

PERCEPTION OF CONTROL AND MARITAL ADJUSTMENT

by

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CHAPTER 1

Introduction

The study of marital relationships remains an important concern of social scientists in the 1980s. Unraveling the complex interaction of variables thought to influence marital adjustment continues to provide a major focus for this concern. In addition to the general need for greater knowledge of human interaction patterns, the prominent position of marital adjustment as the primary determinant of marital stability (Lewis & Spanier, 1979) gives such research a particular aura of social relevance.

Review of research on marital adjustment (Barry, 1970; Spanier, Lewis, & Cole, 1975; Spanier & Cole, 1976; Spanier & Lewis, 1980), or of research on specific components of marital adjustment such as "happiness" and "satisfaction" (Hicks & Platt, 1970) indicates that literally hundreds of variables have an impact on one's subjective evaluation of marriage. Researchers also agree marital adjustment is influenced by individual spousal characteristics, as well as by the unique way that these characteristics interact. Interest in this interaction process and in interpersonal variables characterizes most of the theoretical propositions relating to marital adjustment (Lewis & Spanier, 1979).

Spanier (1976) assumes variables related to marital adjustment exist that have not yet been identified or that have been identified but not adequately explored. It is also assumed that the

cross-fertilization of ideas between related fields can be mutually beneficial (Thomas, 1979). An individual's perception of locus of control (LOC) (Rotter, 1966) is a variable that meets the former assumption and offers an opportunity for application of the latter.

A substantial body of research on the LOC construct exists in the psychology literature. However, the application of this research to the marital relationship is rare. The potential usefulness of examining LOC in relation to marital adjustment can be shown by a simple example.

Lewis and Spanier (1979) offer the following third order proposition:

The greater the rewards from spousal interaction, the greater the marital quality. (p. 282)

Applying the LOC concept to the above, a hypothesis for empirical testing might be, "The greater the perceived personal control over the rewards of spousal interaction, the greater the marital adjustment." Or stated somewhat differently, "Are certain LOC beliefs rewarding within marriage, while others are not? Are such beliefs rewarding in regard to certain areas (e.g. consensus or cohesion) but not in others (e.g. affectional expression or satisfaction)?"

The usefulness of exploring such questions may be particularly applicable to the practice of marital therapy. Within the field of individual psychology a consistent picture emerges regarding the relationship of LOC to psychopathology (Lefcourt, 1976). Given this relationship, therapeutic interventions have been used with the general goal of increasing the individual's sense of personal control with numerous specific problems (Masters, 1970; DeCharms, 1972; Nowicki & Barnes, 1973). In addition, the LOC construct has shown promise in matching

clients with the most helpful type of therapy (directive versus non-directive) (Balch & Ross, 1975; Schwartz & Higgins, 1979). Thus, LOC can be viewed as a potential conceptual umbrella for organizing various aspects of individual treatment. However, little is known regarding the direct and interaction effects of spousal LOC in the marital relationship. Greater understanding of this relationship could lead to the LOC construct becoming as important in the treatment of disturbed marriages as it is in individual therapy. Prior to considering strategies for changing LOC beliefs, it is, of course, necessary to understand the implications of specific existing LOC perceptions for marital adjustment. The purpose of this research is to add to the knowledge concerning this relationship by:

- 1) Examining the relationship between husbands' perceptions of LOC and their reported marital adjustment;
- 2) Examining the relationship between wives' perceptions of LOC and their reported marital adjustment;
- 3) Examining the relationship between husbands' perceptions of LOC and their spouses' reported marital adjustment;
- 4) Examining the relationship between wives' perceptions of LOC and their spouses' reported marital adjustment;
- 5) Examining the relationship between the interaction of husbands' and wives' perceptions of LOC and husbands' reported marital adjustment;
- 6) Examining the relationship between the interaction of husbands' and wives' perceptions of LOC and wives' reported marital adjustment;

- 7) Examining the relationship between couple LOC differences and husbands' reported marital adjustment;
- 8) Examining the relationship between couple LOC differences and wives' reported marital adjustment.

There is empirical evidence to suggest that the distinction between examining an individual's or a couple's marital adjustment score "need not overly concern scientists, in spite of the very plausible theoretical questions raised" (Dean & Lucas, 1978, p. 978). However, for the purposes of this research marital adjustment is conceptualized as an ever-changing dyadic process that refers to the marital adjustment of the couple versus the individual's adjustment to the marriage (Spanier, 1976). Therefore, in the interest of theoretical congruence, each of the individual husband and wife adjustment issues presented above will be examined within a statistical context of couple adjustment.

Rationale for the Investigation.

Locus of control is an individual psychological construct developed by Rotter (1966). The LOC concept represents a measure of the extent to which people believe they control the reinforcements in their lives (internal control) or the degree to which they feel their destinies are beyond their control and determined by fate, chance or powerful others (external control). An individual with a belief in internal LOC feels that reinforcements are contingent upon his behavior. An individual with a belief in external control feels that reinforcements are noncontingent upon his behavior, occurring instead because of fate, chance, or the whims of powerful others.

The perception of LOC can be related theoretically to an important interpersonal variable thought to affect marital adjustment--boundary maintenance (Minuchin, 1974). Minuchin suggests that the degree to which a couple establishes clear boundaries between the marital dyad and children, in-laws, and influences from the wider community is an important determinant of marital adjustment. Marriage and family therapy literature contains extensive references to the many ways in which a couple can use external persons or issues to stabilize a poorly adjusted marriage (Minuchin, 1974; Haley, 1976; Bowen, 1978; Gurman & Kniskern, 1981). The degree to which a married couple attributes causality for the reinforcements in their marriage as existing within the dyad or external to the dyad is considered to be an indicator of quality of the marital boundary and thereby related to one's evaluation of marital adjustment.

Perhaps the most graphic illustration of the ideas of using external sources to stabilize a marriage is the description of "The Gruesome Twosome" and the "Paranoid Predators," two types of stable-unsatisfactory marriages (Lederer & Jackson, 1968).

When the Gruesome Twosome seek therapy it is for the sake of the children. They are particularly prone to minimize their pain by intense investment in outside activities which place special demands on them, such as cults. Reciprocal avoidance of criticism is the rule since each fears retaliation. The Paranoid Predators unite against the outside world, using their shared criticism of others as the cement to bond themselves. They are suspicious and disdainful of other individuals, though they may support extremist organizations to deny and distract from the desolation of their own relationship. (Bodin, 1981, p. 279)

Prior to a consideration of possible dyadic characteristics associated with various LOC perceptions, of which little is known, a brief summary of individual correlates of LOC is in order. The LOC construct has generated extensive research in individual psychology. Over one thousand research reports utilizing some measure of perceptions of control exist, and several excellent reviews of this literature are available. In general, the research supports that compared to externals, internals show less conformance and compliance to social influence, exhibit higher degrees of achievement-oriented behavior, are more task oriented and better information gatherers, and report better personal adjustment (Lefcourt, 1976; Phares, 1976; Strickland, 1977). An internal LOC, therefore, seems to correlate with many positively valued individual characteristics, and it is reasonable to hypothesize that such characteristics are salient to one's marital relationship as well (Lewis & Spanier, 1979). However, few studies have examined LOC in regard to the marital relationship.

The LOC concept is now considered to be more complex than the above unidimensional (internal vs. external) discussion implies, and an awareness of this complexity offers promise of increasing this concept's predictive utility. Numerous researchers (Gurin, Gurin, Lao, & Beattie, 1969; Lao, 1970; Reid & Ware, 1973, 1974; Collins, 1974) offer data suggesting that LOC is best conceptualized as a multidimensional variable. The work of Levenson (1972, 1973a, 1973b, 1974) is prominent in this regard. She developed scales that distinguish between a belief in personal control, a belief in control by powerful others, and a belief

in control by chance or fate. Her research indicates that one method of increasing the predictive utility of the LOC construct is by assessing these three diverse agents of control rather than relying on the simple internal-external dichotomy. Additional research regarding this contention supports her conclusions (Kleiber, Veldman, & Menaker, 1973; Prochiuk & Breen, 1973, 1974, 1975; Moliari & Khanna, 1980, 1981). However, her multidimensional conceptualization of LOC has never been applied to the study of marital adjustment.

Rotter (1975) offers a second method for increasing the explanatory power of the LOC construct in his discussion of the limitations and problems inherent in using a generalized LOC instrument in very specific situations. He contends that while generalized measures permit prediction of behavior in many situations, the power of such predictions is rather low. Rotter suggests that situation specific measures are necessary to increase the predictive utility of the LOC concept. The validity of this proposal is supported by the findings of Burhans (1975) and Wallston, Wallston, Kaplan, and Maides (1976). Both studies found significant differences between internals and externals when groups were formed on the basis of a situation-specific LOC measure. More importantly, in the two studies reported by Wallston et al. (1976), significant differences between groups formed on the basis of scores on a generalized LOC measure were not found. Unfortunately, LOC measures specific to the marital relationship do not exist.

As a prelude to the development of a marriage-specific LOC instrument, which appears theoretically indicated, an intermediary step is in

order. It would be helpful to know whether a generalized multidimensional LOC measure shows greater utility than the generalized unidimensional measure employed in previous research related to the marital dyad (Doherty, 1981; Mlott & Lira, 1977; Rantuccio, 1979; Sorenson, 1974). Such information could guide the development of a specific LOC instrument related to the marital relationship by implicitly addressing such questions as the following:

- 1) Does discriminating between a belief in control by powerful others (e.g. spouse, in-laws, work) versus a belief in control by chance or fate add to the prediction of one's perceptions of marital adjustment?
- 2) Does the distinction between one's belief in control by powerful others versus a belief in control by chance or fate aid in predicting the perceptions of marital adjustment of one's spouse?

An affirmative answer to the first question would add empirical support for the development of a tripartite LOC instrument which assesses beliefs in control by self, others, and chance on issues specific to the marital relationship. An affirmative response to the second would provide support for a refined interpretation of interactional effects of specific combinations of LOC beliefs. The rationale for the use of a generalized multidimensional LOC instrument is, therefore, consistent with a general strategy for increasing the utility of the LOC construct as applied to marital adjustment.

The rationale for examining differential effects between individual LOC orientation, husband-wife differences in LOC, and perceptions of marital adjustment of husbands and wives is straightforward. Barry (1970) reports consistent support for the contention that wives' accounts of marital adjustment are more highly correlated with husbands' personality characteristics than husbands' reports of marital adjustment are with wives' personality characteristics. In addition, support for examining differential effects derives from specific studies of the relationship between LOC and marital adjustment. Sorenson (1974) reports significant differences between clinical and nonclinical wives' LOC scores, but not for husbands'. Doherty (1981) reports significant differences between husbands' and wives' LOC scores among groups based on wives' marital satisfaction scores, but no differences when groups are based on husbands' satisfaction scores. In short, there is sufficient evidence to suggest that both individual LOC beliefs and couple LOC differences may have different effects on husbands' and wives' perceptions of marital adjustment.

The final general area for hypothesis testing in this research concerns the multidimensional nature of the dependent variable, marital adjustment. As defined by Spanier (1976) marital adjustment has at least four components--consensus, cohesion, satisfaction, and affectional expression. Do perceptions of LOC differentially affect one's evaluation of these specific components of marital adjustment? The utility of asking such a question is demonstrated by Szinovacz (1979) who, in investigating the relationship between decision-making

satisfaction and marital adjustment, reports significant relationships for certain sub-scales, but not for others. It is equally possible that particular LOC beliefs have a measurable impact on certain components of adjustment, but not on others.

In summary, this research proposal incorporates several conceptual suggestions lacking in previous research investigations of the relationship between LOC and marital adjustment. A multidimensional assessment of LOC will be used to discriminate between beliefs in internal control and two types of external control beliefs. Marital adjustment will be conceptualized as a multidimensional variable, and differential effects on its component parts will be explored. These improvements will allow this research to shed further light on the relationship between LOC and marital adjustment and provide useful information for further developments in this area.

Definition of Terms Regarding Marital Adjustment

Marital Adjustment--The concept of marital adjustment is the broadest conceptual variable relating to a subjective evaluation of marriage for which an adequate definition exists. Marital adjustment is operationally defined as one's total score on the Dyadic Adjustment Scale (Spanier, 1976). This score is the summation of four sub-scales (consensus, cohesion, satisfaction, and affectional expression) that represent conceptual components of marital adjustment.

Marital Consensus--This variable represents the level of agreement between spouses on such issues as finances, recreation, religion,

friends, conventionality, philosophy of life, ways of dealing with parents or in-laws, amount of time spent together, making major decisions, household tasks, leisure time interests, and career decisions. It is operationally defined as one's score on the consensus sub-scale of the Dyadic Adjustment Scale (DAS).

Marital Cohesion--This variable reflects the number of shared outside interests, the frequency of having a stimulating exchange of ideas, of laughing together, of calmly discussing something, and of working together on projects. It is operationally defined as one's score on the cohesion sub-scale of the DAS.

Marital Satisfaction--This variable represents the degree to which one discusses terminating the relationship, leaves the house after a fight, thinks things are going well in the relationship, confides in one's mate, regrets having married, quarrels, evaluates one's marriage as happy, and expresses commitment to the future of the marriage. It is operationally defined as one's score on the satisfaction sub-scale of the DAS.

Affectional Expression--This variable represents the level of agreement between spouses on demonstrations of affection and sex relations and whether recent differences of opinion regarding being too tired for sex and not showing love have caused problems in the relationship. It is operationally defined as one's score on the affectional expression sub-scale of the DAS.

Definition of Terms Relating to GeneralizedLocus of Control

One's generalized LOC orientation refers to the degree that attribution of causality is assigned to either self, chance, or powerful others. These three variables are operationally defined by one's scale score on Levenson's (1972) Internal (I), Powerful Other (P), and Chance (C) scales.

Internal Control--This variable represents the degree to which one believes that reinforcements are contingent upon one's behavior. It is operationally defined as one's score on Levenson's I scale.

Powerful Other Control--This variable represents the degree to which one believes that reinforcements are determined by powerful others. It is operationally defined as one's score on Levenson's P scale.

Chance Control--This variable represents the degree to which one believes that reinforcements occur due to chance or fate. It is operationally defined as one's score on Levenson's C scale.

Primary LOC Orientation--This variable represents the single LOC belief thought to exert the most influence on one's behavior and attitudes. It is operationally defined by one's highest standard score on the I, P, and C scales.

Internals--Individuals whose primary LOC orientation is on the I scale. These individuals have a strong belief in personal control and tend to possess those characteristics associated with an internal LOC.

Defensive Externals--Individuals whose primary LOC orientation is on the P scale. These individuals are thought to attribute causality to

powerful others as an anxiety-reducing measure when faced with failure or the threat of negative evaluation, whereas internals would respond with task-oriented solutions (Prociuk & Breen, 1974, 1975).

Congruent Externals--Individuals whose primary LOC orientation is on the C scale. Such individuals are termed congruent externals because their behavior is congruent with their belief in an unordered random world. Whereas defensive externals could attempt to control their reinforcements and, if unsuccessful, attribute causality to others, congruent externals would see little reason for making problem-solving efforts in the first place (Prociuk & Breen, 1974, 1975).

