arrangements with Dr. Carlozzi.
3. The separate list of names, addresses, and codes that is essential for the follow-up study must remain in a secure place within the Marriage and Family Clinic.

Date Collection Sequence:

1. Record all of the FIRO-B scores from the files of the Marriage and Family Clinic on the enclosed data from #1. Be sure to include the appropriate codes with each set of scores.
2. As you copy the test scores, be sure to keep a separate list of names, addresses, and codes, securing it in the Marriage and Family Clinic upon completion.
3. Code each set of test scores according to the following guidelines:

    a. Couple=C
       Single=S
       Child=Ch (Also designate parental code in parentheses for each child.)

    b. Male=M
       Female=F

    c. Number (Each child's number should designate birth order instead of the number for the couple, e.g., oldest=1, 2nd oldest=2, etc. Remember, the parental code should be included for each child in parentheses.)

Examples:
    First couple recorded would have codes of CM1 and CF1.
    Their oldest female child would have a code of ChF1 (C1).
    Their single male recorded would be SM3.

4. Record the code for each folder in pencil on the folder for reference by the subsequent raters. An alternative would be to place a separate piece of paper with code written on it in each folder that would be removed by the last rater.

5. Review the case summary form and identify the outcome. Record the outcome on data form #2.

DATA COLLECTION FORM #2

Assign each case a number that represents your best judgment of how the outcome matches the following categories:

1. Agreed upon termination by both therapists and clients upon achievement of goals.
2. Agreed upon termination by both therapists and clients although goals have not been achieved.
3. Referral.
4. Termination by therapists without client's approval.
5. Termination by clients without therapist's approval.
6. Failure to show by client.

Code	Outcome Rank

APPENDIX C

COEFFICIENTS OF INTERNAL CONSISTENCY AND STABILITY OF FIRO-SCALES

TABLE I

COEFFICIENTS OF INTERNAL CONSISTENCY FOR FIRO-B SCALES

Scale	Reproducibility	No. of Subjects
e^I_I	.94	1615
w^I	.94	1582
e^C_C	.93	1554
w^C	.94	1574
e^A_A	.94	1467
w^A	.94	1467
Mean	.94	1543

Source: W. C. Schutz, The Interpersonal Underworld (1966).

TABLE II

STABILITY OF FIRO-B SCALES

Scale	Stability	Subjects	Mean		Standard Error	
			Test	Retest	Test	Retest
e^I_I	.82	126	5.21	5.00	1.90	2.19
w^I	.75	126	3.88	3.42	3.20	3.30
e^C_C	.74	183	3.14	2.94	2.22	2.19
w^C	.71	125	4.44	4.58	1.91	2.13
e^A_A	.73	57	3.42	3.19	2.43	2.71
w^A	.80	57	3.95	3.54	2.74	2.88
Mean	.76					

Source: W. C. Schutz, The Interpersonal Underworld (1966).

APPENDIX D

PILOT STUDY DATA COLLECTION FORM

COUNSELING OUTCOME RATING SCALE

I would sincerely appreciate your ranking the following six potential outcomes in order of most preferred (1) to least preferred (6). Your completion and subsequent return of this form will greatly aid me in completing my dissertation.

Thank you,

Steve D. Brown, Intern
University of Iowa

___ Client termination without therapist's approval.

___ Agreed upon termination by both therapists and clients, although goals have not been achieved.

___ Failure to show by client.

___ Referral.

___ Agreed upon termination by both therapists and clients upon achievement of goals.

___ Therapist termination without client approval.

Please list any additional categories that you feel are appropriate and designate where you would rank them in relation to the above outcomes.

Comments:

APPENDIX E

TABLES III THROUGH XXIII

TABLE III

SPEARMAN (p) CORRELATIONS FOR COMPATIBILITY SCORES FOR POSITIVE AND NEGATIVE OUTCOME

Positive Outcome (1 through 3) (N=13)		
Reciprocal-inclusion	.13	$p > .05$
Reciprocal-control	.47	$p > .05$
Reciprocal-affection	.48	$p > .05$
Reciprocal-Total Area	.52	$p > .05$
Originator-inclusion	-.08	$p > .05$
Originator-control	-.11	$p > .05$
Originator-affection	-.11	$p > .05$
Originator-Total Area	-.05	$p > .05$
Interchange-inclusion	-.22	$p > .05$
Interchange-control	.17	$p > .05$
Interchange-affection	.17	$p > .05$
Interchange-Total Area	.08	$p > .05$
Negative Outcome (4 through 6) (N=8)		
Reciprocal-inclusion	.35	$p > .05$
Reciprocal-control	.11	$p > .05$
Reciprocal-affection	-.17	$p > .05$
Reciprocal-Total Area	.06	$p > .05$
Originator-inclusion	.45	$p > .05$
Originator-control	.73	$p > .05$
Originator-affection	.46	$p > .05$
Originator-Total Area	.74	$p < .05$
Interchange-inclusion	.40	$p > .05$
Interchange-control	-.41	$p > .05$
Interchange-affection	.06	$p > .05$
Interchange-Total Area	.17	$p > .05$

Source: M. Linton & P. S. Gallo, The Practical Statistician: Simplified Handbook of Statistics (1975).

TABLE IV

SPEARMAN (p) CORRELATIONS FOR COUPLES WITH HIGH VERSUS LOW COMPATIBILITY

High Compatibility Scores			
Reciprocal-inclusion	.19	p > .05	N=11
Reciprocal-control	.15	p > .05	N=13
Reciprocal-affection	-.18	p > .05	N=12
Reciprocal-Total Area	.25	p > .05	N=13
Originator-inclusion	-.40	p > .05	N=12
Originator-control	.29	p > .05	N=10
Originator-affection	.00	p > .05	N=10
Originator-Total Area	.16	p > .05	N=11
Interchange-inclusion	-.24	p > .05	N=11
Interchange-control	.46	p > .05	N=13
Interchange-affection	.22	p > .05	N=12
Interchange-Total Area	.14	p > .05	N=11
Low Compatibility Scores			
Reciprocal-inclusion	.13	p > .05	N=10
Reciprocal-control	-.42	p > .05	N=8
Reciprocal-affection	.15	p > .05	N=9
Reciprocal-Total Area	-.09	p > .05	N=8
Originator-inclusion	.25	p > .05	N=9
Originator-control	-.0	p > .05	N=11
Originator-affection	.07	p > .05	N=11
Originator-Total Area	.10	p > .05	N=10
Interchange-inclusion	-.03	p > .05	N=10
Interchange-control	.64	p > .05	N=8
Interchange-affection	.25	p > .05	N=9
Interchange-Total Area	-.19	p > .05	N=10

Source: M. Linton & P. S. Gallo, The Practical Statistician: Simplified Handbook of Statistics (1975).

TABLE V

INTERCORRELATIONS (r) AMONG FIRO-B SCALES

	Present Study					
	Ie	Iw	Ce	Cw	Ae	Aw
Ie		.64	.39	.04	.50	.27
Iw			.30	.16	.45	.29
Ce				-.17	.19	.07
Cw					-.003	.08
Ae						.49
						N=102
	Schutz Study					
	Ie	Iw	Ce	Cw	Ae	Aw
Ie		.49	.12	.08	.47	.27
Iw			.06	.06	.24	.24
Ce				.07	.19	.31
Cw					.22	.22
Ae						.42
						N=1,340

TABLE VI

SPEARMAN CORRELATIONS FOR RECIPROCAL COMPATIBILITY AND OUTCOME

Inclusion	.28	$p > .05$
Control	.11	$p > .05$
Affection	.15	$p > .05$
Total Area	.35	$p > .05$
		N=21

TABLE VII

SPEARMAN CORRELATIONS FOR ORIGINATOR COMPATIBILITY AND OUTCOME

Inclusion	.11	$p > .05$
Control	.15	$p > .05$
Affection	.13	$p > .05$
Total Area	.19	$p > .05$
		N=21

TABLE VIII

SPEARMAN CORRELATIONS FOR INTERCHANGE COMPATIBILITY AND OUTCOME

Inclusion	.13	$p > .05$
Control	.26	$p > .05$
Affection	.41	$p > .05$
Total Area	.42	$p > .05$
		N=21

Source: M. Linton & P. S. Gallo, The Practical Statistician: Simplified Handbook of Statistics (1975).

TABLE IX

REGRESSION SUMS OF SQUARES FOR THE FIRO-B

Inclusion-expressed	61.45
Inclusion-wanted	.02
Control-expressed	.27
Control-wanted	.97
Affection-expressed	7.42
Affection-wanted	1.89
Reciprocal-inclusion	4.83
Reciprocal-control	.06
Reciprocal-affection	1.93
Reciprocal-Total Area	5.12
Originator-inclusion	1.22
Originator-control	.22
Originator-affection	22.77
Originator-Total Area	.99
Interchange-inclusion	.28
Interchange-control	6.64
Interchange-affection	13.11
Interchange-Total Area	20.41

TABLE X

RESIDUAL SUMS OF SQUARES FOR THE FIRO-B

Inclusion-expressed	133.03
Inclusion-wanted	194.46
Control-expressed	194.21
Control-wanted	193.51
Affection-expressed	187.06
Affection-wanted	192.59
Reciprocal-inclusion	92.41
Reciprocal-control	97.18
Reciprocal-affection	95.31
Reciprocal-Total Area	92.12
Originator-inclusion	96.02
Originator-control	97.02
Originator-affection	74.47
Originator-Total Area	96.25
Interchange-inclusion	96.96
Interchange-control	90.60
Interchange-affection	84.13
Interchange-Total Area	76.83

TABLE XI

STANDARD ERROR OF ESTIMATE

Inclusion-expressed	1.82
Inclusion-wanted	2.20
Control-expressed	2.20
Control-wanted	2.20
Affection-expressed	2.16
Affection-wanted	2.19
Reciprocal-inclusion	2.21
Reciprocal-control	2.26
Reciprocal-affection	2.24
Reciprocal-Total Area	2.20
Originator-inclusion	2.25
Originator-control	2.26
Originator-affection	1.98
Originator-Total Area	2.25
Interchange-inclusion	2.26
Interchange-control	2.18
Interchange-affection	2.10
Interchange-Total Area	2.01

TABLE XII

VARIANCE OF ESTIMATE

Inclusion-expressed	3.33
Inclusion-wanted	4.86
Control-expressed	4.86
Control-wanted	4.84
Affection-expressed	4.68
Affection-wanted	4.81
Reciprocal-inclusion	4.86
Reciprocal-control	5.11
Reciprocal-Total Area	4.85
Originator-inclusion	5.05
Originator-control	5.11
Originator-affection	3.92
Originator-Total Area	5.07
Interchange-inclusion	5.10
Interchange-control	4.77
Interchange-affection	4.43
Interchange-Total Area	4.04

TABLE XIII

F STATISTICS FOR THE FIRO-B

Inclusion-expressed	39.94	$p < .05$
Inclusion-wanted	.004	$p > .05$
Control-expressed	.06	$p > .05$
Control-wanted	.20	$p > .05$
Affection-expressed	1.59	$p > .05$
Affection-wanted	.39	$p > .05$
Reciprocal-inclusion	.99	$p > .05$
Reciprocal-control	.01	$p > .05$
Reciprocal-affection	.38	$p > .05$
Reciprocal-Total Area	1.06	$p > .05$
Originator-inclusion	.24	$p > .05$
Originator-control	.04	$p > .05$
Originator-affection	5.81	$p < .05$
Originator-Total Area	.20	$p > .05$
Interchange-inclusion	.05	$p > .05$
Interchange-control	1.39	$p > .05$
Interchange-affection	2.96	$p > .05$
Interchange-Total Area	5.05	$p < .05$

Source: M. Linton & P. S. Gallo, The Practical Statistician: Simplified Handbook of Statistics (1975).

TABLE XIV

KRUSKAL-WALLIS H STATISTIC

Inclusion-expressed	20.50	$p < .01$
Inclusion-wanted	13.37	$p < .05$
Control-expressed	10.51	
Control-wanted	14.9	$p < .05$
Affection-expressed	11.7	$p < .05$
Affection-wanted	10.2	

TABLE XV

KRUSKAL-WALLIS H STATISTIC

Reciprocal-inclusion	12.57	$p < .05$
Reciprocal-control	14.31	$p < .05$
Reciprocal-affection	13.90	$p < .05$
Reciprocal-Total Area	16.28	$p < .01$
Originator-inclusion	14.10	$p < .05$
Originator-control	15.14	$p < .01$
Originator-affection	14.20	$p < .05$
Originator-Total Area	16.00	$p < .01$
Interchange-inclusion	13.80	$p < .05$
Interchange-control	15.20	$p < .01$
Interchange-affection	16.00	$p < .01$
Interchange-Total Area	17.20	$p < .01$

Source: M. Linton & P. S. Gallo, The Practical Statistician: Simplified Handbook of Statistics (1975).