Individual LOC Styles--This variable represents individual group designation on the basis of one's relative beliefs in personal, powerful others, and chance control. Individual LOC styles will be operationally defined by a hierarchical cluster analysis (Baker, 1972; Johnson, 1967) of one's scale scores on the I, P, and C scales.

Couple LOC Differences--This variable represents couple group designation on the basis of their relative beliefs in personal, powerful others, and chance control. Couple LOC differences will be operationally defined by three separate hierarchical cluster analyses of couple scale scores on the I, P, and C scales.

Conceptual Model and Rationale for Specific Hypotheses

The conceptual model employed in previous research on the relationship between LOC and selected aspects of marital quality is simple and straightforward. This research has focused on the direct effects of one's LOC on marital adjustment, the direct effects of spousal LOC on

one's marital adjustment, and the interaction effects of husband-wife LOC on one's marital adjustment. The above relationships have been examined for both husbands and wives and differences between the two. One purpose of this study is to test the above relationships using a multidimensional LOC instrument.

Levenson (1973b) explains how her interest in the multidimensional nature of the LOC construct was aroused by factor analytic studies of Rotter's I-E scale (Gurin, Gurin, Lao & Beattie, 1969; Lao, 1970; Mirels, 1970), which indicated that this scale contains several distinct factors. These factors are identified as "felt mastery over one's personal life, expectancies of control over political institutions, and one's belief about the role of internal and external forces in society in general" (p. 377). Levenson's three scales are designed to assess the degree of belief in personal control, in control by powerful others, and in control by chance. Her rationale for differentiating within the external dimension, between external control as belief in chance or powerful others, stems from "reasoning that people who believe the world is unordered (chance) would behave and think differently than people who believe that the world is ordered but that powerful others are in control" (Levenson, 1973a, p. 398). Belief in personal control is similar to belief in control by powerful others in that both see the world as ordered. Both a belief in powerful others or chance, however, are dissimilar from perceptions of internal control in that the former reflect a belief in nonpersonal LOC while the latter signifies personal

LOC. Correlational analysis of the three scales indicate that the P and C scales are positively correlated ($r = +.59$ $p < .01$) while the I scale is negatively correlated, but nonsignificantly, with both the P and C scales ($-.14$ and $-.17$ respectively). These correlations support the assumption that the personal versus nonpersonal dimension rather than the ordered world versus unordered world is most discriminating. This in turn can explain the positive correlation between P and C scales (Levenson, 1973a).

A potential "powerful other" in marriage is one's spouse. The tendency to blame one's spouse is associated with low marital satisfaction for women (Madden & Janoff-Bulman, 1981), with poor post-divorce adjustment for women (Newman & Langer, 1981), and with treatment difficulty in marital therapy (Glick & Kessler, 1974; Lederer & Jackson, 1968). The blaming of one's spouse for marital difficulties is a typical pattern in the marital therapy setting (Stuart, 1980) and the reassignment of causal attribution is often a necessary component of treatment (Nunnally et al., 1975; Watzlawick, Weakland, & Fisch, 1974). Similarly, causal attributions to chance or factors beyond one's control are associated with depression (Abramowitz, 1969; Wareheim & Woodson, 1971), poor problem solving (Lefcourt, 1976), and feelings of helplessness (Beck, 1967). It is inferred, therefore, that a tendency to attribute causality to factors external to oneself in general and to one's spouse in particular will be associated with low marital adjustment. Conversely, spouses with a belief in personal control are likely to consider that their efforts can help resolve or avoid marital difficulties

(Madden & Janoff-Bulman, 1981). Such people will also report higher levels of personal adjustment (Lefcourt, 1976), and to the extent that marital adjustment represents an achievement-oriented activity, they will seek information and use it to direct their higher levels of achievement-oriented behavior (Davies & Phares, 1967; Phares, 1968).

There is no direct empirical evidence to suggest that husbands' LOC has a direct effect on their perceptions of marital adjustment (Sorenson, 1974; Rantuccio, 1979). However, this previous research utilized a unidimensional LOC instrument. The use of a multidimensional LOC measure may support the existence of such a relationship. Empirical support for wives' LOC having a direct effect on perceptions of marital adjustment is available (Sorenson, 1974; Rantuccio, 1979). Both researchers found a higher external LOC orientation for wives to be associated with lower levels of reported marital adjustment.

Although no evidence exists that would support one spouse's LOC orientation having a direct effect on the marital adjustment of the other, this area of research is relatively unexplored. It is possible that the use of a more discriminating LOC instrument, such as the I, P, and C scales, would allow such a relationship to emerge.

The following hypotheses are offered to test the relationship between husbands' and wives' LOC and the reported marital adjustment of self and spouse:

- Ho₁ There is no difference between husband LOC classifications on the mean marital adjustment scores of both husbands and wives.
- Ha₁ Internal husbands and their wives will have marital adjustment scores significantly higher than spouses in either of the external groups.

- Ho₂ There is no difference between wife LOC classifications on the mean marital adjustment scores of both husbands and wives.
- Ha₂ Internal wives and their husbands will have marital adjustment scores significantly higher than spouses in either of the external groups.

Although Rantuccio (1979) found no difference in marital adjustment among four marriage modalities (both spouses internal, both external, husband internal/wife external, husband external/wife internal), there is indirect support for such a relationship. Both Mlott and Lira (1977) and Doherty (1981) report that well-adjusted marriages are associated with nonsignificant LOC differences between husbands and wives, while poorly adjusted marriages are characterized by wives who are significantly more external than their husbands. To test the relationship between the interaction of husbands' and wives' LOC perceptions and marital adjustment, the following null hypothesis is offered:

- Ho₃ There is no interaction effect between husband's and wife's LOC classifications on the mean scores of both husbands' and wives' marital adjustment.

The findings of Doherty (1981) and Mlott and Lira (1977) offer grounds for a conceptual distinction in the application of the LOC construct to the study of marital adjustment. They found that dissatisfied wives differed from satisfied wives not on the basis of their absolute LOC scores, but rather in the degree of divergence from their husbands' LOC orientations. These findings are tentatively supportive of the idea that it is the relationship of one spouse's LOC to that of the other which has an impact on one's subjective evaluation of the marriage.

Therefore, the final null hypothesis for this research is as follows:

- Ho₄ There is no difference between classifications of husband-wife LOC similarities on both husbands' and wives' mean marital adjustment scores.
- Ha₄ Couples in which the wife is more external than her husband will have marital adjustment scores significantly lower than couples who are equal on the LOC measure or couples in which the husband is more external than his wife.

Marital adjustment is not considered to be a unidimensional concept (Spanier, 1976). No previous research has considered the possibility of LOC having a differential effect on various components of marital adjustment. To test whether a relationship between LOC and four components of marital adjustment exists, each of the four hypotheses set forth to this point will be tested employing as the dependent variables: 1) marital consensus, 2) marital cohesion, 3) marital satisfaction, and 4) affectional expression.

In summary, this research will use a multidimensional assessment of both marital adjustment and LOC. The relationship between these concepts will be examined in regard to the effect of individual LOC perceptions of spouses, the interaction of these individual LOC perceptions, and husband-wife differences in LOC beliefs on husbands' and wives' evaluation of their marital adjustment.

CHAPTER 2

Review of Literature

The literature reviewed in this chapter is organized into three major sections. The first addresses the LOC construct and its relationship to personality and personal adjustment with particular attention given to Levenson's (1972, 1973a, 1973b, and 1974) multidimensional assessment of this construct. The second section reviews the pertinent studies of marital adjustment with special emphasis on its relationship to personality characteristics and perceptual congruity of spouses. The final section examines those studies that have directly explored the relationship between LOC and marital adjustment.

Locus of Control

The LOC concept provides a means for measuring individual differences in the extent to which reinforcements are viewed as contingent upon one's behavior, or, conversely, are perceived as a consequence of fate, chance, or powerful others (Rotter, 1966). Individuals with internal LOC believe that reinforcements are contingent upon their behavior. Persons with an external LOC believe reinforcements occur because of fate, chance, or the whims of powerful others. Joe (1971, p. 619) states that depending on past reinforcement experiences, an individual develops a consistent attitude that tends toward viewing reinforcements as either contingent or noncontingent on his behavior. Within a social learning theory of personality (Rotter, Chance, & Pharnes, 1972), the effect of reinforcement

on behavioral responses depends in part on the causal attributions of the individual and on whether or not the reinforcement is perceived to be causally connected to the specific behavior. Although other variables such as reinforcement value and the psychological situation influence behavioral prediction, differences in the perceived causal link between behavior and reinforcement (internal-external LOC) are associated with several rather consistent findings in the literature.

LOC, Personality, and Individual Adjustment

Numerous investigators have examined the relationship between LOC scores and personality characteristics. The most widely used LOC assessment instrument for this purpose has been the I-E scale (Rotter, 1966). This unidimensional instrument consists of twenty-three paired items presented in a forced choice format. Each pair consists of one internal response and one external response. The subject is asked to choose from each pair the response that best reflects his personal beliefs. On the basis of responses to this scale subjects can be placed along a continuum ranging from internal to external in LOC beliefs.

A rather consistent picture emerges regarding the personality correlates of individuals professing internal or external LOC beliefs. Hersch and Scheibe (1967) correlated the I-E scale with the California Personality Inventory (CPI) and an adjective checklist. Results indicated that internals compared to externals scored higher on the following scales of the CPI: 1) Dominance, 2) Tolerance, 3) Good Impression, 4) Sociality, 5) Intellectual Efficiency, 6) Achievement via Conformance, and 7) Well-being. Internal subjects were more likely than external

subjects to describe themselves as assertive, achieving, powerful, independent, effective, and industrious. In addition, an external LOC has been found to correlate with debilitating anxiety and neurotic symptoms (Feather, 1967), hostility (Williams & Vantress, 1969), and authoritarianism (Rotter, Seeman, & Liverant, 1962). A convergence of three studies (Hamsher, Geller, & Rotter, 1968; Miller & Minton, 1969; Clouser & Hjelle, 1970) suggests that externals "tended to be less trustful and more suspicious of other people and more dogmatic than are internals" (Joe, 1971, p. 623).

Similarly, the general relationship between an internal LOC and personal adjustment and an external LOC and pathology appears well established (Grego, 1970; Bailer, 1961; Platt & Eisenman, 1968; Wall, 1976). Williams and Nickels (1967) link externality with suicide proneness, and several investigations have found externality to be related to admissions of anxiety, depression or general dysphoria (Abramowitz, 1969; Burns, Brown, & Heating, 1971; Goss & Morosko, 1970; Powell & Vega, 1972).

Although internals as compared to externals appear to be higher achievers, more assertive, more trustful of others and in general better adjusted individuals, an important question must be raised. Does an external LOC lead to low achievement, anxiety, and depression, or does low achievement, anxiety, and depression generate an external LOC? The directionality of this relationship remains unsubstantiated in the literature.

However, in all probability the answer to the above question cannot be adequately addressed in an either/or fashion, but must take into account the notion of circular causality. For example, a preponderance of noncontingent reinforcement experiences can lead to a generalized expectancy of noncontingent reinforcement (possibly leading to anxiety or depression), which can lead to perceptions of specific reinforcements as being noncontingent on one's behavior (which can lead to anxiety or depression) in a self-perpetuating cycle. Within a social learning theory of personality it is posited that the LOC expectancies serve both to guide one's behavior and to shape one's interpretation of the contingencies or lack of contingencies of such behavior in a relatively consistent fashion. Therefore, the lack of convincing empirical evidence concerning the directionality of the relationship between LOC and personal adjustment is not unanticipated. As Lefcourt (1976) summarizes:

In all probability the relationship is circular and perpetuated through a vicious circle, though there is little empirical data available to allow for certainty regarding this conjecture. (p. 95)

Theoretically, the development of LOC expectancies involves the individual's past reinforcement history during the years of personality development (Joe, 1971). The development of an internal LOC results from the opportunity to learn that certain reinforcements are contingent upon one's behavior. Adler (Ansbacher & Ansbacher, 1965) believed parental behaviors that were either "pampering" or "neglectful" were the primary means of thwarting contingency awareness.

Pampering behaviors deprive the child of the opportunity for developing a belief in internal control by providing the child with

indiscriminant noncontingent reinforcement. Neglectful parenting deprives the child of this opportunity through lack of reinforcement for his behaviors. Both styles are possible antecedents for the development of an external LOC belief system. Once formed, an individual LOC orientation tends to remain a consistent guide to the interpretation of experiences, thereby perpetuating the particular LOC orientation.

Multidimensionality of the LOC Construct

In 1965 several issues regarding the assessment of LOC were addressed (Lefcourt, 1976). Of particular importance to this investigation is the issue of diverse sources of external control raised by Crandall, Katkovsky, and Crandall (1965). These researchers noted that no discrimination was made on general LOC measures among a variety of external sources of control such as luck, fate, and personal and impersonal agents. In the development of the Crandalls' Intellectual Achievement Responsibility Questionnaire, they chose to focus on one class of external control agents--significant others of the child. Since then several investigators have demonstrated the appropriateness of specifying among diverse agents of control (Gurin, Gurin, Lao & Beattie, 1969; Lao, 1970; Mirels, 1970; Reid & Ware, 1973, 1974; Viney, 1974).

Gurin et al. (1969), in an investigation of LOC among black students, factor-analyzed Rotters I-E scale (Rotter, 1966) and found two separate factors. The first, termed Personal Control, referred to items phrased in the first person. The second, termed Control Ideology, consisted of items referring to the culture at large. Both Gurin et al. (1969) and Lao (1970), who utilized these same two factors, found

the discrimination to be of predictive utility in terms of achievement (via Personal Control) and social action participation (via Control Ideology).

Mirels (1970) factor-analyzed the Rotter I-E scale responses of 159 male and 157 female college students. Once again, two factors emerged. The first concerned felt mastery over the course of one's life. The second concerned beliefs about the extent to which the individual citizen is deemed capable of influencing political institutions. Viney (1974) reports two replications involving Australian samples ($n = 159$ and $n = 154$ females). Both studies strongly endorsed the findings of Mirels (1970).

Reid and Ware (1973) report two studies offering further support of the multidimensionality of external agents of control. Factor-analysis of the first sample ($n = 130$ female weight reducers) and the second ($n = 35$ introductory psychology students) revealed two separate factors on the Rotter I-E scale quite consistent with the findings of Mirels (1970). However, in a subsequent study (Reid & Ware, 1974) involving 134 psychology students, the interpretation of the two identified factors is called into question. A questionnaire consisting of 10 questions involving Personal Control of Self, 10 questions addressing Personal Control of Others, 10 questions involving Control Ideology of Self, and 10 questions pertaining to Control Ideology of Others was administered. A factor-analysis of responses revealed the two separate factors quite similar to Personal Control and Control Ideology, which loaded almost equally in terms of Self and Other items. "This finding of a

non-distinction between self and others is important in clarifying the interpretation of the two dimensions as originally identified by Mirels (1970) The present analysis, however, supports the implication of Reid and Ware that the two I-E dimensions are different only in terms of the external sources of control" (Reid & Ware, 1974, p. 134). This difference in external sources of control occupies the attention of the present investigation.

Levenson's I, P, & C Scales

As mentioned in the introduction, Levenson's interest in the multi-dimensional assessment of LOC evolved from studies cited in the previous section. She designed her scales to assess the degree of belief in personal control (I), in control by powerful others (P), and in control by chance (C) (1972). Her rationale for differentiating within the external dimension between external control as belief in chance or in powerful others stems from "reasoning that people who believe the world is unordered (chance) would behave and think differently than people who believe that the world is ordered but that powerful others are in control" (Levenson, 1973a, p. 398). Belief in personal control is similar to belief in control by powerful others in that both see the world as ordered. Both a belief in powerful others or in chance, however, are dissimilar from perceptions of internal control in that the former reflect a belief in nonpersonal LOC while the latter signifies personal LOC. Correlational analysis of the three scales indicate that the P and C scales are positively correlated ($r = +.59$, $p < .01$), while

the I scale correlates negatively, but nonsignificantly, with both P and C (-.14 and -.17, respectively). These correlations support the assumption that the personal versus nonpersonal dimension, rather than the ordered world versus the unordered world, is most discriminating.

The usefulness of distinguishing between a belief in control by chance or fate and a belief in control by powerful others has been demonstrated with a variety of criterion variables. Levenson (1972) administered her I, P, and C scales to 96 male and female adults randomly selected to ensure varying degrees of involvement with the topic of environmental degradation. For males only the C scale differentiated between membership and nonmembership in an antipollution group, between low and high involvement in antipollution activities, and between low and high degree of knowledge about pollution. No significant differences resulted on the I or P scales for males, and no differences existed among any of the scales for females. For males, "it thus may be reasoned that expectations of control by powerful others or low expectations for control by self do not diminish involvement because the potentials for control still exist. For the high chance believers, however, there would be no such hope of control, and so high C scale scorers should be less involved" (p. 379). This investigation points to the utility of a multidimensional assessment of agents of control.

Levenson's scales were likewise discriminating with a psychiatric sample (Levenson, 1973). One hundred and sixty consecutive admissions to a state mental hospital were given the I, P, and C scales within five

days of admission. One half of the sample was available for retesting one month later. The following results were obtained:

1) At time of first testing this sample did not differ from a nonpsychiatric sample (Levenson, 1972) on the Internal Control scale. Significant differences between the two samples existed, however, on the P and C scales in the expected direction.

2) No differences surfaced between neurotics, and psychotics on the I scale. Psychotics scored significantly higher than neurotics on both the P and C scales.

3) Subjects hospitalized less than 10 days scored significantly lower on the C scale than patients who stayed longer. No difference existed on the I and P scales between these two groups.

4) Committed patients scored significantly higher than voluntary patients on the P scale. No differences were found on the I and C scales between these two groups.

5) Readmitted patients scored significantly higher than first admissions on both the P and C scales. No differences resulted between groups on the I scale.

The results of this research further indicate the utility of discriminating between external LOC agents. Although the P and C scales discriminated between groups in three of the five comparisons, it is possible that no differences between committed and voluntary patients would have surfaced if the distinction had not been made between a belief in control by powerful others versus a belief in control by chance. This possibility also exists for the distinction between those who stayed less

than ten days in the hospital and those who stayed longer. In short, the multidimensional assessment increased the utility of the LOC concept in distinguishing between various groups.

Other researchers have also employed the I, P, and C scales to good advantage. A series of studies by Prociuk and Breen (1973, 1974, 1975) is particularly revealing. The first investigation (Prociuk & Breen, 1973) examined the relationship between LOC and academic achievement. The I-E scale, a unidimensional LOC instrument (Rotter, 1966), was administered to 87 college students (50 females and 37 males). Median scores on the I-E scale were used to identify internals and externals. An analysis of variance using grade point average as the dependent variable revealed no differences between internals and externals. In attempting to explain the lack of significant differences the authors comment:

. . . some individuals who find themselves in a highly competitive academic environment, where the actions of others may have great relevance for their own success, might arrive at an external "world view" as a defense against failure. Such individuals who were initially highly competitive would still maintain a comparatively strong achievement motivation and thus obtain high grades. They would, however, defensively account for failure by externally oriented attitudes. (p. 566)

These researchers suggest that the failure to discriminate between external beliefs in control by fate or chance (congruent externals) and beliefs in control by powerful others (defensive externals) may have been responsible for the lack of differences between the internal and external subjects.

A second study (Prociuk & Breen, 1974) was designed to test this hypothesis. Eighty-nine college students (33 males and 56 females) were administered the I, P, and C scales, and the Survey of Study Habits and Attitudes (Brown & Holtzman, 1956). Each subject's grade point average was also obtained. Results indicated a positive correlation between effective study habits and the I scale (.47, $p < .01$) and negative correlations with the P scale (-.24, $p < .05$) and the C scale (-.40, $p < .01$). Additionally, although the P and C scales correlated .68 ($p < .01$) with one another, their correlations with effective study habits were significantly different ($t = 2.03$, $df = 86$, $p < .05$ one tail). Similar results were obtained in relation to grade point average. The I scale was positively correlated with grades, while the P and C scales were both negatively correlated. Once again the P and C scale correlations with grade point average differed significantly from one another (.09 Vs - .24 respectively; $t = 1.80$, $df = 86$, $p < .05$ one tail). Support for the utility of discriminating between types of external LOC beliefs for a multidimensional assessment OF LOC was thus obtained in relation to academic achievements.

Phares (1979) reviewed the literature involving the distinction between defensive externals (DE's) and congruent externals (CE's). He noted that the most useful way of identifying DE's and CE's has yet to be determined, but that "there seems to be real utility in distinguishing between two classes of externals as an aid to prediction" (p. 206). The third study by Prociuk and Breen (1975) provides support for the discriminant utility of designating subjects as internals, defensive

externals, or congruent externals in relation to academic achievement. One hundred and sixty college students (66 males and 94 females) were administered Levenson's I, P, and C scales. Their scale scores were converted to standard scores and each subject was designated as either an internal, defensive external, or congruent external depending on whether his highest standard score occurred on the I, P, or C scale, respectively. A pairwise nonorthogonal comparison of mean grade point averages of the three groups revealed significant differences for each of the three comparisons for both sexes ($p < .01$). Internals obtained the highest mean grade point average, followed by defensive externals, followed by congruent externals. The difference between each pair of groups was significant. The results are consistent with the theoretical description of the three groups. Internals were predicted to have the highest grades in that they believe reinforcements are contingent on their behavior and tend to respond to achievement-related anxiety by action-oriented solutions (Phares, Ritchie, & Davis, 1968). Congruent externals, who believe reinforcements are dependent on chance or fate and who see little relationship between their efforts and results, were predicted to have the lowest grades. Defensive externals, thought to guard against anxiety associated with the threat of failure by adopting external beliefs (Hjelle, 1970), but who share with internals motivation for achievement, were predicted to be more successful than congruent externals and less successful than internals. These predictions were confirmed offering support for the capability of the I, P, and C scales to identify these groups.

The findings of Molinari and Khanna (1980, 1981), however, suggest a cautious approach to accepting the ability of the I, P, and C scales to adequately identify internals, defensive externals, and congruent externals. Thirty male and 30 female college students were identified as internals (10 of each sex), defensive externals (10 of each sex), and congruent externals (10 of each sex) from a pool of 305 males and females on the basis of their highest standard score (Prociuk & Breen, 1975). The Zung Self-Rating Depression Scale (Zung, 1965) and the Alpert-Haben Achievement Anxiety Test (Alpert & Haben, 1980) were administered to each subject. The first hypothesis predicted a positive correlation between depression and congruent externality and negative correlations with internals and defensive externals. The correlations were .2684 ($p < .019$) for congruent externals, $-.0218$ ($p < .634$) for defensive externals, and $-.3877$ for internals ($p < .001$), and therefore supporting this hypothesis. However, the second hypothesis, which predicted significantly higher depression scores for congruent versus defensive externals and internals was not supported ($F(2,57) = 2.7350$, $p < .0734$). The third hypothesis predicted that debilitating anxiety would be positively correlated with defensive externality and negatively correlated with internality. This was confirmed. Both defensive externality and internality correlated with debilitating anxiety in the predicted direction (.2870, $p < .01$ and $-.2855$, $p < .14$, respectively). Contrary to predictions, debilitating anxiety was significantly higher for defensive externals only in comparison to internals. Congruent externals were found to manifest equal or greater amounts of anxiety

than defensive externals. These researchers comment that one interpretation for this theoretically inconsistent finding is that I, P, and C scales do not adequately discriminate between defensive and congruent externals. They conclude that a scale devised specifically for these constructs has not been developed.

In summary, the literature reviewed in this section showed that compared to externals, persons with an internal LOC were found to exhibit many positively valued personality characteristics and an absence of pathology. Consistent support for the use of a multidimensional assessment of the LOC construct was reported. Levenson's I, P, and C scales proved useful in distinguishing between two types of external LOC beliefs. In addition, support for these scales reflecting a distinction between the concepts of congruent and defensive externality was found, although some inconsistencies were noted in regard to predictions of anxiety and depression. From these general conclusions one can hypothesize that if personal maladjustment negative influences one's marital adjustment, then an external LOC would also negatively influence one's marital adjustment. Also, to the extent that marital adjustment represents an achievement-oriented concept one expects internals to achieve the highest adjustment, succeeded in order by defensive externals and by congruent externals. The last group would achieve the lowest levels of marital adjustment.

Marital Adjustment

The study of marital adjustment has a rich heritage in the social sciences. Despite over fifty years of attention to this research area,

however, several basic problems persist including lack of an agreed on definition of marital adjustment. As recently as 1980, Spanier and Lewis stated considerable definitional ambiguity still exists with little agreement on the use of such concepts as quality, satisfaction, adjustment, and happiness. This echos a chief complaint of earlier reviews of the adjustment literature (Spanier & Cole, 1974; Hicks & Platt, 1970; Lively, 1969). Therefore, marital adjustment research must explicitly state the nominal and operational definition of this concept as it is employed in a given project.

Although past definitions of adjustment have often been conflicting and ambiguous, a selective review of several historical definitions of adjustment provides a sense of continuity regarding the definition of marital adjustment used in this research. Burgess and Cottrell (1939) refer to adjustment as the integration of the couple in a union in which the two personalities are not merged or submerged, but interact to complement each other for mutual satisfaction and the achievement of common objectives. Locke and Williamson (1958) defined adjustment as the presence in a marriage of characteristics including a tendency to avoid or resolve conflicts, a feeling of satisfaction with the marriage and with each other, the sharing of common interests and activities, and the fulfilling of the marital expectations of the husband and wife. They viewed adjustment as an adaptation between husband and wife to a point where there is companionship, agreement on basic values, affectional intimacy, accommodation, euphoria, and other unidentified factors (p. 569). More recently Burgess, Locke, and Thomas (1971) stated that

a well-adjusted marriage may be defined as a union in which: the husband and wife are in agreement on the chief issues of marriage such as handling finances and dealing with in-laws; they have come to an adjustment on interests, objectives, and values; they are in harmony on demonstrations of affection and sharing confidences; and they have few or no complaints about their marriage (p. 321). The concepts of consensus, cohesion, satisfaction, and affectional expression employed as components of the Dyadic Adjustment Scale (Spanier, 1976) can be viewed as common threads woven throughout these historical definitions of marital adjustment.

Spanier (1976) defines adjustment as an ever-changing process with a qualitative dimension that can be evaluated at any point in time on a dimension from well adjusted to maladjusted. Consistent with this point of view, marital adjustment can be defined as a process--the outcome of which is determined by the degree of: 1) troublesome dyadic differences; 2) interpersonal tensions and personal anxiety; 3) dyadic satisfaction; 4) dyadic cohesion; and 5) consensus on matters of importance to dyadic functioning (p. 17). From this point of view adjustment is considered a multidimensional concept that includes among its components such interrelated variables as happiness, satisfaction, cohesion, consensus, affectional expression and perhaps other unidentified factors. Therefore, studies relating personality characteristics or spousal congruity of perception to marital happiness, satisfaction, or cohesion can be reviewed as pertaining to the broader concept of marital adjustment.

Marital Adjustment, Personality, and Perceptual Congruity

The contention that spouses' personality characteristics are related to marital adjustment has received considerable support in the literature. Terman et al. (1938) found correlations of .38 for husbands and .42 for wives between the Bernreuter Personality Inventory and marital adjustment. Burchinal et al. (1957) report average correlations of .39 for husbands and .42 for wives between the Thurstone Neurotic Inventory and marital adjustment. Dean (1966), using his Emotional Maturity Scale, showed this measure correlating with the marital adjustment of husbands (.28) and wives (.35). A decade replication of Dean's study (Cole, Cole & Dean, 1980) found correlations of .33 for husbands and .39 for wives. In both studies emotional maturity was conceptualized as having 14 components: 1) ability to handle stress; 2) ability to handle anger; 3) healthy relationship with authority; 4) integration; 5) self-control; 6) judgment; 7) sexuality; 8) attitude toward learning; 9) intellectual maturity; 10) responsibility; 11) egocenteredness-sociocenteredness; 12) communication; 13) emotional security; and 14) social poise. Burgess and Wallin (1953) describe happily married people as emotionally stable, considerate of others, yielding, companionable, self-confident, and emotionally dependent. Unhappily married people report the opposite characteristics. Their data reflects correlations of .25 for men and .18 for women between the Thurstone Neurotic Inventory scores obtained during engagement and marital adjustment scores on the follow-up. Consistent support for neurotic traits in spouses being associated with low levels of marital adjustment is provided.

One of the most important factors associated with high levels of marital adjustment is the capacity of spouses to adapt and readapt to change in a flexible manner (Allen, 1962). This adaptiveness requires empathy and the motivation to deal with problematic situations for which precedents for solution may be unavailable. "If the capacity to adapt and readapt is inadequate to the resolution of ongoing problems . . . , conflicts are unlikely to be resolved, and the spouses are likely to experience an ongoing situation of poor adjustment to one another's needs" (Laner, 1976, p. 73). The importance of adaptability to marital adjustment is demonstrated by Buerkle et al. (1961) and Crouse et al. (1968). Both found the traits of flexibility and adaptability to be positively correlated with marital happiness. Considerable data exists to support the assumption that adaptability is associated with high levels of marital adjustment.

In addition, several studies indicate that similarity in personality is associated with marital adjustment. Dymond (1954) compared eight happily married couples with seven unhappily married couples on their responses to 55 MMPI items related to interaction with others. The results revealed greater similarity of self-perceptions for the happily married couples. Corsini (1956), using a sample of 20 married college students administered a marital happiness scale and a 50-item adjective Q-sort. The adjectives were sorted four times: 1) to describe self, 2) to describe mate, 3) to predict mate's self-description, and 4) to predict how one's spouse would describe his/her mate. There was a significant relationship between happiness and similarity of self-descriptions. Blazer (1963) administered the Edwards Personal Preference

Schedule and a measure of marital happiness to a random sample of 50 couples. His objective in undertaking this research was to provide confirmation of Wench's theory of complementary needs (1958). However, contrary to his expectations, the results indicated an association between increasing similarity of needs and greater marital happiness. Pickford, Signori, and Rempel (1966) administered the Guilford-Zimmerman Temperament survey to three groups of 35 couples. The three groups were characterized as: 1) happy, 2) troubled with no intention of separating, and 3) on the verge of separation. Once again the data indicated that marital adjustment is related to similarity of personality traits, and that dissimilarity is related to marital maladjustment.