TABLE XVI

VARIMAX ROTATION ANALYSIS OF FIRO-B DIMENSIONS (INTERACTION VARIABLES) FOR CURRENT STUDY

	1	2	3	4	5	6
Eigenvalue	2.0709	.4996				
Pct. Variance	80.5639	19.4361				
Pct. Trace	68.7917	11.4793				
Pct. Communality	30.6817	19.5105	9.9390	1.6427	21.1868	17.0393
		Factors				
F Load	1					
Inclusion-e	.84057					
Inclusion-w	.70631					
Control-e	.38632					
Control-w	.02417					
Affection-e	.69026					
Affection-w	.48907					

TABLE XVII

VARIMAX ROTATION ANALYSIS OF FIRO-B
ITEMS FOR CURRENT STUDY

	1	2	3	4	5	6	7	8
Eigenvalue	16.9881	5.3322	3.9675	2.6142	2.1534	1.5821	1.3752	1.1720
Pct. Variance	26.9131	18.6961	15.7591	12.4142	9.7404	6.7232	4.9938	4.7603
Pct. Trace	75.0964	.8378	1.4050	10.5284	.6117	2.7246	.3954	11.3824
Pct. Communality	29.3072	17.8383	19.4017	13.9573	10.8539	2.0548	4.1365	2.6636
FIRO-B Items	1,7,9,11 13,15,16 28,31,34 45,48,51	30,33,36 41,44,47 50,53,54	8,12,21 23,27,29 32,43,49	2,6,10 14,20,22 24,26	19,25,35 40,46,52	4	17,18,38	3,5

TABLE XVIII

REGRESSION SUMS OF SQUARES FOR FACTOR ANALYSIS OF FIRO-B

Factor 1	697.86
Factor 2	94.51
Factor 3	27.59
Factor 4	102.60
Factor 5	6.87

TABLE XIX

RESIDUAL SUMS OF SQUARES FOR FACTOR ANALYSIS OF FIRO-B

Factor 1	2328.43
Factor 2	1599.59
Factor 3	1658.28
Factor 4	1385.83
Factor 5	2058.47

TABLE XX

STANDARD ERROR OF ESTIMATE FOR FACTOR ANALYSIS OF FIRO-B

Factor 1	1.86
Factor 2	2.07
Factor 3	2.11
Factor 4	2.05
Factor 5	2.88

TABLE XXI

VARIANCE OF ESTIMATE FOR FACTOR ANALYSIS OF FIRO-B

Factor 1	3.48
Factor 2	4.27
Factor 3	4.43
Factor 4	4.19
Factor 5	8.27

TABLE XXII

F STATISTICS FOR FACTOR ANALYSIS OF FIRO-B

Factor 1	200.53	$p < .05$
Factor 2	22.13	$p < .05$
Factor 3	6.23	$p < .05$
Factor 4	24.49	$p < .05$
Factor 5	.83	$p > .05$

Source: M. Linton & P. S. Gallo, The Practical Statistician: Simplified Handbook of Statistics (1975).

TABLE XXIII

VARIMAX ROTATION ANALYSIS OF FIRO-B FOR
WIEDEMANN, WAXENBERG, AND MONE STUDY

	1	2	3	4	5	7
Eigenvalue	2.7907	1.2991	.7903			
Pct. Variance	41.6905	20.9902	17.6538			
Pct. Trace	46.5117	21.6519	13.1709			
Pct. Communality	72.4306	73.5006	90.7355	98.0141	80.2850	73.0412
		Factors				
F Load	1	2	3			
Inclusion-e	.8452	.0811	.0587			
Inclusion-w	.6452	.5546	.1059			
Control-e	-.0006	.9455	.1158			
Control-w	.0701	.1298	.9790			
Affection-e	.8805	-.0976	-.1342			
Affection-w	.8066	.1580	.2340			