The relationship between similarity of role expectations to marital adjustment is more inconsistent than the evidence relating similarity of personality characteristics to adjustment. Jacobsen (1952) examined the marital role expectations of 100 divorced and 100 married couples. Husband-wife scores were compared to determine the degree of discrepancy in their role expectations. The results indicated that divorced couples, significantly more than married couples, hold incongruent expectations regarding husband and wife roles. Hobart and Klausner (1959) employed a sample of 59 married college students to whom role perception and marital adjustment measures were administered. Contrary to Jacobsen, no relationship between role incongruity and marital adjustment was found for either husband or wife. Stuckert (1963) examined the relationship between marital adjustment and marital role perceptions. The sample consisted of 50 couples who had been married less than nine

months. The results showed that husbands' adjustment, but not that of wives, was related to congruence of role expectations.

The findings regarding congruity of role expectations and marital adjustment are rather inconsistent. One study found the incongruity of role expectations discriminate between a married and divorced sample (Jacobsen, 1952). Another study found no relationship between incongruity of role perception and marital adjustment for either spouse (Hobart & Klausner, 1959). A third study of newlyweds found a significant relationship between incongruity of role perceptions and marital adjustment for husbands only (Stuckert, 1963).

There is another dimension to consider regarding the relationship of personality characteristics and perceptual congruity to marital adjustment. This dimension refers to the relative importance of the husbands' personality characteristics to reported marital adjustment of their wives versus wives' personality characteristics to reported marital adjustment of their husbands. One of the earliest explorations of this question was undertaken by Uhr (1957) using follow-up data on couples married 18 years. He divided them into two groups: happily married and unhappily married. Husbands in the unhappy group differed significantly from the happy husbands at the time of engagement in neurotic tendencies, introversion, and self-consciousness. Unhappy wives differed from happy wives on only one variable--being less sociable. This finding indicates husbands' personality is more important than wives to marital adjustment in the early years of marriage.

The evidence is impressive for husbands' personality being more important to wives' marital adjustment than the reverse case. In three

studies described earlier (Burchinal et al., 1957; Dean, 1966; Cole et al., 1980), husbands' marital adjustment was unrelated to wives' personality characteristics, while wives' adjustment scores were found to be significantly correlated with their husbands' personality. In addition, Dean (1966) and Cole et al. (1980) report that the highest correlations with wives' adjustment were obtained with the wives' rating of their husbands' emotional maturity (.55 and .51, respectively).

The findings from a group of studies examining the relationship between perceptual congruity of spouses and marital adjustment reinforces the notion that husband characteristics and wives' accurate perceptions of their husbands are relatively more important to the marital adjustment of wives than wives' characteristics or husbands accurate perceptions of their wives are to the adjustment of husbands. Stuckert (1963) found that for wives, marital adjustment was significantly related to their accuracy in perceiving the expectations of their husbands. There was no relationship between husbands' marital adjustment and their accuracy in perceiving the expectations of their wives. Corsini (1956) found that understanding the degree of accuracy a person demonstrates in predicting their spouse's self-rating was significantly related to marital happiness only when the husband was the object of prediction. However, this relationship held true even when husbands and wives were randomly paired. Corsini concluded that the significance of this relationship was dependent on a culturally shared conception of "the good husband."

Two other investigators, Luckey (1960) and Kotlar (1965), offer findings relevant to the relationship of wives' agreement with their

husbands' self-description and the wives' marital adjustment. Luckey used a sample of 81 former college students married seven to twelve years and divided into high and low marital satisfaction groups. The Interpersonal Check List (Leary, 1956) was completed by each subject for perceptions of self, ideal-self, spouse, mother, and father. Congruence of spouses regarding their perceptions of the husband's personality was significantly related to the marital satisfaction of both husbands and wives. Congruence regarding wife's personality was related to the marital satisfaction of neither spouse. The study by Kotlar (1965) offers virtually identical results. The congruence between the wife's description of her husband and his self-description was significantly greater for adjusted as compared to maladjusted couples. The congruence of a husband's perception of his wife and her self-perception were, however, only slightly greater among the adjusted couples.

Summary

Three general conclusions emerge from the literature reviewed in this section. The first is that individual personality characteristics are related to one's marital adjustment in that neurotic traits are associated with poor adjustment and traits such as trustfulness, emotional maturity, and adaptability are associated with high levels of marital adjustment. Second, husbands' personality is more highly correlated with their wives' reports of marital adjustment than wives' personality is with their husbands' marital adjustment. Third, couples marked by similarity of personality characteristics report greater adjustment than couples characterized by divergence on personality scores.

From these general conclusions one can hypothesize that a strong external LOC in either spouse, but especially the husband, would be associated with poor adjustment, and that divergent LOC orientations between husband and wife would predict lower levels of adjustment than would similarity of LOC perceptions.

LOC and the Marital Relationship

As indicated earlier, the application of the LOC construct to aspects of the marital relationship in general and to marital adjustment in particular is rare. Although inconsistent in some regards, the results of existing studies offer logical support for testing the specific hypotheses of this research.

Sorenson (1974) examined the relationship of perceptual incongruity to marital discord. Two groups of ten couples each (a clinical versus nonclinical sample), who differed significantly in their level of marital adjustment, were compared. Sorenson hypothesized that the clinical group would show greater husband-wife incongruity in their perceptions of the marital relationship and would have significantly higher external scores on the Internal-External Control of Reinforcement Scales (Rotter, 1966). As predicted, greater perceptual incongruity was found in the clinical group. However, significant LOC differences in the hypothesized direction were evident for wives only. A comparison of husbands in the two groups revealed no differences in LOC. In addition, no significant differences between husbands and wives on the LOC measure were found in either group. This study, therefore, offers support for the LOC construct being associated with the marital

adjustment of wives, but not of husbands. Support for a relationship between husband-wife LOC differences and marital adjustment is not provided by this small sample.

Drawing his subjects (n = 411) predominantly from church congregations, Griffith (1977) studied the relationship of marital expectations to marital adjustment and LOC. Individuals with high expectations of marriage reported higher marital adjustment and higher internal scores on LOC than individuals with low or medium expectations of marriage. No significant differences, however, between internals and externals of either sex were found on marital adjustment, suggesting that LOC is associated with one's expectations of marriage, but not necessarily with one's reported level of marital adjustment. This study did not examine the issue of husband-wife differences in LOC as it relates to marital adjustment.

Rantuccio (1979) conducted a direct examination of the relationship between LOC and marital adjustment using a sample of one hundred couples, 85% of whom were married college students. Based on the criteria of scoring one-half standard deviation above or below the mean on the I-E scale (Rotter, 1966), twenty-five couples were assigned to each of the following four marriage modalities:

- (1) internal husbands-internal wives
- (2) internal husbands-external wives
- (3) external husbands-internal wives
- (4) external husbands-external wives

Each spouse was given the Dyadic Adjustment Scale (Spanier, 1976) as a measure of the dependent variable, marital adjustment. No significant difference was found between either the above four marriage modalities or gender as related to marital adjustment. Rantuccio found, as had Sorenson (1974), a significant correlation between LOC of wives as a group and their reported marital adjustment, but no such relationship for husbands.

Mlott and Lira (1977) hypothesized that individuals in unstable marriages would have more external scores on the I-E scale than individuals in stable marriages. The unstable sample (n = 22 couples) were defined as couples currently seeking therapy for marital difficulties. The stable sample (n = 22 couples), comparable to the unstable group in length of marriage, number of children, and socioeconomic level, was not seeking divorce or professional help for their marriage. Additionally, two experienced psychologists rated each of these couples as maritally stable. Although differences occurred in the predicted direction, results did not warrant support of the hypothesis. These researchers, however, report an unexpected difference between the two groups. Wives in the unstable group were found to be significantly more external than their husbands. "The implication of this finding is that the external female spouse is less likely to make a significant investment in salvaging her marriage because she leaves the disposition of that failing marriage to her husband, who is left to assume a more active role in dealing with marital difficulties. It also may be that the external female is more likely to blame her husband or other

factors rather than assume a share of the responsibility for the troubled marriage" (p. 146).

The investigation of Madden and Janoff-Bulman (1981) regarding aspects of blame, perceived control, and marital satisfaction of wives supports the above relationship between external LOC and marital adjustment. Married women (n = 32) were interviewed and asked to attribute both locus of control for conflict resolution and blame for the conflict in two standard conflict situations and in two conflicts from their own marriages. The results indicated that blaming one's spouse for marital problems is related to low marital satisfaction and that the perception of internal control over conflicts is associated with high marital satisfaction. The use of the variable, "spouse blame," is theoretically consistent with a defensive external's attribution of causality in a specific situation. The findings of this research, therefore, support the relationship between external LOC and low marital satisfaction of wives. Unfortunately, no specific investigation of husbands' attribution of the causality for conflict or of perceived control over conflict resolution and the relationship of these variables to husbands' marital adjustment is available in the literature.

Doherty (1981), intrigued by the findings of Mlott and Lira (1977), examined the hypothesis that marriages, in which the wife is relatively more external and the husband more internal, would be associated with high levels of marital dissatisfaction. This hypothesis was tested with a sample of eighty-six newly married couples (eight percent of attempted contacts) who were administered the Rotter I-E Scale (Rotter,

1966), Ryder's Lovesickness Scale (Ryder, 1973), the Spouse Adjective Checklist (Ryder, 1971) and the Locke Wallace Short Marital Adjustment Test (Locke & Wallace, 1959). Extreme groups were created for husbands and wives separately by dropping out the middle third of the distributions of the Locke Wallace and Lovesickness scores. In the dissatisfied wives groups, as predicted, wives were significantly more external than their husbands. No differences existed between spouses LOC in the husband high dissatisfaction groups. Additionally, no LOC differences surfaced between husbands (high dissatisfaction versus low dissatisfaction) or wives (high dissatisfaction versus low dissatisfaction). "Thus, highly dissatisfied wives were not distinguished by their absolute locus of control scores but rather by their position relative to their husbands, i.e., they tended to be more external than their husbands" (Doherty, 1981, p. 373). The results from the Spouse Adjective Checklist round out the picture of this particular marital configuration. Internal husbands are described as quiet, nice, and not aggressive. Their external wives are described as aggressive, trying, nervous, moody, and dependent. Consistent with the LOC research regarding internals' reactivity to influence attempts, one interpretation of the data offered by Doherty (1981) is that "A quietly self-contained, internal husband may be unsympathetic to, and annoyed by, his more external wife's demands for emotional support" (p. 375).

The above study is important in two major ways. First, dissimilarity in personality characteristics per se was not associated with low satisfaction. Rather it was one particular type of dissimilarity,

wives more external than their husbands, that related to low satisfaction for wives. The mirror image group with wives more internal than their husbands was significantly more satisfied than the external wife-internal husband group (Doherty, 1981). Secondly, the use of a newlywed sample (mean years married equals 6.4 months), while inconclusive, offers support for the proposition that specific LOC differences influence the marital satisfaction of wives in the early years of marriage.

One study offers support for the idea of LOC affecting the husband's marital stability. Constantine (1978) conducted a longitudinal investigation using a national probability sample of 1,332 males who were married in 1968 and whose marital stability was ascertained five years later. Their wives were not contacted at any point of the investigation. An eleven item version of Rotter's I-E Scale (1966) was administered in 1968. A factor analysis of this scale had revealed three components termed leadership, personal control, and fate control. An analysis of variance between those who had remained married and those who had separated or divorced five years later (15%) revealed significant differences on the leadership dimension only. This suggests that those husbands who viewed being a leader as dependent on their efforts versus chance or fate were more likely to evidence marital stability. The total scale score revealed no differences between groups. Therefore, this study lends additional support for a multidimensional conceptualization of the LOC construct.

The findings of Mlott and Lira (1977) and Doherty (1981) stand in contrast to the results obtained by Rantuccio (1979). This

inconsistency might be explained by differences in group formation. Mlott and Lira (1977) used naturally occurring extreme groups (clinical versus nonclinical), Doherty (1981) created extreme groups based on satisfaction scores, while Rantuccio (1979) created his groups on the basis of LOC scores of husbands and wives using a predominantly (85%) college population. The lack of significant differences between LOC groups reported by Rantuccio (1979) might, therefore, be attributable to a small degree of variance of marital adjustment scores in the population he studied.

Summary and Conclusions

Studies examining the relationship between LOC and marital adjustment have been inconsistent in their findings. Two investigators report that high external scores of wives are associated with low marital adjustment, although no relationship between husband's LOC and marital adjustment was revealed (Rantuccio, 1979; Sorenson, 1974). In a sample drawn from church congregations no relationship between LOC and marital adjustment was found for either husbands or wives (Griffith, 1977). Two studies found no relationship between husband-wife LOC differences and marital adjustment (Rantuccio, 1979; Sorenson, 1974), while two studies found couples with dissatisfied wives (Doherty, 1981) and couples in therapy (Mlott and Lira, 1977) to be characterized by wives who were significantly more external than their husbands. The tendency for wives to blame their husbands for marital conflict was associated with low satisfaction and a belief in internal control regarding conflict resolution

was associated with high marital satisfaction for wives (Madden and Janoff-Bulman, 1981). Husbands were not included in this research. An internal LOC regarding leadership was associated with marital stability of husbands, but no information was gathered from their wives (Constantine, 1978).

From the above studies several tentative conclusions can be drawn. The first is that considered individually wives' LOC appears to be more highly correlated with wives' marital adjustment than husbands' LOC is with husbands' marital adjustment. Second, a relationship between husband-wife LOC differences and marital adjustment has been found only when extreme groups (high adjustment versus low adjustment) were compared, and it is suggested that wives are more strongly influenced by this difference than are husbands. Third, the examination of the relationship between spousal LOC and marital adjustment is of recent origins and numerous questions regarding this relationship remain to be answered. What are the effects of a multidimensional conceptualization of LOC on spousal adjustment? Does a discrimination between a belief in control by powerful others versus a belief in control by chance add to the understanding of the relationship between LOC and marital adjustment? Does a multidimensional conceptualization of marital adjustment add to the understanding of this relationship? Is it the absolute value of spousal LOC or the relative differences in husband-wife LOC that has the greater impact on spouses' subjective evaluation of their marital adjustment. These unanswered questions are addressed by the research presented in the following chapters.

CHAPTER 3

Methodology

Subjects

The population for this research was married graduate students enrolled at Virginia Polytechnic Institute and State University in Blacksburg, Virginia, as of February, 1982. The sampling frame was a computer printout of all graduate students supplied by the Graduate School Office. Stratified by sex, these students were randomly selected until one hundred married males and one hundred married females were identified as being willing to receive and to complete the research instruments. The following groups were excluded from this sample:

- 1) Any couple containing at least one member known personally by the investigator;
- 2) Any couple not sharing a common residence at the time of initial contact; and
- 3) Any couple containing at least one member who was not an American citizen.

The investigator contacted all couples by telephone. After a brief explanation of the research project, subjects were asked if they and their spouse would be willing to participate. Following a verbal commitment to participate, test materials were mailed. Follow-up contact was made by telephone approximately one week after the initial mailing. Couples who had completed the materials and returned them were personally thanked for their time and effort. Couples who had

not returned the materials were reminded of the importance of their participation and thanked in advance for their cooperation.

Materials

The instructions for completion of the questionnaire independently of one's spouse were detailed both at the time of initial contact and in the cover letter (Appendix A). All respondents agreed to this condition.