APPENDIX F

FIGURES 1 THROUGH 23

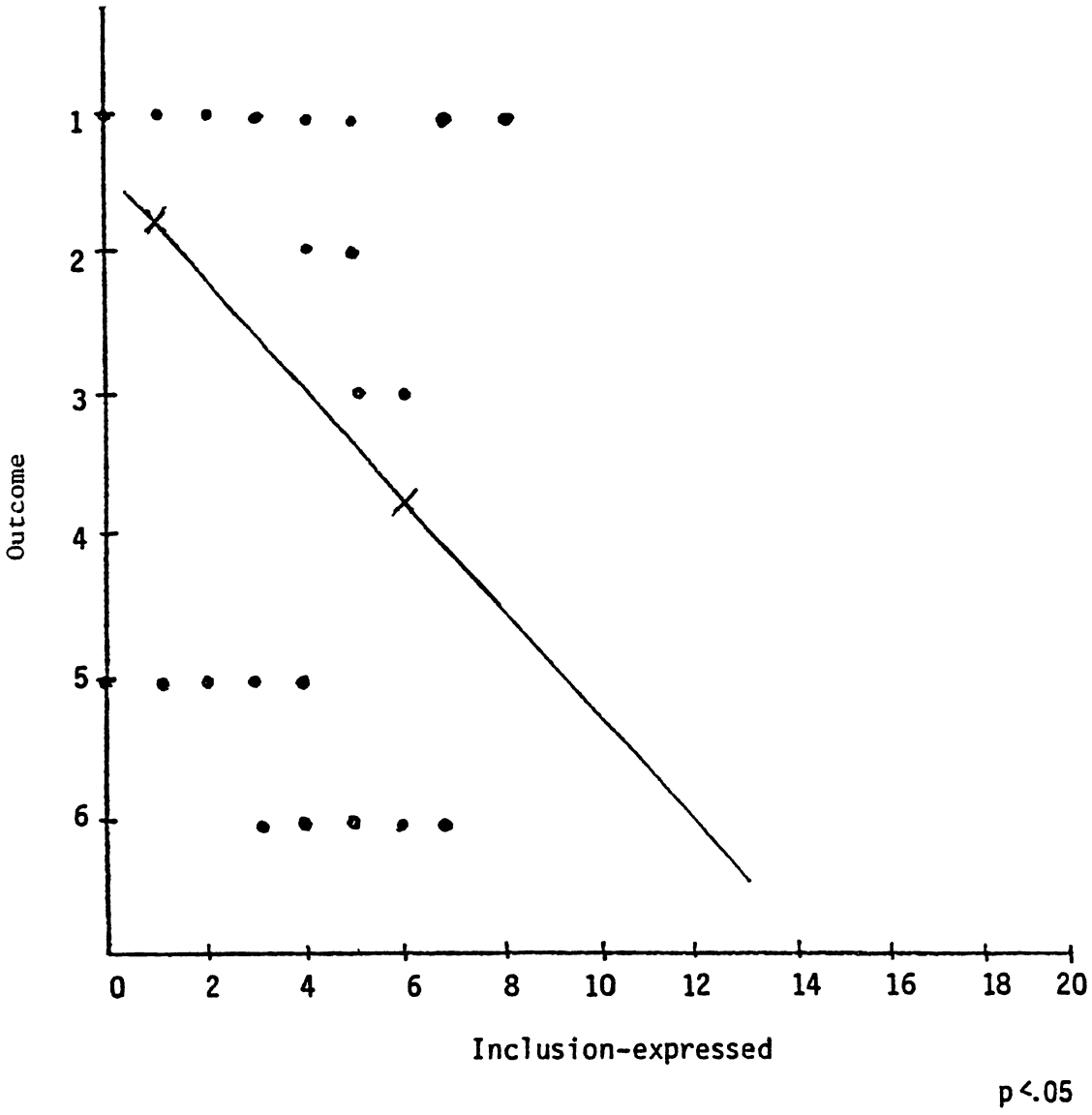

Figure 1. Scatterplot of Regression Line for Inclusion-Expressed

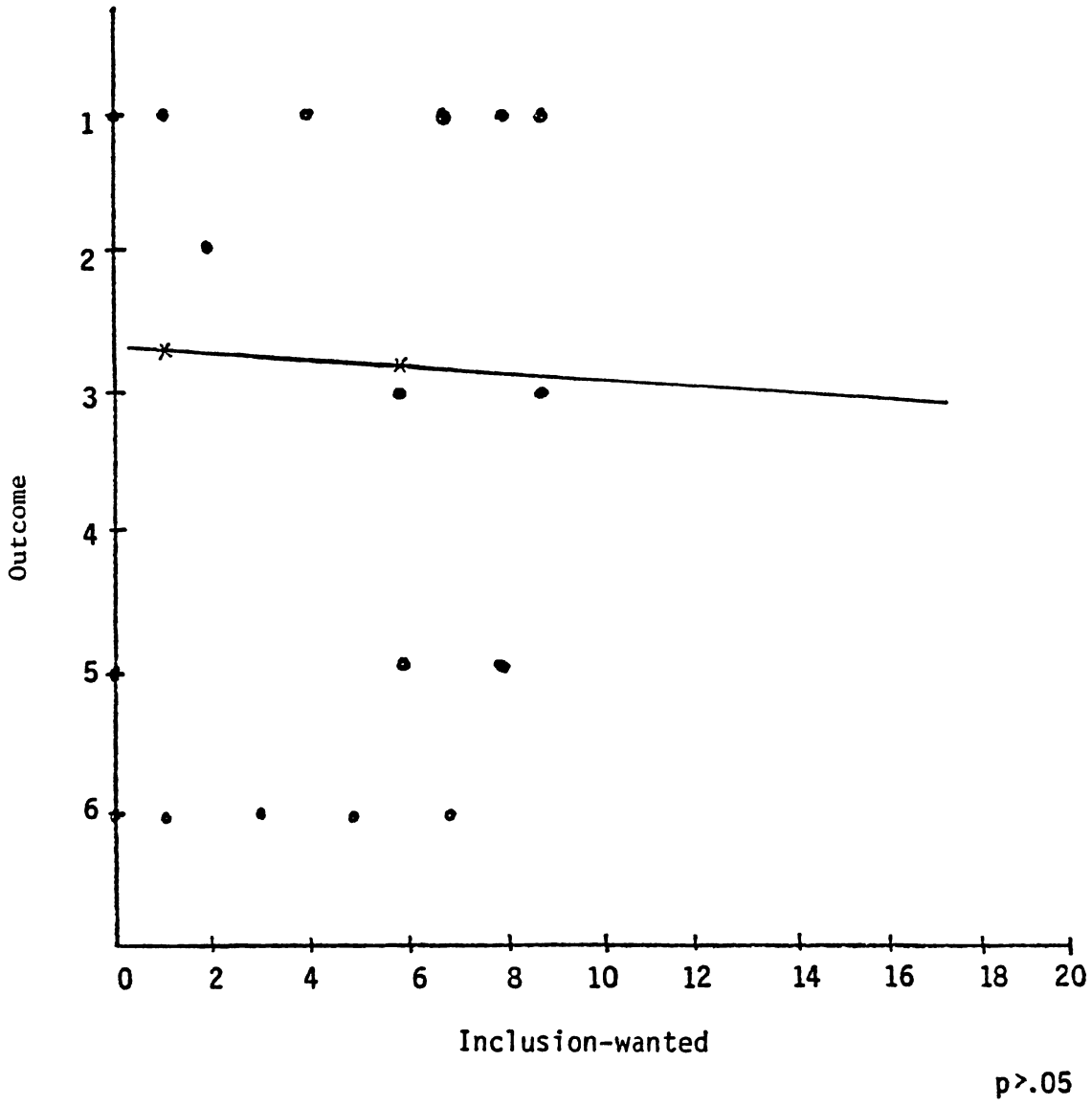

Figure 2. Scatterplot of Regression Line for Inclusion-Wanted

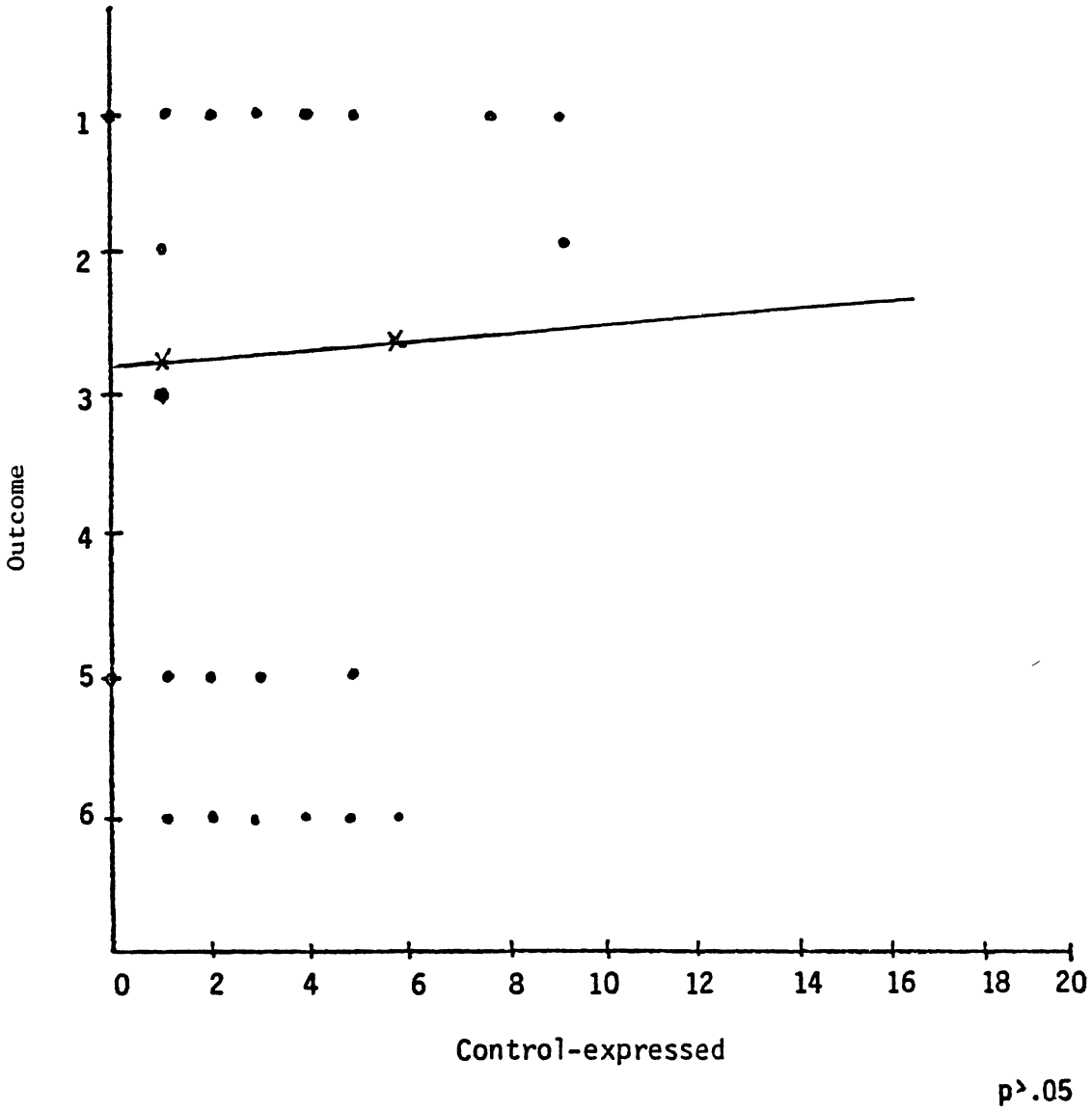

Figure 3. Scatterplot of Regression Line for Control-Expressed

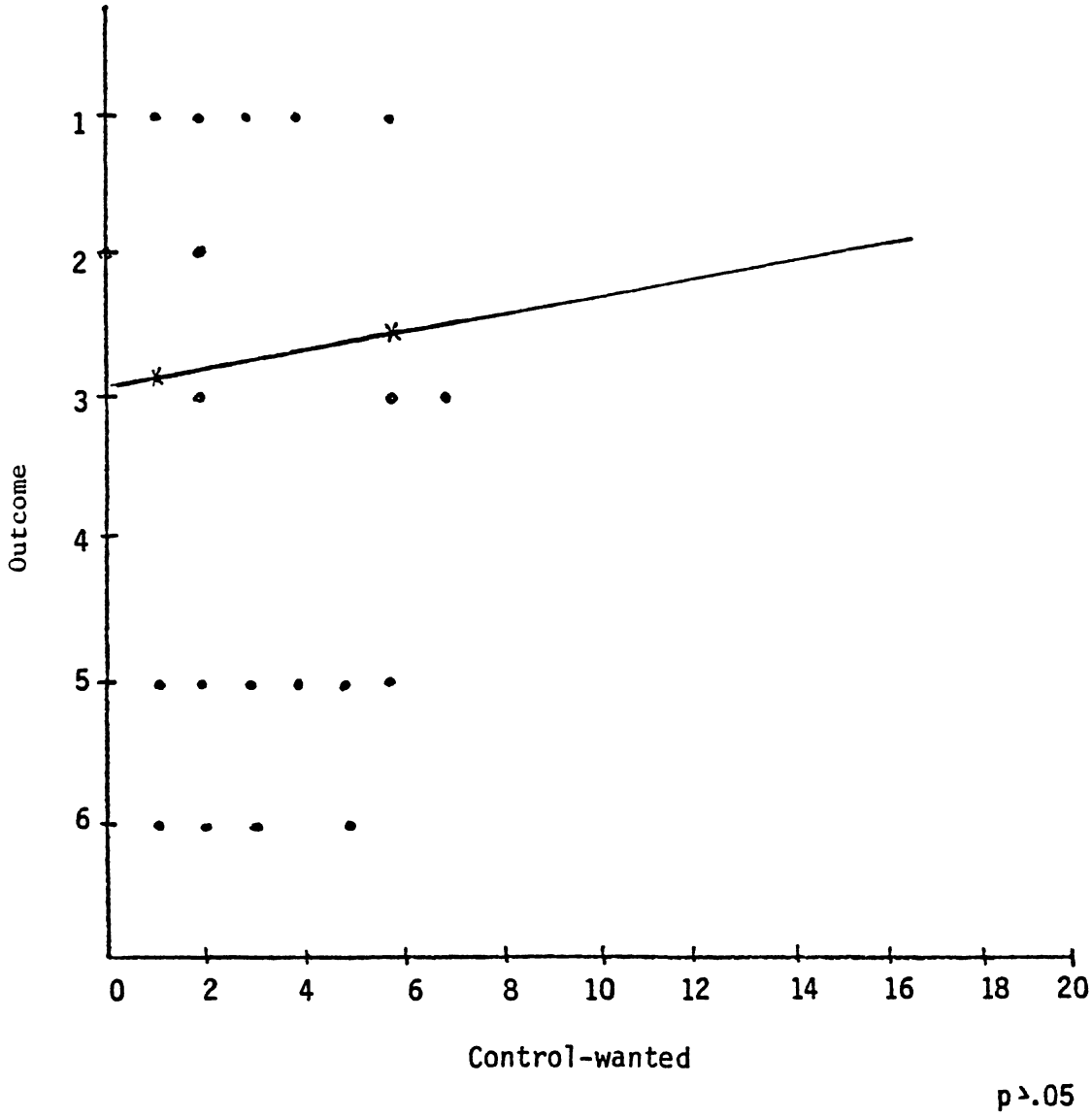

Figure 4. Scatterplot of Regression Line for Control-Wanted

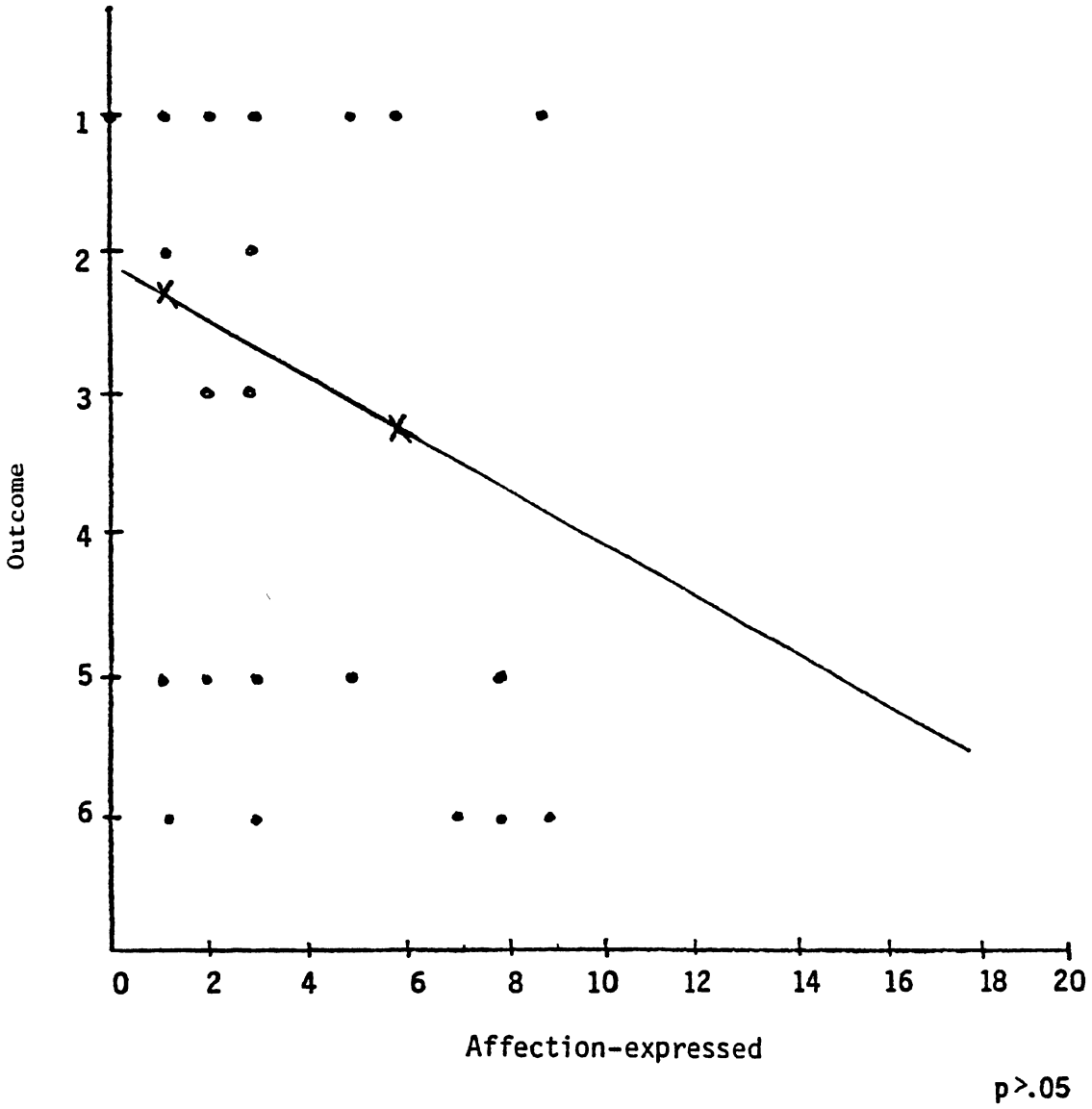

Figure 5. Scatterplot of Regression Line for Affection-Expressed

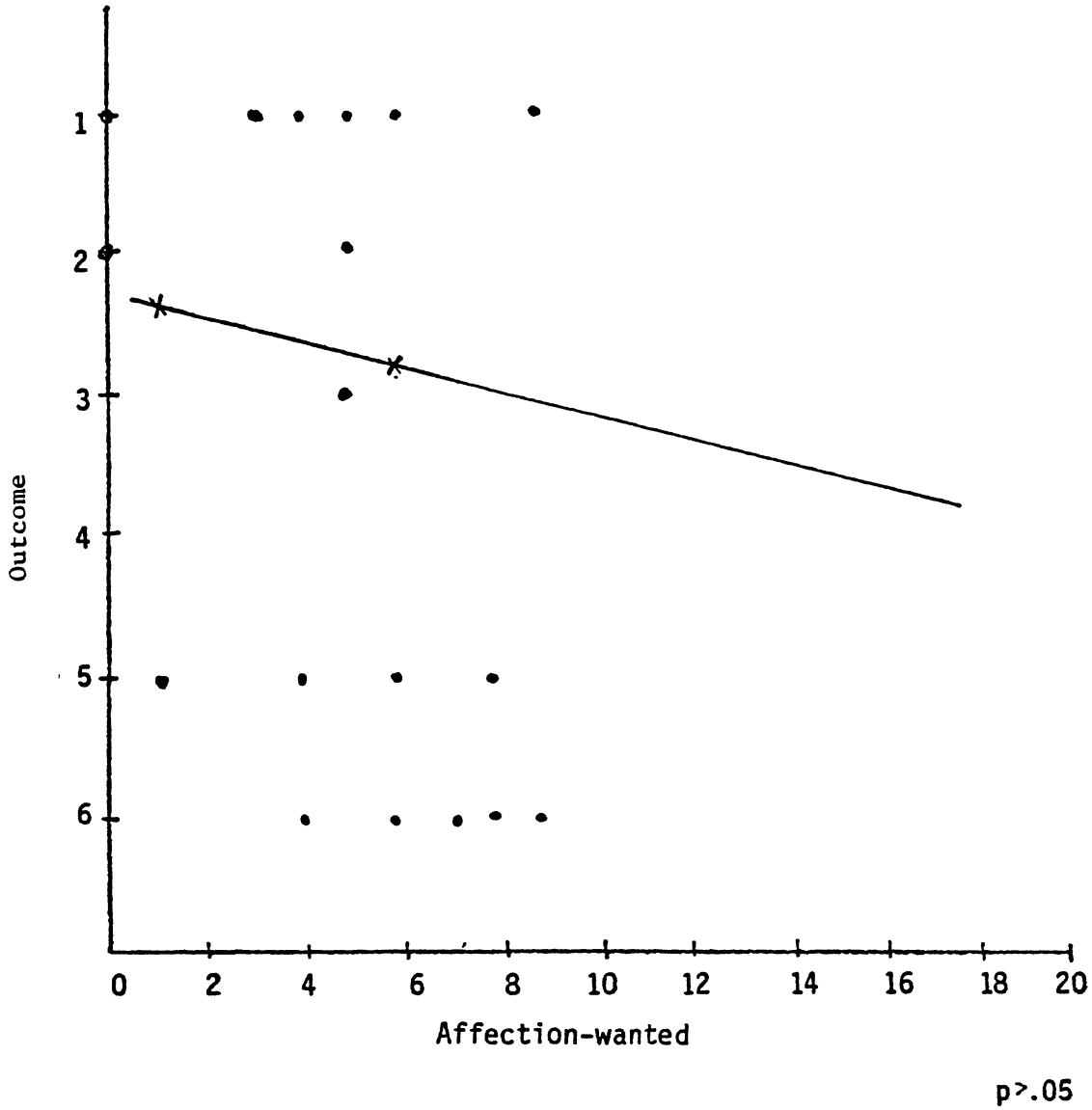

Figure 6. Scatterplot of Regression Line for Affection-Wanted

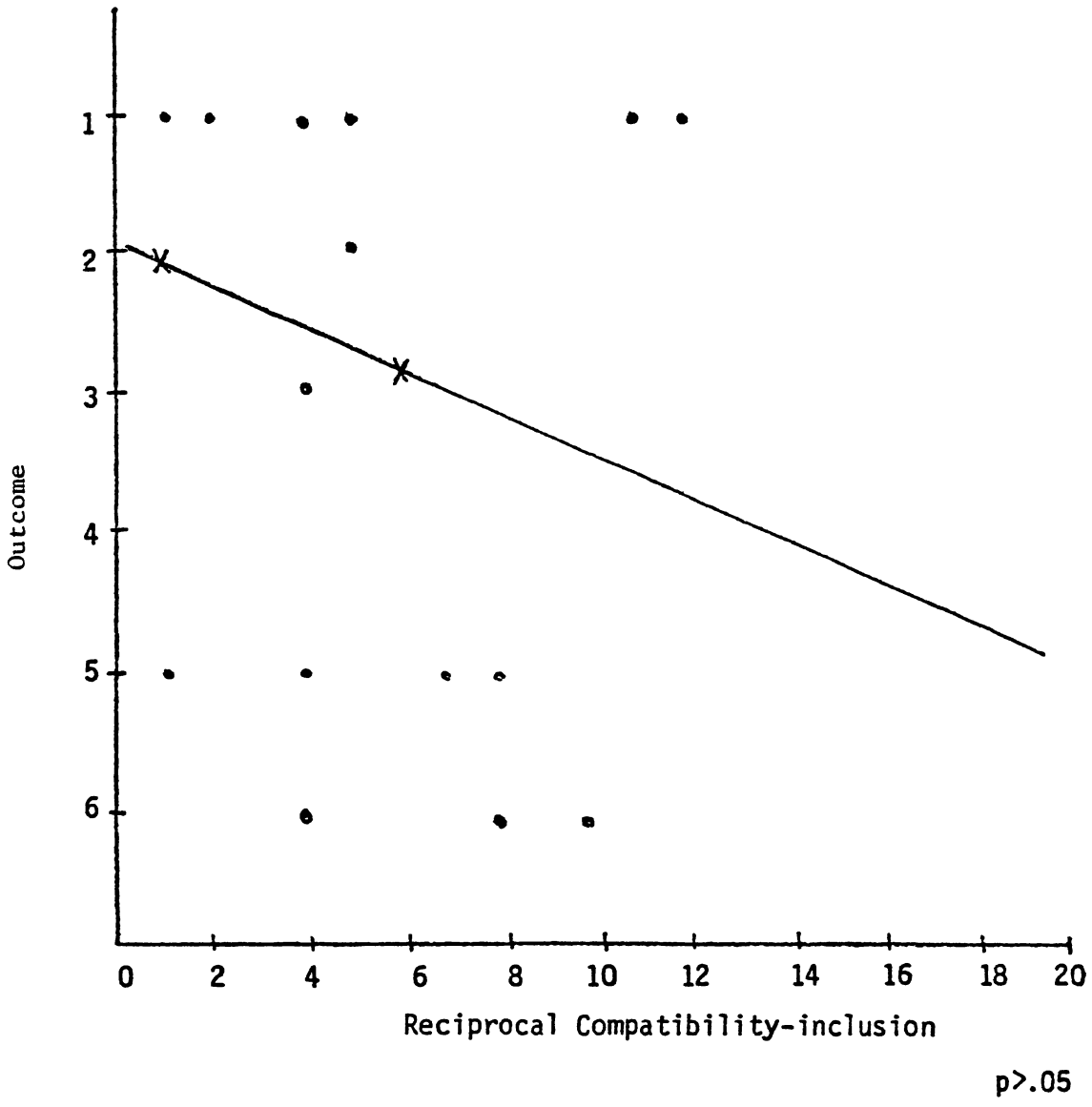

Figure 7. Scatterplot of Regression Line for Reciprocal Compatibility-Inclusion