Demographics--Each respondent was asked to provide the following information (Appendix B): sex, age, years married, number of times married, number of children, employment status, income level, educational status, and average church attendance. In addition, each subject was asked to indicate whether the demands of graduate school had placed a strain on their marriage and whether they had received marriage counseling regarding their present marriage.

Dyadic Adjustment Scale (Spanier, 1976)--This scale was developed to assess the quality of adjustment in dyadic relationships such as marriage. While dyadic adjustment is conceived as a process rather than an unchanging state, the scale allows for a measure that meaningfully evaluates the relationship at a particular point in time (Spanier, 1976). The scale (Appendix C) consists of thirty-two items and can be self-administered as part of a general questionnaire. It is comprised of four sub-scales (consensus, cohesion, satisfaction, and affectional expression), which represent conceptual components of marital adjustment. The theoretical range of scores is from 0 (low adjustment) to 151 (high adjustment), with a mean of 101.5 and standard deviation of

28.3. The scale shows adequate content, criterion, and construct validity. Internal consistency, as measured by Cronbach's Coefficient Alpha, is reported as .90 for the consensus scale, .94 for the satisfaction scale, .86 for the cohesion scale, .73 for the affectional expression scale, and .96 for the total adjustment score.

Levenson's Internal, Powerful Others, and Chance Scales (Levenson, 1972)--These scales are designed to measure three dimensions of LOC: belief in personal control, belief in control by powerful others, and belief in control by chance (Appendix D). Each scale consists of eight Likert scale items and has a potential range from 0 (low belief) to 48 (high belief). Internal consistency, as determined by Kuder Richardson reliabilities (coefficient alpha), are reported as .64 for the I scale, .77 for the P scale, and .78 for the C scale (Levenson, 1972), and are virtually identical for a psychiatric sample (Levenson, 1973a). The P and C scales are positively correlated ($r = +.59$, $p < .01$), and neither is significantly correlated with the I scale. Factor analysis of responses yields appropriate loadings on each of the scales, with 18 of the total 24 items loading on the first three factors, and no overlap between the scales (Levenson, 1973a). Support for the discriminant and construct validity of this instrument is available (Levenson, 1972, 1973a, 1973b, 1974; Prociuk & Breen, 1974, 1975; Molinari & Khanna, 1980, 1981; Sherman, 1980).

Group Formation

Statistical tests of the hypotheses of this research require that 1) husbands, 2) wives, and 3) couples be assigned to groups on the basis of their LOC scores. Previous researchers (Prociuk & Breen, 1975; Molinari & Khanna, 1980, 1981) have chosen to handle this task by designating an individual as either internal, defensive external, or congruent external based on whether one's highest standard score was on the I, P, or C scale, respectively. Following this line of reasoning, couples could be placed into one of nine LOC groups based on the possible combinations of each spouse's highest standard score (e.g., internal husband/internal wife, internal husband/defensive external wife, etc.).

The above grouping procedure based on one's highest standard score alone could, however, be problematical. For example, two individuals categorized as defensive externals (highest standard score on the P scale) would for the purposes of analysis be treated identically even though they might differ significantly on the basis of their I or C scale scores. In short, such a grouping method fails to consider the relative contribution of the remaining two scales, which could be of considerable importance.

This research addresses the above potential problem in group formation by the use of hierarchical cluster analysis procedures (Baker, 1972; Johnson, 1967). This procedure simultaneously considers all variables of interest (the I, P, and C scale scores) and forms groups whose members are maximally similar to one another by virtue of their match on each of these variables. Baker (1972) explains:

Hierarchical grouping algorithms are iterative procedures that group together those subjects whose measured characteristics are most alike. Thus, the basic information required for each subject is a set of scores on the variables of interest. These scores are then used to calculate a measure of the similarity of each subject to every other subject in the sample. These measures of intersubject similarity serve as the data analyzed by the grouping algorithm. Initially, each subject is considered to be a group (weak clustering). At each iteration a single new group is formed by: merging two individuals, merging an individual into an existing group, or merging two existing groups into a new group. The iterative procedure is continued until all subjects form a single group (strong clustering). The number of iterations required to proceed from weak clustering to strong clustering is one less than the number of subjects. (p. 346)

The interpretation of the results of this procedure is judgmental rather than statistical (Baker, 1972). This is true because the procedure is capable of providing structure to data where none exists. Therefore, decisions regarding the appropriateness of groups formed must be made on theoretical and pragmatic grounds rather than statistical determination alone. The analysis provides a graphic illustration of the hierarchical group formation at each iteration as part of the output. This graphic display, called a dendrogram, can yield considerable insight into the structure of the sample on the variables of interest. For example, it can show the sub-group structure of larger clusters and which individuals are the last to be included in the strong clustering. This information can prove to be as valuable as the final clusters that are produced (Baker, 1972).

A cluster analysis was performed for both husbands ($n = 156$) and wives ($n = 156$) on their respective I, P, and C scale scores and the dendograms were visually inspected. This inspection revealed that

five husbands were not grouped with the strong cluster of husbands until the 154th iteration and that nine wives were not grouped with the strong cluster of wives until the 153rd iteration. These subjects were clearly outlying cases. Four of the five outlying husbands were spouses of outlying wives. Therefore, a total of ten couples were excluded from further analysis.

The Initial Clusters

At each iteration of the cluster analysis, a ratio of the number of distances within the maximum distance comprising a cluster to the total number of distances in all is provided. The strong cluster, i.e., all cases considered as a single group, will always have a ratio of one. There are two iterations of special importance. The first is the highest iteration preceding a significant reduction in the ratio. This represents the maximum number of distinct groups formed on the basis of sharing a common characteristic of the variables under consideration. Although other factors are taken into account (Baker, 1972), this typically represents the most appropriate number of groups produced by the analysis. An inspection of Tables 1 and 2 shows that, for both husbands and wives, four groups were indicated.

Table 3 provides the sample mean scores and standard deviations for husbands and wives on the I, P, and C scales. These scores are virtually identical to those of a normal adult population sampled by Levenson (1972). These mean scores are necessary to interpret the results of the original cluster analysis for husbands and wives.

Table 1

Ratios for Cluster Analysis of Wives' Scores (n=156) on the I, P, and C Scales

Number of Clusters	Maximum Distance Within a Cluster	Number of Distances Within Maximum	Number of Distances in All	Ratio
6	484	3074	11095	.2770
5	701	3095	11701	.2645
*4	745	4383	11769	.3724
3	900	4797	11900	.4031
2	1214	9142	12037	.7595
1	2326	12090	12090	1.0000

*cut-off point

Table 2

Ratios for Cluster Analysis of Husbands' Scores (n=156) on the I, P, and C Scales

Number of Clusters	Maximum Distance Within a Cluster	Number of Distances Within Maximum	Number of Distances in All	Ratio
6	436	3902	10204	.3824
5	586	4145	11068	.3745
*4	596	6145	11108	.5532
3	941	6505	11803	.5511
2	1443	7030	12071	.5824
1	1950	12090	12090	1.0000

*cut-off point

Table 3
 Husbands' and Wives' Mean Scores and Standard
 Deviations on the I, P, and C Scales

	n	Internal		Powerful Others		Chance	
		\bar{x}	S.D.	\bar{x}	S.D.	\bar{x}	S.D.
Husbands	156	34.89	5.28	16.79	7.10	13.92	6.47
Wives	156	34.98	4.89	16.03	6.48	13.46	5.79

Tables 4 and 5 provide the mean I, P, C scores for the original four husbands' and wives' clusters, respectively. For husbands, Clusters 1, 3, 4 resemble groups of high I scores, high P scores, and high C scores, respectively. This determination was made by virtue of the highest mean standard score for these three clusters being obtained on the I, P, and C scales, respectively. These same conditions do not hold true for wives in that no group resembling high C scores emerges. In addition, an inspection of individual subject scores comprising the clusters of both husbands and wives revealed that numerous subjects within these clusters were inappropriately grouped based on the criteria of their individual highest standard scores falling on either the I, P, or C scale.

The Recombining of the Original Clusters

Although the original clusters bore some resemblance to the profiles of internals, defensive externals and congruent externals on the basis of their mean scores, an inspection of the individual subjects comprising each cluster revealed much variance within each group. Therefore, the next step was to determine the sub-groups that comprised each of the original three clusters for both husbands and wives. This was accomplished by examining the mean scores on the I, P, and C scales of the separate clusters at the iteration representing the lowest ratio of the number of distances within the maximum distance comprising a cluster to the total number of distances in all. This resulted in the inspection of the twenty-eight clusters for husbands and twenty-eight clusters for wives which represented the most distinct groupings. Tables 6 and 7

Table 4

Mean I, P, C Scores of Husbands' Cluster Analysis:
Four Clusters Specified

Cluster	n	Internal	Powerful		Highest Scale
			Others	Chance	
1	105	36.2	14.0	11.7	I
2	5	20.6	6.0	5.2	
3	10	36.9	27.6	11.3	P
4	36	32.4	23.3	22.5	C

Table 5

Mean I, P, C Scores of Wives' Cluster Analysis:
Four Clusters Specified

Cluster	n	Internal	Powerful		Highest Scale
			Others	Chance	
1	79	35.0	17.4	14.6	P
2	9	25.6	9.3	7.8	
3	46	36.5	10.6	8.6	I
4	22	35.7	25.0	21.6	P

Table 6

Mean I, P, C Scale Scores of Husbands' Cluster Analysis:
28 Clusters Specified

Cluster	n	Internal	Powerful Others	Chance	Highest Scale
1	17	37.5	17.2	14.2	I
2	9	38.0	14.4	9.4	I
3	10	39.4	19.0	9.0	I
4	5	33.2	19.6	10.4	P
5	10	30.3	14.5	13.0	C
6	2	25.3	16.7	13.0	P
7	3	37.3	12.7	19.7	C
8	5	41.6	12.0	15.4	I
9	8	34.1	9.6	13.8	C
10	1	39.0	0.0	17.0	I
11	9	36.3	9.2	5.1	I
12	4	35.4	5.6	8.2	I
13	4	41.3	5.5	4.0	I
14	3	31.8	2.8	4.5	I
15	1	39.0	36.0	15.0	P
16	1	28.0	34.0	16.0	P
17	2	35.5	27.0	5.0	P
18	6	38.5	25.3	12.0	P
19	8	37.1	19.3	18.1	C
20	1	41.0	23.0	22.0	C
21	3	41.7	21.3	14.3	P
22	5	39.8	30.6	24.6	P
23	10	32.8	23.6	19.7	P
24	6	32.4	17.7	20.4	C
25	2	22.5	22.0	23.0	C
26	5	27.2	27.2	22.2	P
27	3	37.0	23.0	29.0	C
28	2	26.0	20.0	31.5	C

Table 7

Mean I, P, C Scale Scores of Wives' Cluster Analysis:
28 Clusters Specified

Cluster	n	Internal	Powerful Others	Chance	Highest Scale
1	3	35.7	23.0	6.7	P
2	12	35.3	24.1	12.9	P
3	11	35.3	18.5	12.0	P
4	5	32.2	15.8	9.6	P
5	10	38.3	13.3	15.1	I
6	8	38.5	19.9	16.1	P
7	6	43.0	17.5	13.0	I
8	7	34.1	8.7	17.1	C
9	5	31.2	14.6	18.4	C
10	2	23.5	20.0	19.0	C
11	3	27.3	19.3	12.3	P
12	2	30.5	21.5	17.5	P
13	2	24.5	16.5	26.5	C
14	1	29.0	7.0	24.0	C
15	1	34.0	13.0	27.0	C
16	5	38.7	14.0	8.7	I
17	10	38.7	9.8	7.8	I
18	16	34.4	11.9	11.6	I
19	9	33.1	9.8	6.6	I
20	4	43.3	6.5	5.5	I
21	1	41.0	1.0	1.0	I
22	1	20.0	35.0	28.0	P
23	3	35.3	27.7	22.0	P
24	9	36.0	22.8	19.1	P
25	3	39.0	27.7	17.0	P
26	2	38.5	18.0	24.0	C
27	2	32.5	21.5	25.0	C
28	2	38.0	32.5	30.5	C

provide the mean I, P, and C scores of each cluster for husbands and wives, respectively. An examination of these mean scores and of the highest standard score of each subject within a particular cluster provided a strong theoretical basis for recombining these clusters into three groups for wives and three groups for husbands. The results of this recombination are provided in Table 8 for husbands and Table 9 for wives.

An inspection of Tables 8 and 9 revealed that the recombination of clusters greatly improved the discrimination among the three groups. For those designated high I scorers, the mean I scale score was above the sample mean, while the mean scale scores on the P and C scales were below the mean sample scores on these two scales. The only exceptions to these criteria were for husbands designated by high P scores who showed slightly elevated I and C scale scores, and for husbands designated by high C scores who showed slightly elevated P scale scores. For wives, groups of high I scores, high P scores, and high C scores were above the mean sample scores on each of these scales, while the remaining two scale scores were below the mean sample score in each case.

Criteria for Final Group Formation

The results of the cluster analyses provided the criteria used in this research for designating husbands and wives as either internals, defensive externals, or congruent externals. The mean scores in Tables 8 and 9 were converted to standard scores. This conversion revealed that the high I groups had mean standard scores on the I scale that exceeded their mean standard scores on the P and C scales by more than

Table 8
 Mean I, P, and C Scale Scores for the Recombination
 of Husbands' Twenty-eight Clusters

Designation	Cluster	n	Internal	Powerful Others	Chance
High I Scores	1	61	37.9016	13.2950	9.8852
High P Scores	2	33	35.9697	25.0606	16.0000
High C Scores	3	<u>51</u>	32.4314	16.9019	18.4509
		145			

Table 9
 Mean I, P, and C Scale Scores for the Recombination
 of Wives' Twenty-eight Clusters

Designation	Cluster	n	Internal	Powerful Others	Chance
High I Scores	1	61	37.4590	11.6393	10.1475
High P Scores	2	60	34.9500	21.7667	14.5500
High C Scores	3	24	32.1667	15.4583	21.3750
		<u>145</u>			

.5. The high P groups had mean standard scores on the P scale exceeding their mean standard scores on the I and C scales by more than .5. The high C groups had mean standard scores on the C scale exceeding their mean standard scores on the I and P scales by more than .5. The following criteria for designating individuals as internals, defensive externals, or congruent externals were therefore, applied to each subject:

1) Internals are those individuals whose standard score on the I scale exceeds their standard scores on the P and C scales by more than .5;

2) Defensive externals are those individuals whose standard score on the P scale exceeds their standard score on the I and C scales by more than .5;

3) Congruent externals are those individuals whose standard score on the C scale exceeds their standard score on the I and P scales by more than .5.