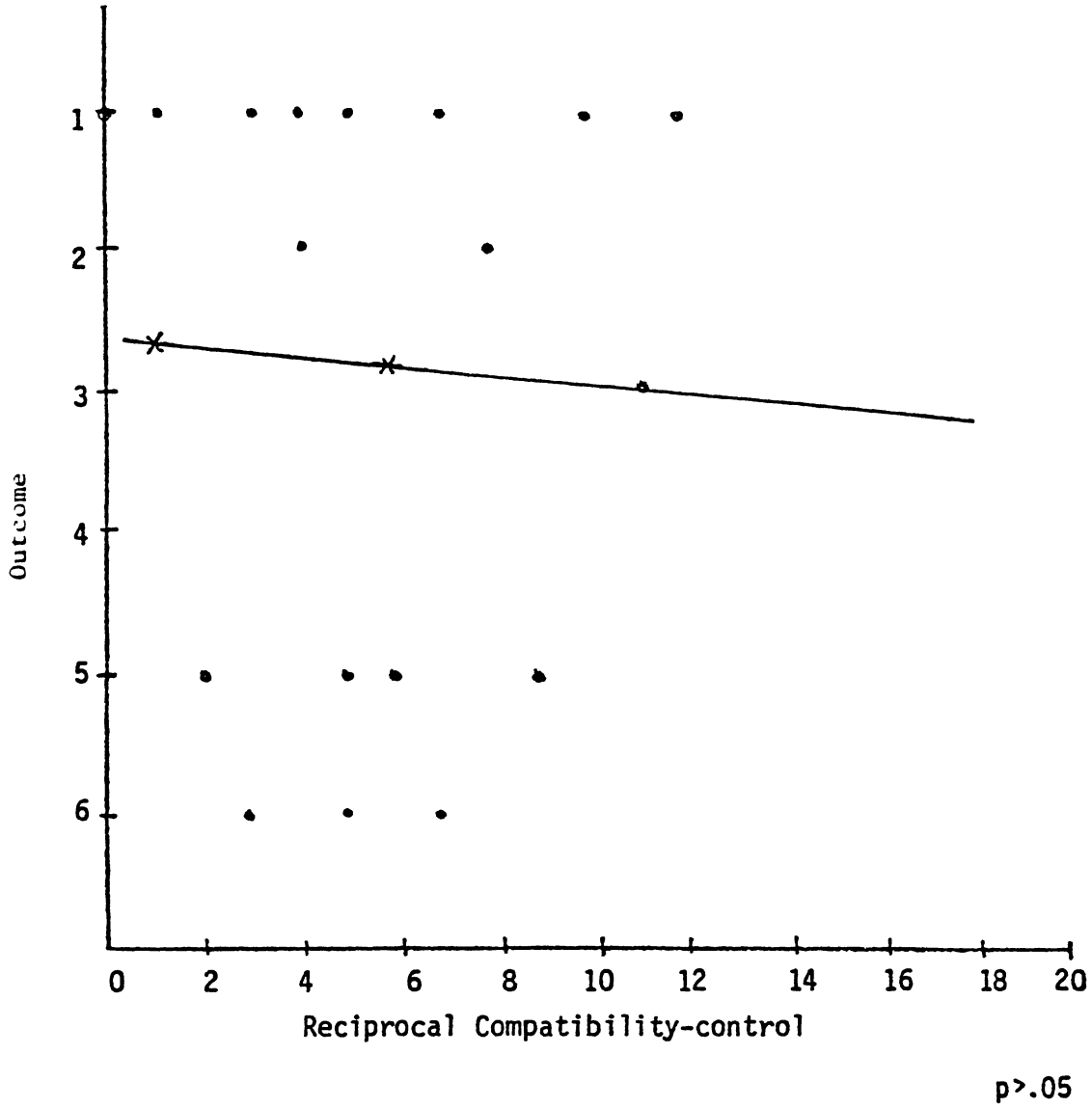

Figure 8. Scatterplot of Regression Line for Reciprocal Compatibility-Control

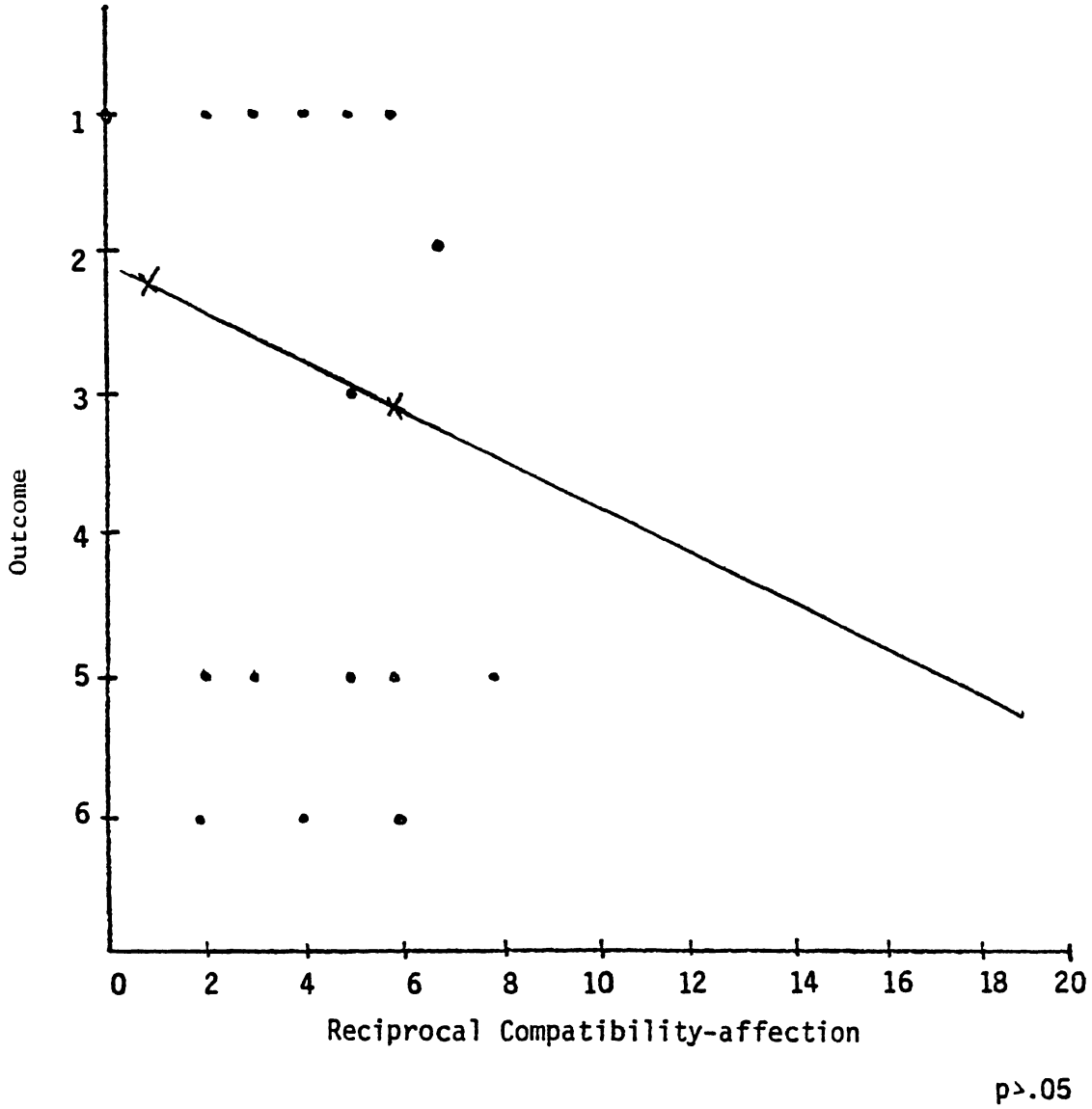

Figure 9. Scatterplot of Regression Line for Reciprocal Compatibility-Affection

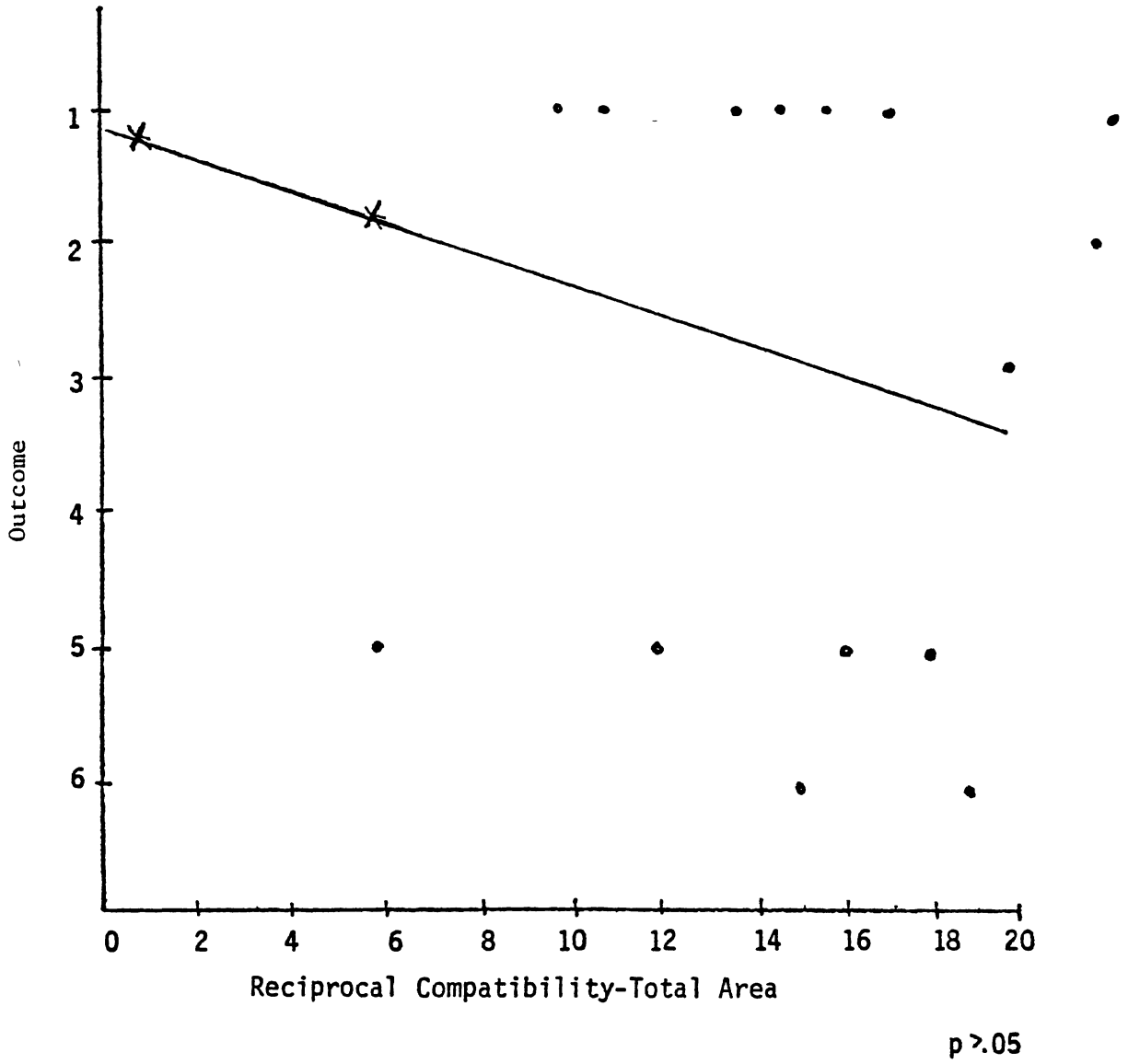

Figure 10. Scatterplot of Regression Line for Reciprocal Compatibility-Total Area

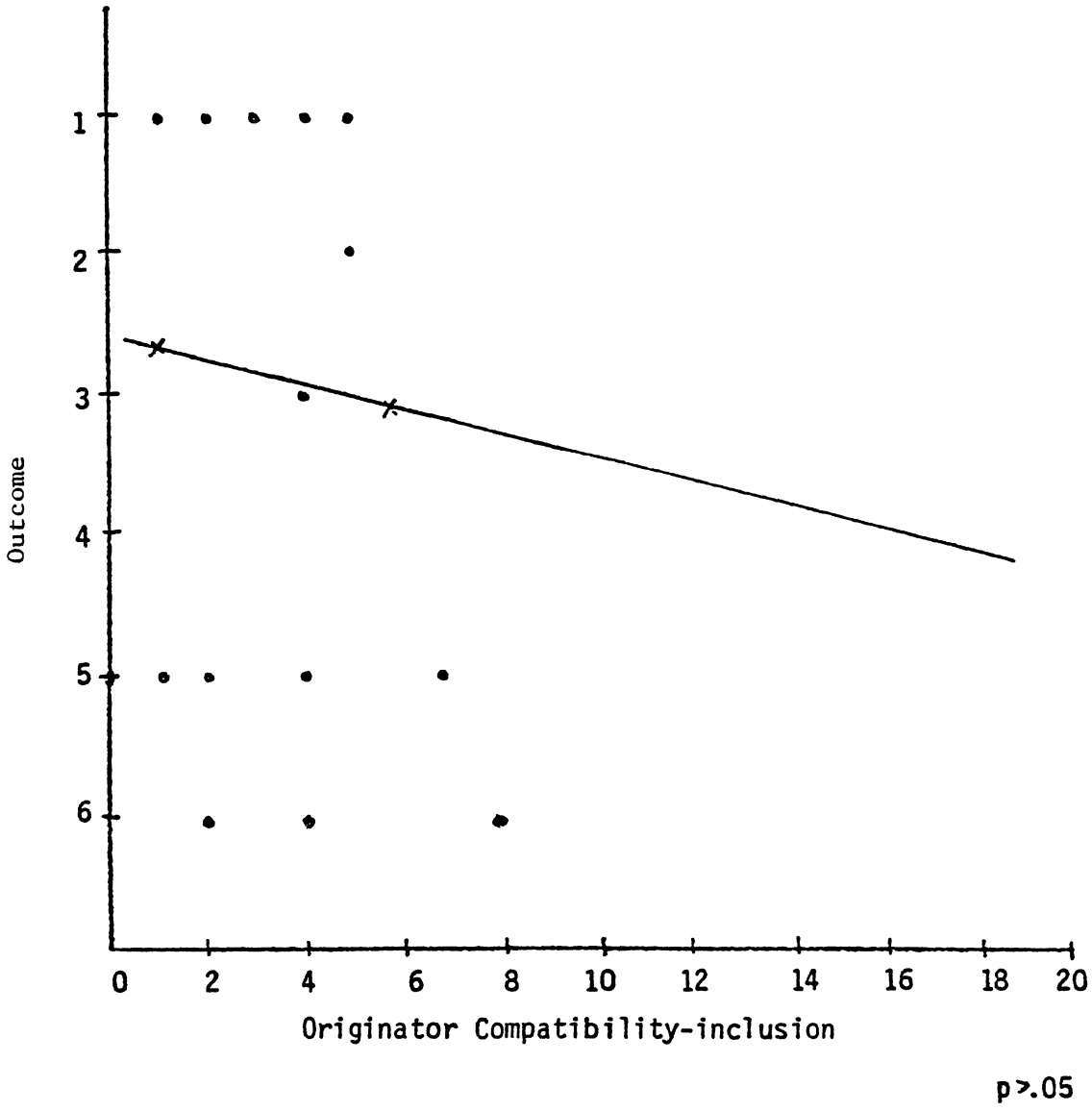

Figure 11. Scatterplot of Regression Line for Originator Compatibility-Inclusion

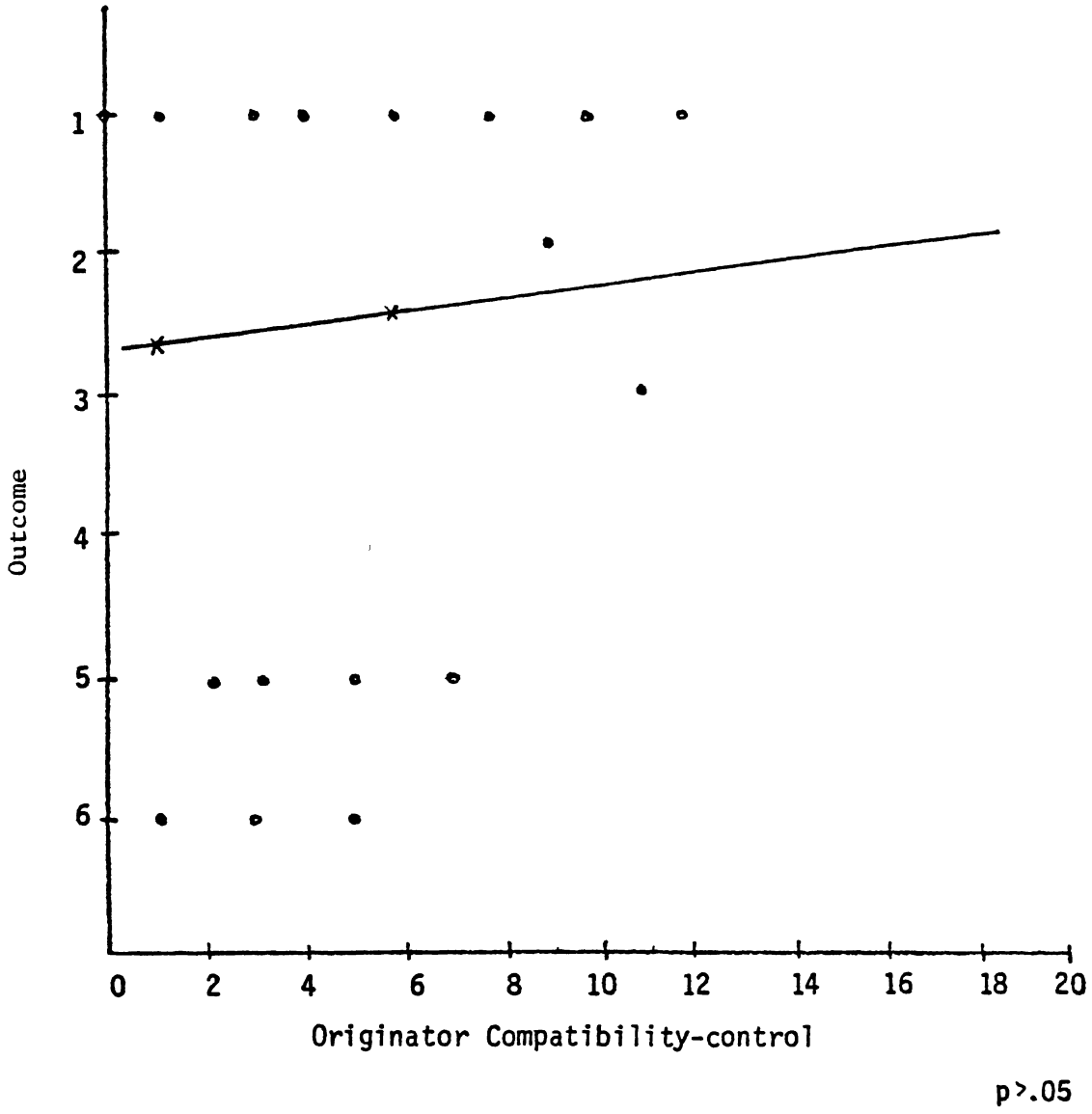

Figure 12. Scatterplot of Regression Line for Originator Compatibility-Control

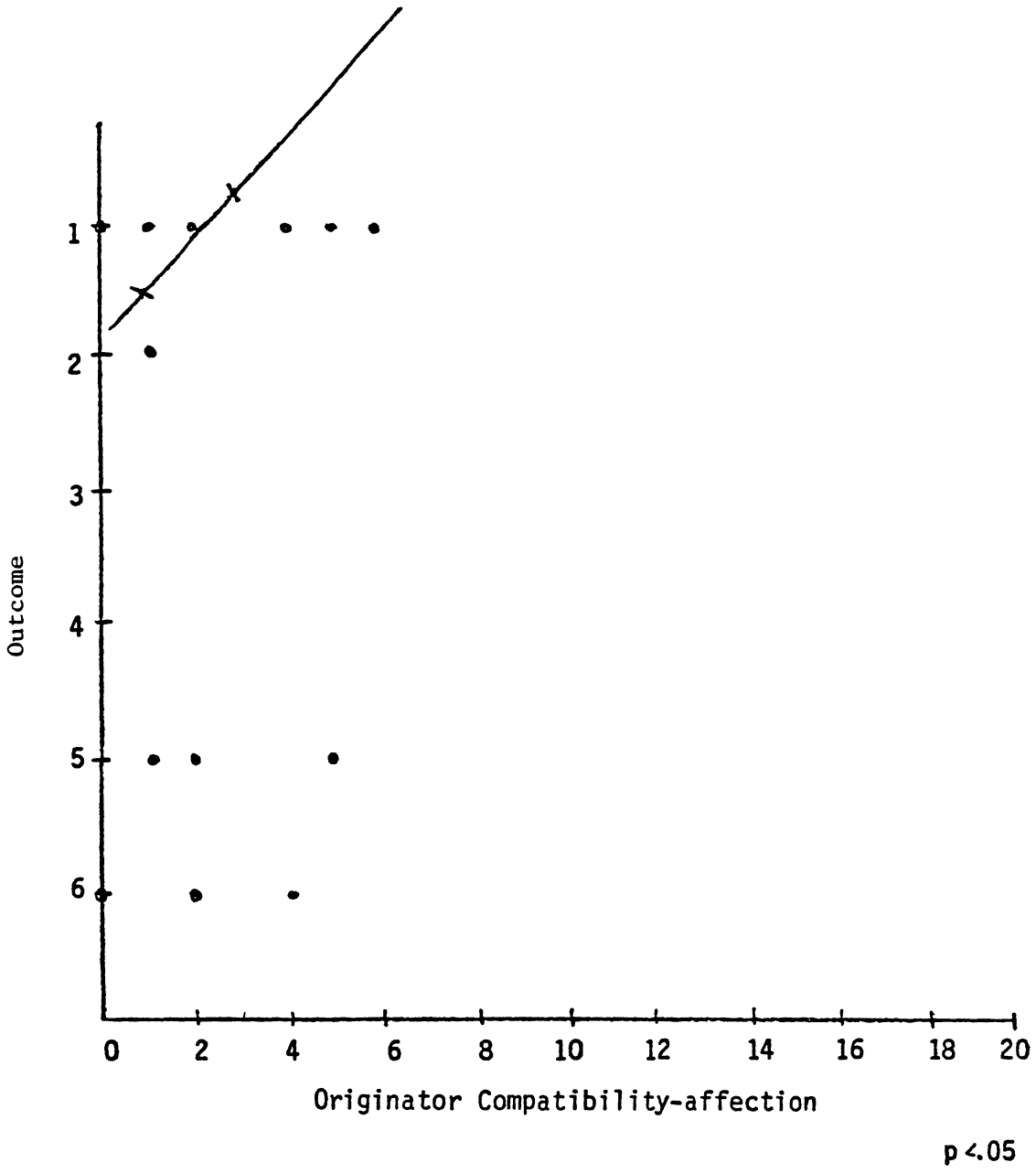

Figure 13. Scatterplot of Regression Line for Originator Compatibility-Affection

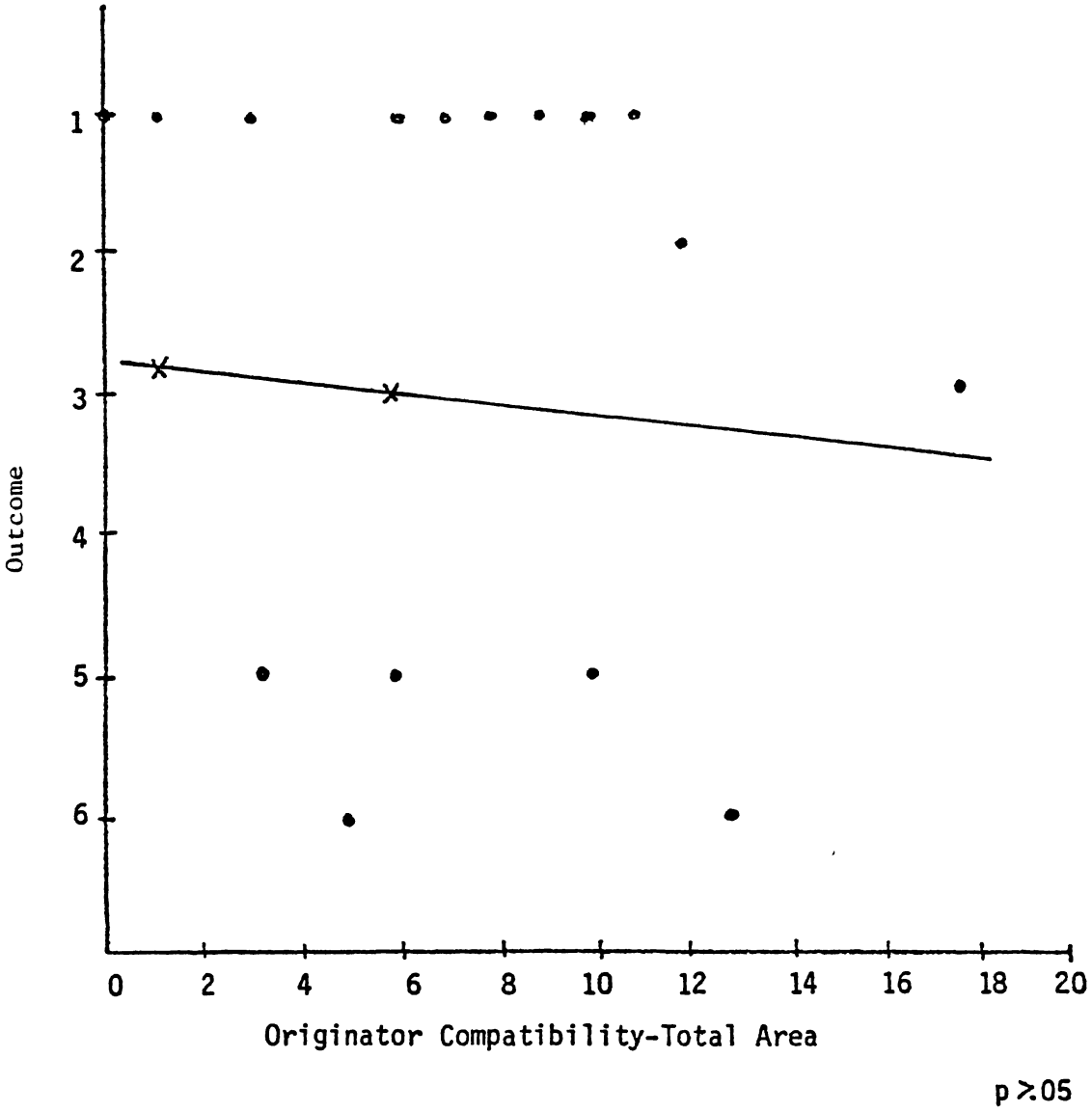

Figure 14. Scatterplot of Regression Line for Originator Compatibility-Total Area

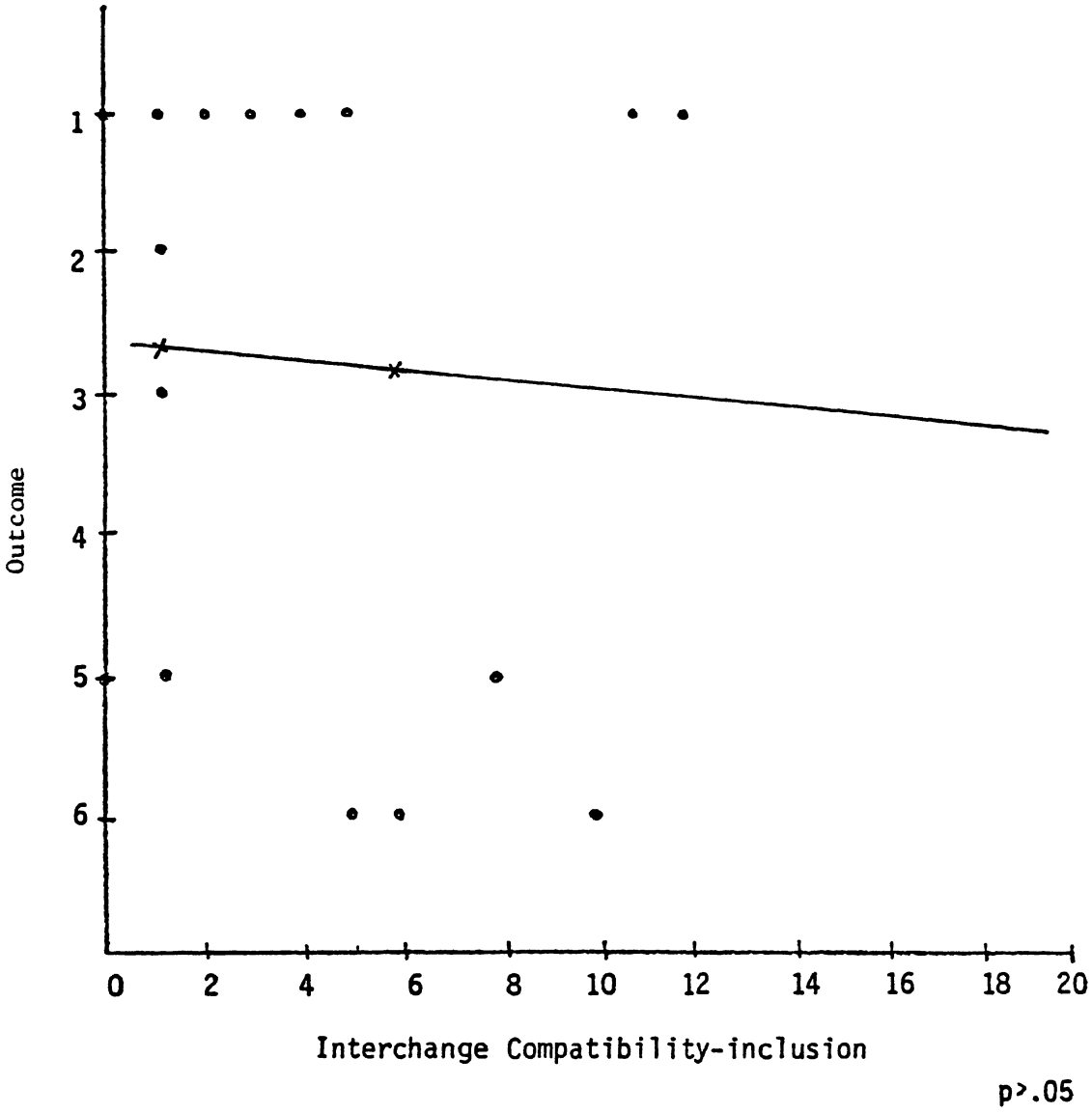

Figure 15. Scatterplot of Regression Line for Interchange Compatibility-Inclusion