Couples in which both spouses met the above criteria ($n = 40$) were used to test the hypotheses regarding the direct and interaction effects of husbands' and wives' LOC on the reported marital adjustment of self and spouse. Tables 10, 11, and 12 provide the mean I, P, and C scale scores for these forty husbands, wives, and husband-wife interactions. As expected, these couples more adequately fit the criteria of internals, defensive externals, and congruent externals than the recombined clusters. In addition, mean I, P, and C scale scores for this group reveal virtually no difference in comparison to the total sample means for

Table 10

Mean I, P, and C Scale Scores for the n=40 Husbands
Designated as Internals, Defensive Exter-
nals, or Congruent Externals

Group	n	I Scale	P Scale	C Scale
Internals	18	38.89	10.89	8.84
Defensive Externals	10	34.69	27.20	12.60
Congruent Externals	<u>12</u>	30.99	17.00	21.33
	40			

Table 11

Mean I, P, and C Scale Scores for the n=40 Wives
 Designated as Internals, Defensive Exter-
 nals, or Congruent Externals

Group	n	I Scale	P Scale	C Scale
Internals	16	40.50	12.57	10.31
Defensive Externals	11	33.63	21.37	11.18
Congruent Externals	<u>13</u>	31.77	13.77	20.85
	40			

Table 12

Mean I, P, and C Scale Scores for the Interaction
of the n=40 Husbands and Wives Designated
as Internals (I), Defensive Externals (DE),
or Congruent Externals (CE)

Group	n	I Scale		P Scale		C Scale	
		H	W	H	W	H	W
HI*WI	8	38.88	42.00	11.00	13.13	10.13	11.00
HI*WDE	6	38.00	34.33	9.50	21.17	7.50	9.50
HI*WCE	4	40.25	31.75	12.75	14.75	8.25	20.25
HDE*WI	4	37.50	38.25	26.75	14.75	16.75	10.25
HDE*WDE	3	33.33	34.00	24.33	22.00	8.67	12.33
HDE*WCE	3	32.33	32.00	30.66	17.33	17.67	21.00
HCE*WI	4	32.75	39.75	16.50	9.25	20.00	9.00
HCE*WDE	2	28.00	31.00	24.00	21.00	26.00	14.50
HCE*WCE	6	30.83	31.67	15.00	11.33	20.66	21.17
	40						

these scales. Therefore, these couples appear to be representative of the larger sample from which they were chosen on the LOC dimension.

The relatively small cell sizes associated with the above groups were a concern to the investigator. To further explore the hypotheses regarding direct effects of husbands' and wives' LOC on their reports of marital adjustment, husbands and wives who individually met the criteria for designation as internals, defensive externals or congruent externals were used to form groups for a supplementary analysis. Tables 13 and 14 provide the mean I, P, and C scale scores for these husbands and wives. As can be seen the n for husbands was raised from 40 to 72 and for wives from 40 to 82. Unfortunately, this increase in subjects was accompanied by the inability to consider possible husband-wife interaction effects. However, the virtual equivalence of mean I, P, and C scale scores for these individual husbands and wives with the n = 40 couples used in the major analyses provided justification for this grouping procedure being used in an exploratory spirit.

This research addressed two separate but related issues. The first is the question of whether individual spouses' LOC beliefs have an effect on their own or their spouses reports of marital adjustment, or if particular husband-wife combinations of LOC beliefs have an effect on their reports of marital adjustment. The second issue is whether husband-wife differences in LOC beliefs have an effect on their reports of marital adjustment. Groups designated in the manner described above are appropriate for answering the first of these questions. Specifically these questions were:

Table 13

Husbands' Mean Scores on the I, P, and C Scales for Groups Meeting
the Criteria of Internals, Defensive Externals, and
Congruent Externals

Group	n	I Scale	P Scale	C Scale
Internals	40	39.00	11.95	9.45
Defensive Externals	13	34.46	28.08	13.85
Congruent Externals	<u>19</u>	31.84	18.05	22.74
	72			

Table 14

Wives' Mean Scores on the I, P, and C Scales for Groups Meeting
the Criteria of Internals, Defensive Externals, and
Congruent Externals

Group	n	I Scale	P Scale	C Scale
Internals	31	40.19	11.84	9.32
Defensive Externals	28	33.96	23.04	12.64
Congruent Externals	<u>23</u>	32.35	15.26	21.30
	82			

1) Do husbands' LOC orientations relative to that of other husbands affect the perceptions of marital adjustment of either self or spouse?

2) Do wives' LOC orientations relative to that of other wives affect the perceptions of marital adjustment of either self or spouse?

3) Is there an interaction effect of individual spouses' LOC orientation on their perceptions of marital adjustment?

Group Formation Based on Husband-Wife LOC Differences

To directly assess the effect of husband-wife differences in LOC beliefs on marital adjustment, a different grouping strategy was necessary. Husbands' and wives' I, P, and C scale scores were first converted to standard scores to facilitate comparison. The following cluster analyses were then performed utilizing the same criteria detailed for the separate husbands and wives groupings:

1) A cluster analysis of couple scores on the I scale (eighteen clusters specified);

2) A cluster analysis of couple scores on the P scale (nineteen clusters specified);

3) A cluster analysis of couple scores on the C scale (twenty clusters specified).

For each of the above analyses, the resulting clusters were combined into three groups as follows:

1) Husbands' mean standard score exceeds wives' mean standard score by .5 or more;

2) Wives' mean standard score exceeds husbands' mean standard score by .5 or more;

3) Husbands' and wives' mean standard score differ by less than .5.

Table 15 provides the mean I, P, and C scale scores for husbands and wives based on the recombining of the clusters produced in the cluster analyses. The three groups adequately meet the criteria of husbands' and wives' mean scores differing by more than or less than .5 of the standard score. However, an inspection of individual couples comprising each group revealed that a substantial number of these couples failed to fit the criteria for the group to which they were assigned. This was deemed undesirable for the purposes of this research. The decision was made, therefore, to use the underlying structure of the sample mean scores as the criteria for assigning individual couples to one of the three groups. This, of course, resulted in each couple fitting the characteristics of the group to which they were assigned. Tables 16, 17, and 18 provide the mean scores of husbands and wives for groups based on I, P, and C scale differences. These tables are characterized by relatively similar cell sizes and adequate discrimination between groups.

As an alternative way of examining the relationship between LOC differences and marital adjustment, two distinct groups comprising a sub-set of the entire sample were also compared. Groups were formed for this comparison based on the following criteria:

1) Group one was comprised of couples in which the husband scored higher on the I scale and lower on the P and C scales than his wife.

2) Group two was comprised of couples in which the wife scored higher on the I scale and lower on the P and C scales than her husband.

Table 15

Mean I, P, and C Scale Scores of Husbands and Wives for the
Recombined Clusters of Couple Scores on the I Scale,
the P Scale, and the C Scale

		I	P	C
*Group 1	n	44	52	57
Husbands		38.05	22.35	17.95
Wives		31.95	12.37	10.46
**Group 2	n	37	60	57
Husbands		30.81	12.90	10.68
Wives		38.67	20.37	17.26
***Group 3	n	64	33	31
Husbands		36.55	17.09	14.19
Wives		36.20	15.82	13.70
Total n		145	145	145

*Husbands' Mean Standard Score > .5 + Wives' Mean Standard Score

**Husbands' Mean Standard Score < .5 + Wives' Mean Standard Score

***Husbands' and Wives' Mean Standard Scores Differ By Less Than .5

Table 16

Mean Scores of Husbands and Wives on the I, P, and C Scales for
Couples Grouped on the Basis of I Scale Differences

Group	n	I Scale		P Scale		C Scale	
		H	W	H	W	H	W
Husband > Wife I Scale	49	38.40	32.41	17.38	17.53	13.75	14.86
Wife > Husband I Scale	40	31.18	38.70	18.33	15.50	17.28	13.30
Husband = Wife I Scale	56	36.14	36.04	16.34	16.21	12.63	13.30
Total	145						

Table 17

Mean Scores of Husbands and Wives on the I, P, and C Scales for
Couples Grouped on the Basis of P Scale Differences

Group	n	I Scale		P Scale		C Scale	
		H	W	H	W	H	W
Husband > Wife P Scale	54	35.22	35.18	22.15	12.26	16.44	12.50
Wife > Husband P Scale	55	36.04	35.15	12.56	20.76	11.74	14.47
Husband = Wife P Scale	36	35.25	36.69	17.03	16.19	14.94	14.83
Total	145						

Table 18

Mean Scores of Husbands and Wives on the I, P, and C Scales for
Couples Grouped on the Basis of C Scale Differences

Group	n	I Scale		P Scale		C Scale	
		H	W	H	W	H	W
Husband > Wife C Scale	50	35.00	36.82	19.30	14.00	18.96	10.62
Wife > Husband C Scale	52	36.19	34.82	15.08	18.55	10.12	17.31
Husband = Wife C Scale	43	35.37	34.93	14.47	16.79	13.90	13.35
Total	145						

This group formation procedure allowed for the comparison of couples in which the husband was consistently more internal than his wife with couples in which the wife was consistently more internal than her husband. Table 19 provides the mean I, P, and C scale scores of these two groups of couples.

Procedure for Hypothesis Testing

- Ho₁ There is no difference between husband LOC classifications on the mean scores of husbands and wives on consensus, cohesion, satisfaction, and affectional expression.
- Ho₂ There is no difference between wife LOC classifications on the mean scores of husbands and wives on consensus, cohesion, satisfaction, and affectional expression.
- Ho₃ There is no interaction effect between husbands' and wives' LOC classifications and their mean scores on consensus, cohesion, satisfaction, and affectional expression.

To test the above null hypotheses the following procedures were employed:

- 1) Husbands and wives were separately designated as internals, defensive externals or congruent externals as detailed earlier.
- 2) A multivariate analysis of variance was performed comparing the above groups on the eight dependent variables (husbands' and wives' mean scores on consensus, cohesion, satisfaction and affectional expression) with alpha set at .05. This procedure made possible the simultaneous testing of all three hypotheses.

Table 19

Mean, I, P, and C Scale Scores for Husbands and Wives in the Internal Husbands-External Wives and Internal Wives-External Husbands Groups

Group	n	I Scale		P Scale		C Scale	
		H	W	H	W	H	W
Internal-Husbands- External Wives	28	37.57	33.11	13.00	20.82	9.78	16.50
Internal Wives- External Husbands	<u>27</u>	32.70	38.04	20.85	11.52	18.78	10.48
Total	55						

3) The univariate analyses of variance comprising the multivariate test were examined to determine for which dependent variable(s) the multivariate effects were most pronounced.

4) Where significant univariate effects were found, a pairwise comparison of the least square means was employed to determine which groups differed significantly from one another.

5) Due to the fact that the original group formations resulted in a relatively small n (40 couples where both spouses met the criteria of either internals, defensive externals, or congruent externals) the main effects (H_{01} and H_{02}) were also examined independently. This resulted in the identical procedures above being used with the $n = 72$ husbands and $n = 82$ wives who individually met the grouping criteria based on their LOC scores.

H_{04} There is no difference between classifications of husband-wife LOC similarities on husbands' and wives' mean scores on consensus, cohesion, satisfaction, or affectional expression.

To test the above null hypothesis the identical procedures used in testing Hypotheses One, Two, and Three were employed with the groups formed on the basis of couple LOC differences on the I, P, and C scales. However, for the analysis involving the total sample ($n = 145$) alpha was established at .10 rather than .05. Given both the lack of extreme group formation on either the independent or dependent variable and the relative consequences of a Type I or Type II error, this was deemed appropriate.

Methodological Contributions of This Research

This research has demonstrated several methodological innovations that should be delineated:

1. For the first time a multidimensional LOC assessment instrument was used in relation to marital adjustment.
2. For the first time hierarchical cluster analysis procedures were used to provide a rationale for a more discriminating method of designating individuals as internals, defensive externals, or congruent externals based on their I, P, and C scale scores.
3. Groups were formed for hypothesis testing in such a manner that both the effects of individual spouse's LOC and relative husband-wife differences in LOC could be examined in relationship to marital adjustment.
4. Rather than conceptualizing marital adjustment as a unitary concept, the individual sub-scales of the Dyadic Adjustment Scale were used to assess the effects of LOC on four components of marital adjustment for both husband and wife simultaneously.

Limitations

- 1) Due to the nature of the sample employed in this research, married graduate students, the generalizability of results is severely limited beyond this population.
- 2) The use of a generalized LOC assessment instrument in a highly specific situation is associated with low levels of predictive utility (Rotter, 1975).

3) Reliance on a single level of measurement for both the independent and dependent variables fails to provide the richer matrix of information afforded by a multilevel assessment (Cromwell, Olson, and Fournier, 1976).

CHAPTER 4

Results

Response Rate

Five couples (2.4%) declined to participate in this study when initially contacted by the investigator. Of the 200 couples agreeing to participate, 80% (160 couples) returned the test materials within one month of the initial mailing. Of these 160 couples, 97.5% (156 couples) provided usable instruments for both husband and wife. Ten further couples were excluded from analysis on the basis of the initial cluster analysis on the I, P, and C scales. The final sample consisted of 145 couples.

Descriptive Statistics

Complete frequency distributions for demographic variables are located in Appendix E. The final sample, $n = 145$ couples, is all white. There are 74 full-time and 18 part-time graduate student husbands. There are 50 full-time and 34 part-time graduate student wives. Thirty-one couples in the sample represent husbands and wives who are both enrolled in graduate school. The mean age for husbands is 30.26 (S.D. = 6.53). The mean age for wives is 28.43 (S.D. = 6.09). Couples had been married for a mean of 5.35 years (S.D. = 5.41) and the marriage was the first for 90% of husbands and 93% of wives. Sixty-one percent of the couples were childless. Only 9% of husbands report being unemployed. Twenty-three percent of wives were unemployed. Fifty percent

of husbands and sixty-seven percent of wives earn less than \$10,000 per year. Only four couples where neither spouse is employed are represented.

Forty-three percent of wives and thirty-seven percent of husbands attend church services at least twice a month. Husbands and wives were nearly equally divided as to whether they experienced the demands of graduate school placing a strain on their marriage. Forty-nine percent of wives and forty-one percent of husbands reported such a strain. However, only 11 wives and 10 husbands reported having received marital counseling for relationship difficulties.

Sample Characteristics on Major Independent and Dependent Variables

Table 20 provides the means and standard deviations for husbands and wives on their Dyadic Adjustment Scale scores. Both husbands and wives score well about the mean (101.5) on total adjustment as reported by Spanier (1976). Likewise the standard deviation for total adjustment is only one-half as large as that reported by Spanier (28.3). On the basis of these scores it appears that this sample represents a well-adjusted group of marriages with a relatively small amount of variance in scores. Despite the small amount of variance in this sample, the reliability coefficients for the sub-scales of the Dyadic Adjustment Scale were uniformly high, as seen in Table 21. The correlations of the sub-scales for husbands, wives, and husbands with wives are reported in Tables 22, 23, and 24. As would be expected, all of the correlations are significant.