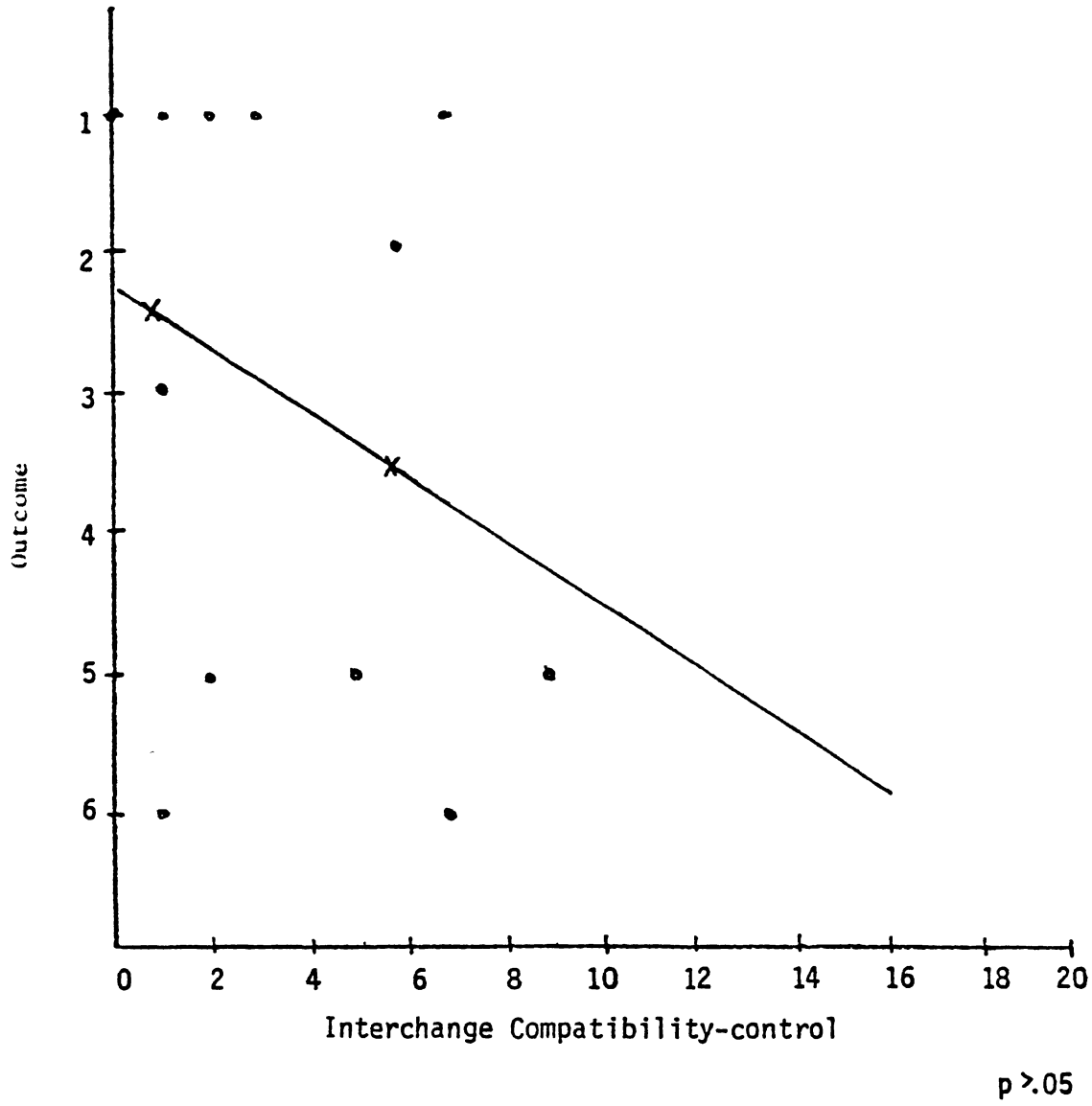

Figure 16. Scatterplot of Regression Line for Interchange Compatibility-Control

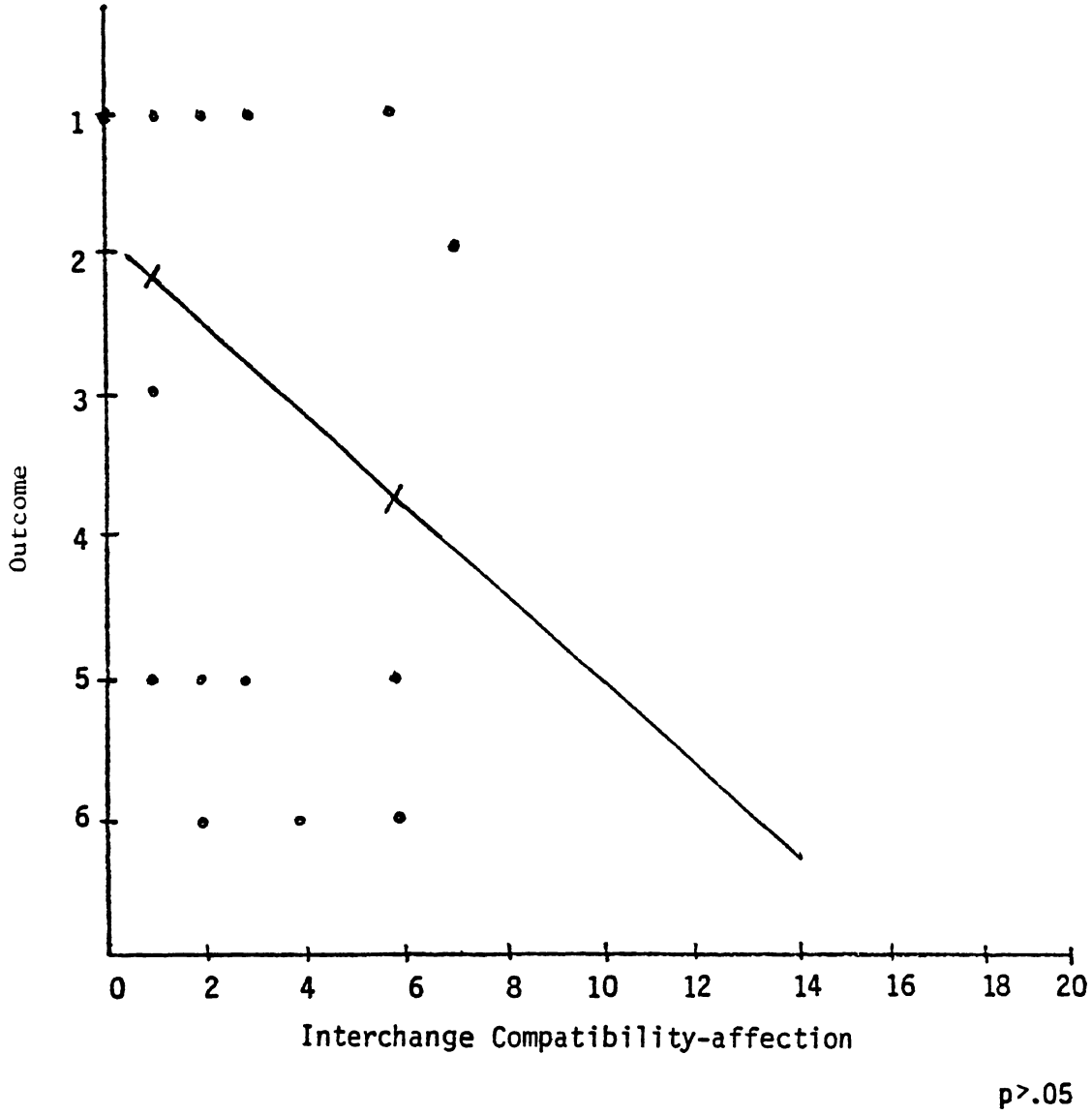

Figure 17. Scatterplot of Regression Line for Interchange Compatibility-Affection

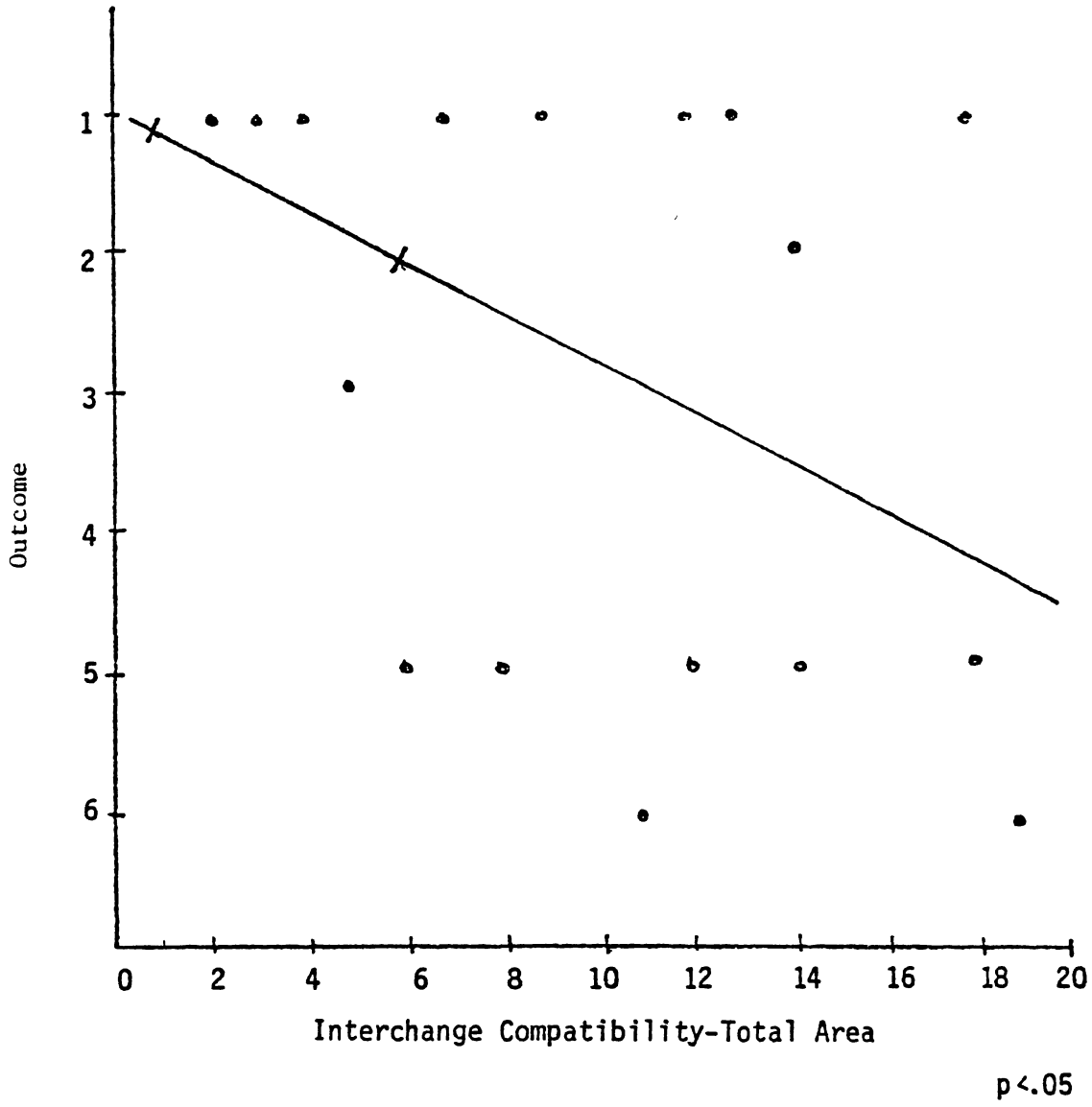

Figure 18. Scatterplot of Regression Line for Interchange Compatibility-Total Area