Table 20

Husbands' and Wives' Mean Scores and Standard Deviations on
the Dyadic Adjustment Scale

	n	Consensus		Cohesion		Satisfaction		Affectional Expression		Total	
		\bar{x}	S.D.	\bar{x}	S.D.	\bar{x}	S.D.	\bar{x}	S.D.	\bar{x}	S.D.
Husbands	145	48.64	5.34	16.78	3.35	40.75	4.95	8.83	2.03	114.98	13.23
Wives	145	49.94	6.79	17.16	3.60	41.29	5.35	8.81	2.28	117.21	15.49

Table 21

Cronbach's Coefficient Alpha for the Dyadic Adjustment Scale

	n	Consensus	Cohesion	Satisfaction	Affection	Total Score
Husbands	145	.7960	.7957	.8633	.6969	.9145
Wives	145	.8362	.8024	.8634	.7307	.9239

Table 22

Correlations Between Husbands' Dyadic Adjustment Sub-scale Scores, Husbands' Total Adjustment Scores, and Husband-Wife Total Adjustment Scores Combined

	Consensus	Cohesion	Satisfaction	Affectional Expression	Husbands Adjustment	Husband-Wife Adjustment
Consensus		.4873	.7238	.5853	.8873	.8213
Cohesion			.5876	.4077	.7323	.6174
Satisfaction				.6654	.9168	.8655
Affectional Expression					.7414	.7229
Husbands' Adjustment						.9222
Husband-Wife Adjustment						

88

p < .0001 for all correlations

Table 23

Correlations Between Wives' Dyadic Adjustment Sub-scale Scores, Wives' Total Adjustment Scores, and Husband-Wife Total Adjustment Scores Combined

	Consensus	Cohesion	Satisfaction	Affectional Expression	Wives Adjustment	Husband-Wife Adjustment
Consensus		.5427	.7389	.61097	.9098	.8481
Cohesion			.6299	.4665	.7566	.6933
Satisfaction				.6531	.9119	.8915
Affectional Expression					.7491	.7000
Husbands Adjustment						.9439
Husband-Wife Adjustment						

p < .0001 for all correlations

Table 24

Correlations Between Husbands' and Wives' Dyadic Adjustment Sub-scale
and Total Adjustment Scores

		Husbands				
		Consensus	Cohesion	Satisfaction	Affection	Adjustment
Wives	Consensus	.6592	.3994	.6234	.4560	.6643
	Cohesion		.4562	.4350	*.2475	.4437
	Satisfaction			.7492	.5166	.7158
	Affection				.6675	.6187
	Adjustment					.7429

*p = .0026

p < .0001 for all other correlations

The mean scores and standard deviations for husbands and wives on the I, P, and C scales are reported in Table 25. These scores are virtually identical to those reported for a normal adult population previously (Levenson, 1973a). Tables 26, 27, and 28 provide the correlations of husbands', wives', and husbands'with wives' scores on the I, P, and C scales. Consistent with previous research findings (Levenson, 1973a, 1974), the P and C scales are positively correlated ($p < .001$) for both husbands and wives. The negative correlation between the I and C scales is also significant ($p < .001$) and is in keeping with the theoretical underpinnings of these scales. It is also noted that wives' scores on the C scale are positively correlated with their husbands' scores on the P and C scales ($p < .01$), suggesting an association between the degree of externality in the couples comprising this sample.

Tables 29 and 30 provide correlations of husbands' and wives' I, P, and C scale scores with age, length of marriage, the number of times married, and number of children. The P scale was found to be negatively correlated with wives' age ($r = 0.1738$) and positively correlated with husbands' age ($r = .1874$) and length of marriage ($r = .1818$). For this sample, wives tend to have lower beliefs in control by powerful others with increasing age while the opposite is found to be the case for their husbands. This interesting finding, however, accounts for less than 4% of the variance on the P scale and neither the I nor the C scale was significantly correlated with age, suggesting that this variable does not seriously confound the relationships explored between LOC and marital adjustment in this study.

Table 25

Mean I, P, and C Scale Scores for Husbands and Wives

	n	I Scale		P Scale		C Scale	
		\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.
Husbands	145	35.53	4.50	17.24	7.03	14.28	6.38
Wives	145	35.54	4.27	16.46	6.38	13.82	5.78

Table 26
Intercorrelations of Husbands' Scores on the
I, P, and C Scales

	I	P	C
I			
P	- .1110		
C	*- .2761	* .5465	

*p < .001

Table 27
Intercorrelations of Wives' Scores on the
I, P, and C Scales

	I	P	C
I			
P	- .1258		
C	*- .2715	* .4992	

*p < .001

Table 28
 Correlations of Husbands' and Wives' Scores on the
 I, P, and C Scales

		Husbands		
		I	P	C
Wives	I	.0752	-.0478	-.0178
	P	.0214	.1537	.0701
	C	-.0564	*.2208	*.2786

*p < .01

Table 29
Correlations of Wives' Demographic Variables with the
I, P, and C Scales

Variables	I	P	C
Age	-.0226	*-.1738	-.0673
Years Married	.0005	-.1103	.0191
Times Married	.0146	-.0546	-.0711
Number of Children	.0406	-.0737	.0017

*p = .0305

Table 30

Correlations of Husbands' Demographic Variables with the
I, P, and C Scales

Variables	I	P	C
Age	.1281	*.1874	.1101
Years Married	.0998	*.1818	.0982
Times Married	.0134	.0056	.0166
Number of Children	.0372	.0894	-.0165

*p < .05

Results of Hypotheses Related to Individual

Spouse's LOC

Two null hypotheses related to the effects of an individual spouse's LOC on the perceived marital adjustment of husband and wife were tested. In addition, one null hypothesis regarding the interaction effects of individual spouses' LOC on the perceived marital adjustment of husband and wife was also tested. These three hypotheses are as follows:

- Ho₁ There is no difference between husband LOC classifications on the mean marital adjustment scores of both husbands and wives.
- Ho₂ There is no difference between wife LOC classifications on the mean marital adjustment scores of both husbands and wives.
- Ho₃ There is no interaction effect between husband's and wife's LOC classifications and the mean marital adjustment scores of both husbands and wives.

Table 31 provides the multivariate significance tests for the three hypotheses addressed in this section. An inspection of this table reveals that null hypotheses one and two are retained at the .05 level of significance. No multivariate effect of spousal LOC classifications on marital adjustment was found for either husbands or wives. Null hypothesis three is rejected at the .05 level. Support is provided by this analysis for an interaction effect of husbands' and wives' LOC classifications on husbands' and wives' subjective evaluations of their marital adjustment. However, the multivariate

Table 31

Manova Test Criteria for the Hypotheses of No
 Overall Effect for Husbands' LOC Classifications,
 Wives' LOC Classification, and Husbands' and
 Wives' Classification Interaction

Effect Variable	Wilk's Criterion		
	Lamba	F	p
Husbands' LOC	.6493	.72	.7574
Wives' LOC	.8161	.32	.9922
Husbands'-Wives' LOC Classification	.1844	1.64	.0364

significance test does not show which dependent variables this effect is strongest for or which of the possible group interactions is responsible for this effect.

An inspection of Table 32, which provides the results of the univariate analyses of variance for this interaction on the eight dependent variables, aids in determining on which particular dependent variables this interaction effect is strongest. The dependent variable, husbands' affectional expression, is seen to be the most strongly affected by the husband-wife LOC interaction. However, this effect is not significant at the .05 level ($p = .0756$).

There are several statistical cautions associated with further exploring the interaction effect on husbands' affectional expression. The first is the small cell sizes (average of $n = 4$) associated with the interacting groups responsible for the effect. The second is that although a significant multivariate effect was found ($p = .0364$), none of the univariate tests was significant at the .05 level. Therefore, the following group comparisons are presented in a heuristic, exploratory spirit.

Table 33 provides the results of the pairwise comparisons of the least square mean scores on husbands' affectional expression for each of the nine interacting groups. The internal husbands-defensive external wives group is significantly higher on husbands' affectional expression than the defensive external husbands-defensive external wives group, the defensive external husbands-congruent external wives group, and the congruent external husbands-internal wives group.

Table 32

Analysis of Variance of Dependent Variables for the Hypotheses of No Effect for Husbands' LOC, Wives', or Husbands'-Wives' LOC Interaction on Couples' Marital Adjustment

Source	Dependent Variables															
	Husbands' Consensus		Husbands' Cohesion		Husbands' Satisfaction		Husbands' Affection		Wives' Consensus		Wives' Cohesion		Wives' Satisfaction		Wives' Affection	
	F	p	F	p	F	p	F	p	F	p	F	p	F	p	F	p
Husbands' LOC	.71	.5014	.75	.4793	.49	.6176	1.75	.1908	.10	.9007	.28	.7563	.18	.8335	.25	.7833
Wives' LOC	1.54	.2305	.54	.5870	.59	.5604	.90	.4175	.77	.4699	.17	.8463	1.64	.2101	.35	.7058
Husbands' * Wives'	1.24	.3130	.85	.5050	.06	.9932	2.35	.0756	.75	.5670	.90	.4736	1.11	.3691	1.84	.1466

Table 33

Probabilities Associated with the Pairwise Comparisons of the Least Square Mean Scores on Husbands' Affection for the Husbands-Wives LOC Group

Group	n	LS Mean	HI WI	HI WDE	HI WCE	HDE WI	HDE WDE	HDE WCE	HCE WI	HCE WDE	HCE WCE
HI*WI	8	8.75									
HI*WDE	6	10.00	.16								
HI*WCE	4	8.50	.90	.16							
HDE*WI	4	9.25	.62	.48	.52						
HDE*WDE	3	7.33	.20	<u>.02</u>	.35	.13					
HDE*WCE	3	7.00	.12	<u>.01</u>	.23	.08					
HCE*WI	4	7.25	.14	<u>.01</u>	.28	.09	.94	.84			
HCE*WDE	2	10.00	.34	1.00	.29	.59	.08	.05	.06		
HCE*WCE	<u>6</u>	9.00	.78	.29	.64	.81	.16	.09	.10	.46	
	40										

(Key I = internal, DE = defensive external, CE = congruent external, H = Hisband, W = Wife.)

No other comparisons were significant at the .05 level. From these results the following tentative conclusion emerges regarding the interaction effect of husband-wife LOC on husbands' affectional expression:

1) Husbands reporting the highest levels of affectional expression are those who are members of the internal husbands-defensive external wives group.

Due to the small cell sizes associated with the above analyses a supplementary analysis of the direct effects of husbands' and wives' LOC on their marital adjustment was conducted. This analysis used the 72 husbands and 82 wives who individually met the criteria of internals, defensive externals, or congruent externals. The interaction effect between husbands' and wives' LOC was, of course, not accounted for in this particular analysis.

Table 34 provides the MANOVA test criteria for the hypothesis of no multivariate effect for the $n = 82$ wives' LOC on the reported marital adjustment of both spouses. The results indicate that the null hypothesis is retained. Table 35 provides the univariate analyses of variance for the components of the multivariate test. As expected from the multivariate results, no significant relationship emerges between wives' LOC on any of the eight dependent variables.

Table 36 provides the MANOVA test criteria for the hypothesis of no multivariate effect for the $n = 72$ husbands' LOC on spouses reports of marital adjustment. The results indicate that this null hypothesis is retained. However, an examination of Table 37 reveals significant univariate effects on husbands' consensus ($p = .0109$) and husbands'

Table 34
Manova Test Criteria for the Hypothesis of No Overall
Effect for Wives' LOC Classifications

Effect	n	Wilk's Criterion		
		Lamba	F	p
Wives' LOC	83	.8927	.53	.9304

Table 35

Analysis of Variance of the Dependent Variables for the Tests of No Effects of Wives' LOC on Marital Adjustment

Source	n	Husbands Consensus		Husbands Cohesion		Husbands Satisfaction		Husbands Affection		Wives Consensus		Wives Cohesion		Wives Satisfaction		Wives Affection	
		F	p	F	p	F	p	F	p	F	p	F	p	F	p	F	p
Wives' LOC	82	.35	.7060	.83	.4378	.33	.7200	.12	.8897	.19	.8234	.08	.9196	.30	.7443	.65	.5243

Table 36
Manova Test Criteria for the Hypothesis of No Overall
for Husbands' LOC Classifications

Effect	n	Wilk's Criterion		
		Lamba	F	p
Husbands LOC	72	.7239	1.36	.1737

Table 37

Analysis of Variance of the Dependent Variables for the Tests of No Effects of
Wives' LOC on Marital Adjustment

Source	n	Dependent Variables																															
		Husbands Consensus				Husbands Cohesion				Husbands Satisfaction				Husbands Affection				Wives Consensus				Wives Cohesion				Wives Satisfaction				Wives Affection			
		F	p	F	p	F	p	F	p	F	p	F	p	F	p	F	p	F	p	F	p	F	p	F	p								
Husbands' LOC	72	4.83	.0109	.85	.4300	3.06	.0534	2.13	.1271	.29	.7464	1.58	.2140	.63	.5332	1.06	.3517																

satisfaction scores ($p = .0535$). None of the remaining six univariate tests approach significance at the .05 level.

Tables 38 and 39 provide the results of the pairwise group comparisons between internal, defensive external, and congruent external husbands on the variables husband consensus and satisfaction. On consensus, internal husbands scored significantly higher than congruent external husbands ($p = .0027$). On the variable husband satisfaction, internal husbands scored significantly higher than defensive externals ($p = .0430$) and higher than congruent external husbands ($p = .0630$). The trend of internal husbands scoring higher than either defensive or congruent externals held true for the remaining husband dependent variables (cohesion and affectional expression) and three of the four wife dependent variables (consensus, satisfaction, and affectional expression), although these differences were nonsignificant at the .05 level.

The results of the separate husband analyses, within the limitations previously addressed, indicate that internal husbands experience greater consensus than congruent external husbands and greater satisfaction than either defensive or congruent external husbands. As noted above, this trend toward higher marital adjustment of internal husbands and, to a much lesser extent their wives, held true for seven of the eight dependent variables. These findings are consistent with the portrait typically portrayed of internals as compared to externals-- higher achievers, better adjusted, and more active in their problem-solving attempts (Lefcourt, 1976). However, the lack of a significant multivariate effect for husbands' LOC suggests that these benefits are

Table 38

Probabilities of the Pairwise Comparisons of the Least Square
 Mean Scores on Husbands' Consensus for Internal Husbands,
 Defensive External Husbands, and Congruent External Husbands

LS Means	Group	n	Internal	Defensive External	Congruent External
49.89	Internal	40			
48.92	Defensive External	13	.3894		
46.84	Congruent External	<u>19</u>	.0027	.1063	
		72			

Table 39

Probabilities of the Pairwise Comparisons of the Least Square Mean Scores on Husbands' Satisfaction for Internal Husbands, Defensive External Husbands, and Congruent External Husbands

LS Means	Group	n	Internal	Defensive External	Congruent External
42.24	Internal	40			
39.77	Defensive External	13	.0430		
40.26	Congruent External	$\frac{19}{72}$.0630	.7153	

experienced most by husbands, and are not necessarily shared by their wives. In addition, the lack of any significant findings for the main effects of husbands' LOC when the interaction effect of husbands' and wives' LOC is accounted for suggests that the univariate effects that emerge when husbands' LOC is isolated are better accounted for by the simultaneous consideration of their wives' LOC.

Summary of Hypothesis Testing Involving Individual Spouses' LOC Classifications

Ho₁ There is no difference between husbands' LOC classifications on husbands' and wives' mean marital adjustment scores.

This null hypothesis is retained although some support for the following qualifiers is provided:

1) Husbands' LOC classifications seem to have a greater effect on the couples' reports of marital adjustment than the LOC classifications of wives.

2) This relatively stronger effect is primarily associated with the internal husbands' reports of higher levels of consensus and satisfaction.

These qualifying remarks provide partial confirmation of previous research findings which have suggested that the husband's personality characteristics are related, more so than his wife's, to reported levels of marital adjustment (Barry, 1970). In addition, the trend toward higher adjustment scores for couples in which the husband expresses an internal LOC is consistent with the positive characteristics which

typically characterize this orientation (Joe, 1971; Lefcourt, 1976; Strickland, 1977).