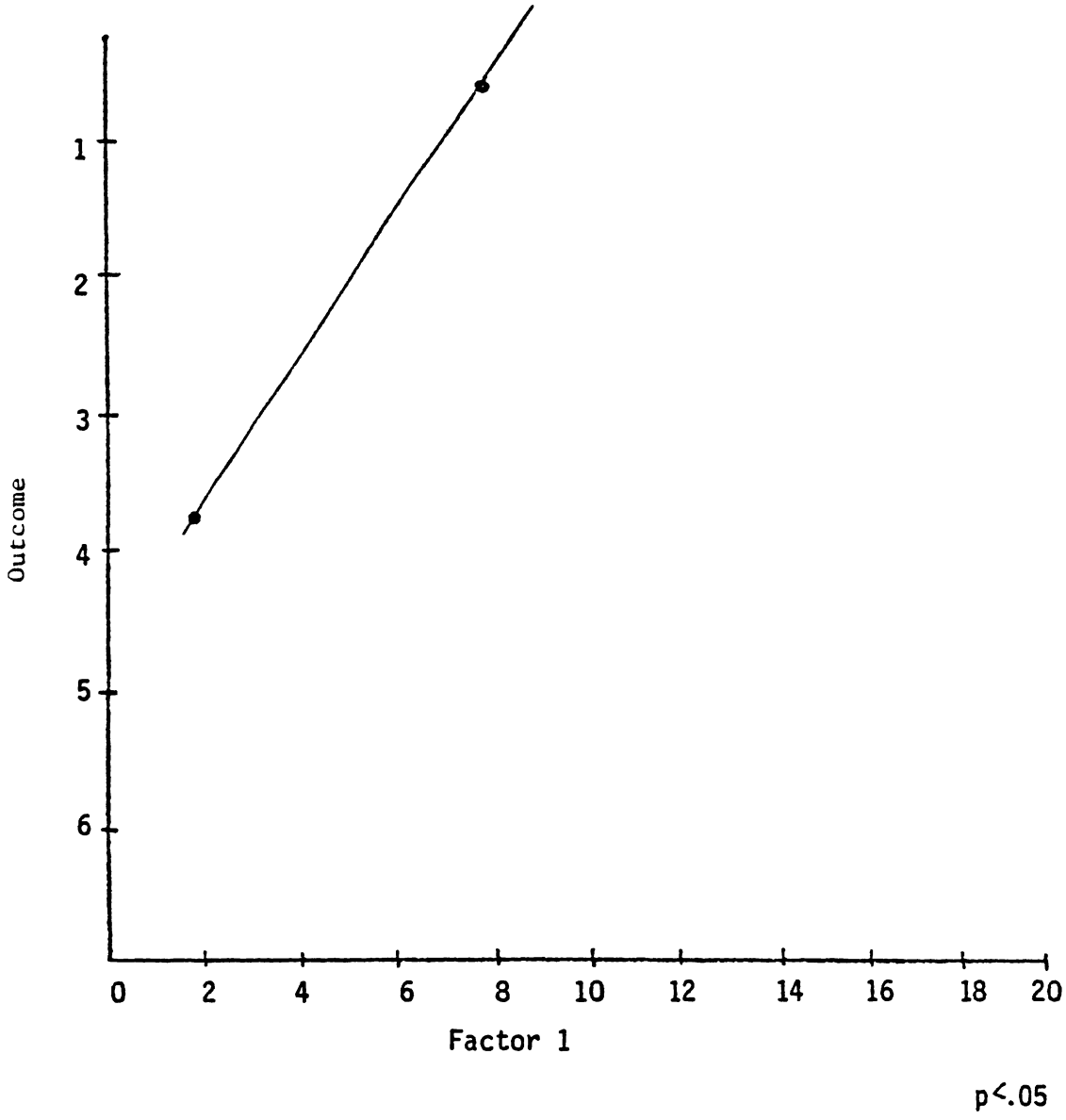

Figure 19. Scatterplot of Regression Line for Factor 1

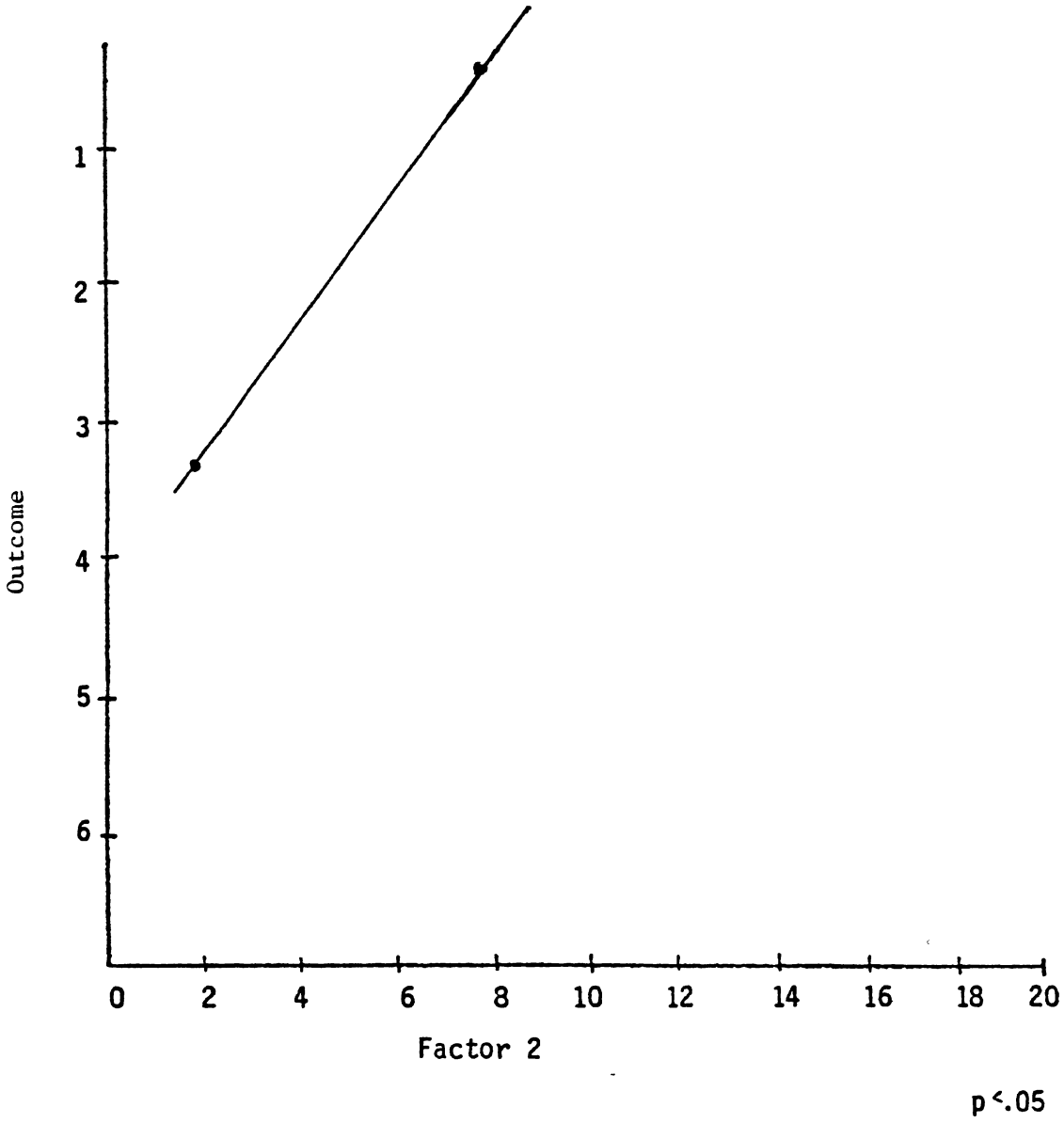

Figure 20. Scatterplot of Regression Line for Factor 2

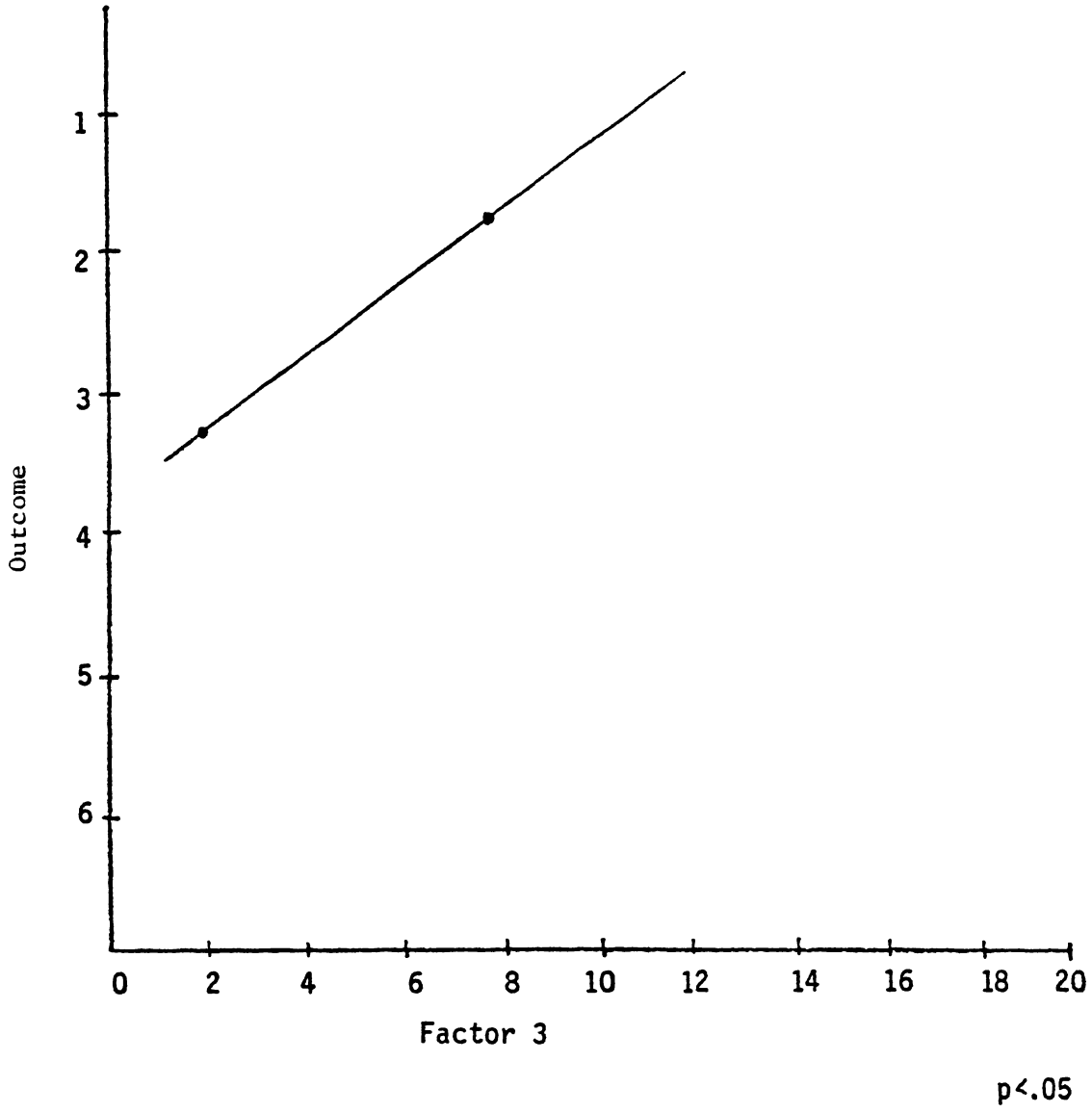

Figure 21. Scatterplot of Regression Line for Factor 3

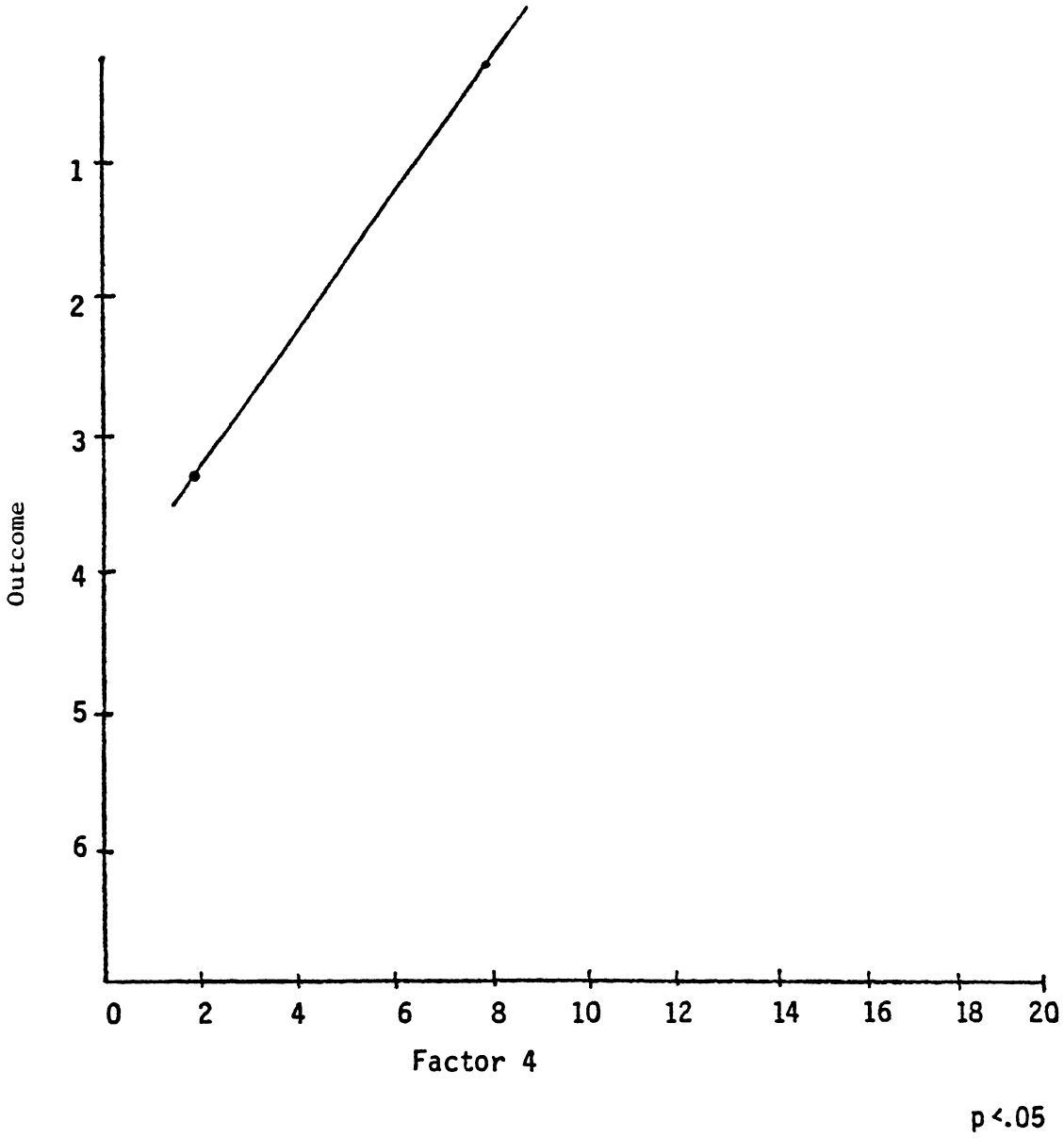

Figure 22. Scatterplot of Regression Line for Factor 4

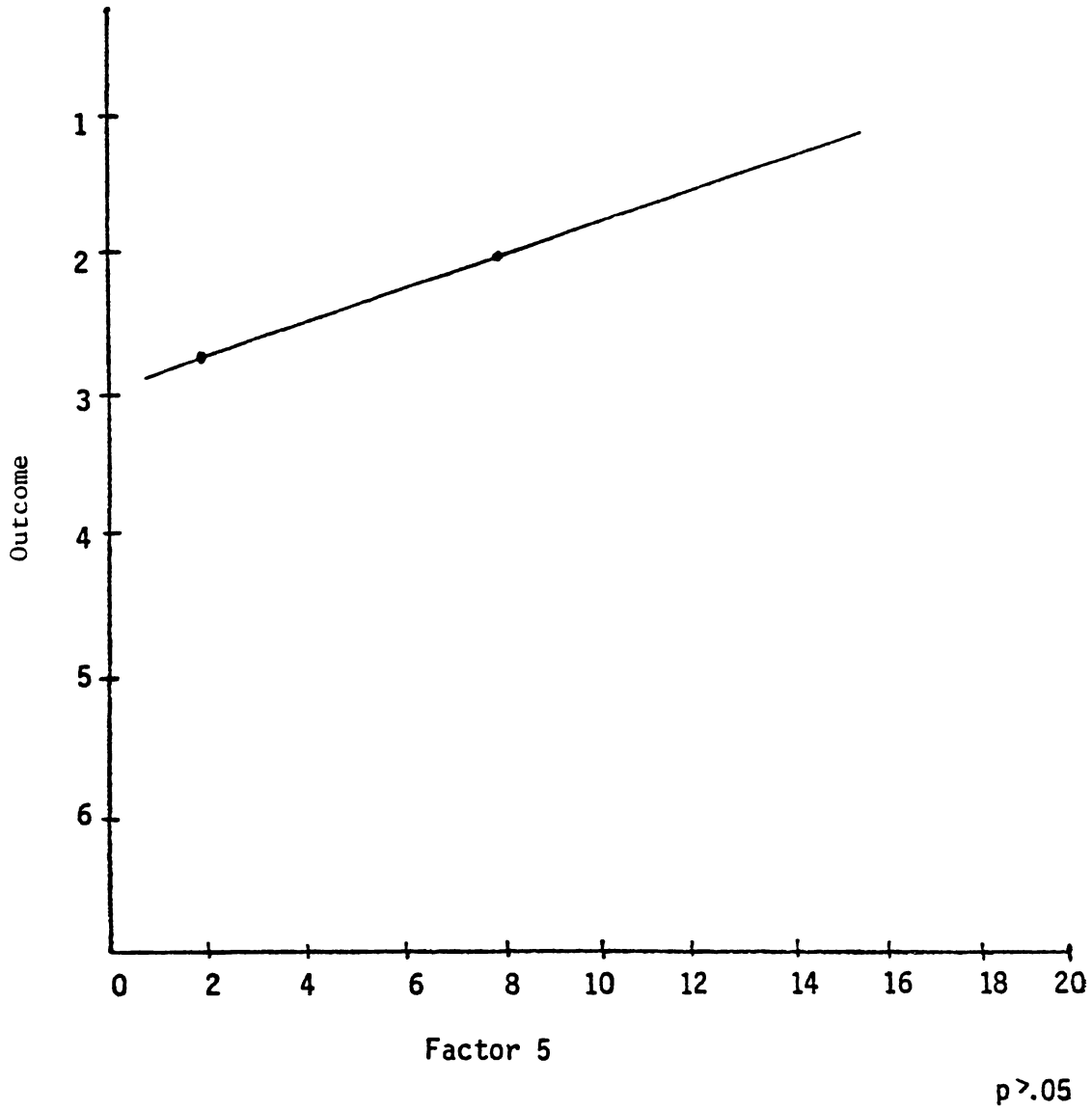

Figure 23. Scatterplot of Regression Line for Factor 5

VITA

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Doctor of Philosophy

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