Ho₂ There is no difference between wives' LOC classifications on husbands' and wives' mean marital adjustment scores.

This null hypothesis is unconditionally retained.

Ho₃ There is no interaction effect between husbands' and wives' LOC classifications on husbands' and wives' mean marital adjustment scores.

This null hypothesis is rejected at the .05 level of significance. A significant multivariate effect for the interaction of husbands' and wives' LOC was found. The univariate analyses of variance revealed that this interaction effect was most evident for husbands' affectional expression ($p = .0756$). The pairwise comparisons on husbands' affectional expression revealed that significant differences were mainly attributable to high scores of the internal husbands-defensive external wives group on this variable. This pattern, of internal husbands-defensive external wives scoring highest relative to other combinations, although associated with nonsignificant group differences, is found on five of the seven remaining dependent variables. Tentative evidence is provided for this combination of LOC styles being optimal for a couple's marital adjustment. However, the small cell sizes and lack of significant univariate effects makes this interpretation suggestive at best.

Contrary to the findings of Rantuccio (1979) and Griffith (1978), a significant relationship between LOC and marital adjustment was found.

This, in and of itself, was hardly a breathtaking discovery, for others (Doherty, 1981; Mlott & Lira, 1977) had also found a significant relationship between these variables. However, these researchers had found that the marital pattern of husbands being more internal than their wives was associated with low levels of marital adjustment. The findings of the present investigation indicated the opposite. This inconsistency is addressed in the discussion section of this chapter.

Hypothesis Involving Husband-Wife LOC Differences

Ho₄ There is no difference between classifications of husband-wife LOC similarities on husbands' and wives' mean marital adjustment scores.

Groups for the initial testing of this hypothesis were formed on the basis of husband-wife differences on the I, P, and C Scales considered individually. Couples were assigned to one of these groups on the basis of their scores such that for the I, P, and C scales:

- 1) Group one was composed of couples in which the husband's standard score exceeded that of his wife by more than .5;
- 2) Group two was composed of couples in which the wife's standard score exceeded that of her husband by more than .5;
- 3) Group three was composed of couples in which the husband's and wife's standard scores differed by less than .5.

Table 40 provides the MANOVA test criteria for the hypothesis of no multivariate effect for degree of husband-wife LOC differences. Both the C and I scale groupings were found to produce a significant

Table 40

Manova Test Criteria for the Hypothesis of No Overall Effect
for Husband-Wife LOC Differences

Effect	n	Wilk's Criterion		
		Lamba	F	p
I Scale	145	.8086	1.55	.0830
P Scale	145	.8494	1.18	.2856
C Scale	145	.7641	2.00	.0144
I * P Scales	145	.7452	1.07	.3740
I * C Scales	145	.7292	1.15	.2694
P * C Scales	145	.7242	1.17	.2402
I * P * C Scales	145	.5241	1.20	.1473

multivariate effect on husbands' and wives' reported marital adjustment ($p = .0144$, and $p = .0830$, respectively).

Table 41 provides the results of the separate univariate analyses of variance comprising the multivariate test. The C scale groups are seen to have a significant effect on husbands' consensus ($p = .0017$) and to a lesser extent on wives' consensus ($p = .0515$). Tables 42 and 43 provide the probabilities for the pairwise comparisons of the least square means of husbands' and wives' scores on consensus for the three C scale groups. An inspection of these tables reveals that the Couples Equal on C reported the lowest levels of consensus by both husbands and wives. On husbands' consensus this group differed significantly from both the Husbands Higher ($p = .0005$) and Wives Higher ($p = .0063$) groups, while for wives the Couples Equal group was significantly lower on consensus than the Wives Higher group alone ($p = .0152$). Therefore, the significant multivariate effect of C scale differences on marital adjustment is found to be primarily a function of its effect on the consensus variables.

These findings, considered alone, are unanticipated and difficult to interpret in light of previous research on marital adjustment and LOC. However, it must be remembered that there was also a significant I scale effect for husbands' consensus ($p = .0676$). Husbands whose wives scored higher on the I scale reported significantly lower consensus scores ($p = .0206$) than husbands who scored higher on the I scale than their wives. An examination of the I by C scale groups interaction on this variable is likewise revealing. For the $n = 11$ couples in which

Table 41

Analysis of Variance of Dependent Variables for Hypothesis of No Effect for
Husband-Wife LOC Differences on their Marital Adjustment

Source	n	Dependent Variables																															
		Husbands Consensus				Husbands Cohesion				Husbands Satisfaction				Husbands Affection				Wives Consensus				Wives Cohesion				Wives Satisfaction				Wives Affection			
		F	p	F	p	F	p	F	p	F	p	F	p	F	p	F	p	F	p	F	p	F	p	F	p	F	p						
I Scale	145	2.76	.0676	3.68	.0281	1.83	.1652	4.12	.0186	.11	.8993	1.71	.1845	1.01	.3684	1.20	.3061																
P Scale	145	.31	.7314	.78	.4607	.41	.6635	2.41	.0946	.45	.6400	1.14	.3227	.05	.9518	1.07	.3475																
C Scale	145	6.73	.0017	.37	.6942	.96	.3841	.06	.9382	3.04	.0515	1.57	.2129	.41	.6627	.09	.9117																
I * P Scales	145	.29	.8819	.21	.9329	.36	.8360	1.04	.3915	2.09	.0871	1.51	.2045	.56	.6935	.48	.7530																
I * C Scales	145	1.41	.2353	.81	.5220	1.04	.3917	2.42	.0524	1.00	.4109	.14	.9668	.53	.7142	1.04	.3919																
P * C Scales	145	.19	.9438	.60	.6614	.23	.9207	2.04	.0928	1.37	.2496	.75	.5580	1.32	.2649	.79	.5321																
I * P * C Scales	145	2.55	.0134	.55	.8178	.87	.5411	1.37	.2164	1.75	.0933	.84	.5708	.82	.5899	1.02	.4272																

Table 42

Probabilities of the Pairwise Comparisons of Least Square
Mean Scores of Husbands' Consensus for the Three
C Scale Standard Score Groups

Group	n	LS Means	Husbands Higher	Wives Higher	Couples Equal
Husband > .5 + Wife on C Scale	50	49.91			
Wife > .5 + Husband on C Scale	52	49.09	.4986		
Couple Equal on C Scale	<u>43</u> 145	45.34	.0005	.0063	

Table 43

Probabilities of the Pairwise Comparisons of Least Square
Mean Scores on Wives' Consensus Differing Between the Three
C Scale Standard Score Groups

Group	n	LS Means	Husbands Higher	Wives Higher	Couples Equal
Husbands > .5 + Wife on C Scale	50	49.88			
Wives > .5 + Hus- bands on C Scale	52	51.72	.2521		
Couples Equal on C Scale	<u>43</u> 145	47.30	.1322	.0152	

the wife is higher than the husband on the I scale and husband and wife are equal on the C scale both husbands and wives report the lowest levels of consensus of the nine possible groups. Table 44 shows that for husbands' consensus this particular couple combination of LOC scores is significantly lower ($p < .01$ for six and $p < .05$ for the remaining two) than every other possible LOC combination. It appears, therefore, that the low consensus scores for the Couples Equal on C are in large part a function of this group's interaction with the I scale group of husbands who are less internal than their wives.

The examination of the significant multivariate I scale effect reinforces the above conclusion. Table 31 showed that the I scale groups had an effect on husbands' consensus ($p = .0676$) and a significant effect on husbands' cohesion ($p = .0281$) and husbands' affection ($p = .0186$). Tables 45, 46, and 47 provide the pairwise comparisons of the least squares mean scores for these variables. For each of these comparisons, husbands who were higher on the I scale than their wives obtained the highest scores while husbands who were lower on the I scale than their wives obtained the lowest scores. Couples equal on the I scale had husbands who obtained intermediate scores. This pattern held true for seven of the eight dependent variables. On husbands' consensus the higher scoring I scale husbands scored significantly higher than the lower scoring I scale husbands ($p = .0206$). On husbands' cohesion and affection the higher scoring I scale husbands scored significantly higher than both of the two remaining groups ($p < .05$). There is consistent support for the pattern of

Table 44

Probabilities for the Pairwise Comparisons of the Least Square Means for the Interaction of the I and C Scale Groups on Husbands Consensus Scores

Group	n	LS Means	1	2	3	4	5	6	7	8	9
1) H > W on I - H > W on C	15	51.11									
2) H > W on I - H < W on C	21	50.75	.85								
3) H > W on I - H = W on C	13	47.11	.09	.11							
4) H < W on I - H > W on C	21	49.63	.44	.54	.28						
5) H < W on I - H < W on C	8	48.14	.23	.28	.71	.54					
6) H < W on I - H = W on C	11	41.42	<u>.0001</u>	<u>.0002</u>	<u>.04</u>	<u>.0009</u>	<u>.02</u>				
7) H = W on I - H > W on C	14	48.98	.28	.35	.43	.73	.73	<u>.0025</u>			
8) H = W on I - H < W on C	23	48.38	.13	.17	.57	.48	.91	<u>.0033</u>	.74		
9) H = W on I - H = W on C	19	47.48	.04	.06	.86	.23	.78	<u>.0105</u>	.41	.58	

Table 45

Probabilities of the Pairwise Comparisons of Least Square
Mean Scores on Husbands' Consensus for the Three
I Scale Standard Score Groups

Group	n	LS Means	Husbands Higher	Wives Higher	Couples Equal
Husband > .5 + wife on I Scale	49	49.65			
Husband < .5 + wife on I Scale	40	46.39	.0206		
Couple Equal on I Scale	<u>56</u> 145	48.28	.2352	.1452	

Table 46

Probabilities of the Pairwise Comparisons of Least Square
Mean Scores on Husbands' Cohesion for the Three
I Scale Standard Score Groups

Group	n	LS Means	Husbands Higher	Wives Higher	Couples Equal
Husband > .5 + wife on I Scale	49	17.87			
Husband < .5 + wife on I Scale	40	15.59	.0171		
Couples Equal on I Scale	<u>56</u>	16.09	.0246	.5692	
	145				

Table 47

Pairwise Comparisons of the Least Square Mean Scores
on Husbands' Affectional Expression for the Three
Standard Score Groups on the I Scale

Group	n	LS Means	Husbands Higher	Wives Higher	Couples Equal
Husband > .5 + wife on I Scale	49	9.46			
Husband < .5 + wife on I Scale	40	7.97	.0076		
Couples Equal on I Scale	<u>56</u> 145	8.47	.0323	.3236	

husbands scoring higher than their wives on the I scale being associated with higher levels of reported marital adjustment for husbands. However, support for this pattern being experienced as positively in relation to reports of marital adjustment of wives is not apparent. Therefore, the multivariate effect associated with I scale differences of husbands and wives seems primarily to be a function of the husbands' marital adjustment scores.

The final analysis of this research involves a comparison of couples in which the husbands are consistently more internal than their wives on all three scales (i.e., higher on the I scale and lower on the P and C scales) with couples in which the wives are consistently more internal than their husbands on the three LOC scales. Table 48 presents the MANOVA test criteria for the hypothesis of no multivariate effect for the internal husbands-external wives and internal wives-external husbands distinction on the couple's reported marital adjustment. This null hypothesis is clearly rejected at the .05 level of significance. Table 49, which provides the results for the corresponding univariate analyses, indicates a significant effect for husbands' consensus ($p = .0314$), husbands' affectional expression ($p = .0130$) and wives' consensus ($p = .0430$). In each case, the more internal husbands scored higher than the less internal husbands, and the less internal wives scored higher than the more internal wives. This pattern, though non-significant, was evident for each of the remaining five dependent variables. Although the multivariate effect seems most pronounced for

Table 48

Manova Test Criteria for the Hypothesis of No Overall
Effect for Internal Husbands-External Wives Versus In-
ternal Wives-External Husbands

Effect Variable	n	Wilk's Criterion		
		Lamba	F	p
Internal Husbands-External Wives versus Internal Wives-External Husbands	55	.6421	3.20	.0056

Table 49

Analysis of Variance of Dependent Variables for the Test of No Effects of Internal Husbands-
External Wives Versus Internal Wives-External Husbands on Couples Marital Adjustment

Source	n	Dependent Variables															
		Husbands Consensus		Husbands Cohesion		Husbands Satisfaction		Husbands Affection		Wives Consensus		Wives Cohesion		Wives Satisfaction		Wives Affection	
		F	p	F	p	F	p	F	p	F	p	F	p	F	p	F	p
Husbands more in- ternal than their wives vs wives more internal than their husbands	55	4.89	.0314	2.49	.1208	2.43	.1250	6.61	.0130	4.30	.0430	.29	.5928	.08	.7756	.11	.7420

husbands' reports of marital adjustment, there is also one significant univariate effect for wives (consensus).

Summary of Findings Related to the Hypothesis
of Husband-Wife LOC Differences

Ho₄ There is no difference between degrees of similarity between husbands' and wives' LOC scores on couples' mean marital adjustment scores.

This hypothesis is rejected at the .10 level of significance. For the multivariate test involving the total sample, both the C and I scale distinctions were significant. The C scale distinctions among couples were most related to husbands' and wives' reports of consensus, with couples equal on the C scale reporting low consensus. However, the interpretation of this finding relied heavily on the interaction effect with wives who scored higher on the I scale than their husbands. The multivariate effect for the I scale groups was primarily a function of husbands' scores on consensus, cohesion, and affectional expression. In each case, the husbands scoring higher on the I scale than their wives reported significantly higher scores than the husbands who scored lower on the I scale than their wives.

The findings for the sub-set of 55 couples in which the husband was consistently more internal than his wife or the wife was consistently more internal than her husband reinforces the above findings at the .05 level of significance. A rather clear picture emerges for husbands, and to a lesser degree for wives, in which the more internal husband group is

associated with couples' reports of higher consensus and husbands' reports of higher affectional expression.

Discussion

The results of the analyses presented in this chapter suggest several areas for discussion. The first concerns the utility of Levenson's I, P, and C Scales (Levenson, 1972) in the study of marital adjustment. The findings of this research suggest that the multi-dimensional assessment of LOC afforded by this instrument may be superior to that of Rotter's unidimensional scale (Rotter, 1966) in terms of predictive utility. Although the Rotter I-E scale has been found to discriminate between extreme groups of marital adjustment scores, its ability to make such discriminations within a homogeneous population has yet to be demonstrated. In the study most comparable to the present investigation, Rantuccio (1979) failed to find significant differences between college couples grouped on the basis of husband-wife LOC differences as measured by the Rotter I-E scale. Although differences in samples could account for these contrary findings, it seems possible that these differences could be better explained by differences in instrumentation. However, the use of both instruments with the same sample would, of course, provide a more definitive answer to this question.

The significant multivariate effect for the interaction of husbands and wives designated as internals, defensive externals, or congruent externals is interesting in several ways. First, the emergence of a

significant interaction in the absence of significant main effects for either husbands or wives suggests that it is not husbands' or wives' LOC beliefs alone, but the manner in which they interact that influences marital adjustment. This is consistent with the conclusion of Doherty (1981). In the present investigation it was the positive effect of the interaction between internal husbands and their defensive external wives on husbands' affectional expression which was most pronounced. This dependent variable refers to the extent of agreement regarding demonstrations of affection and sex relations and whether or not these areas have presented recent problems in the relationship. Internal husbands with defensive external wives reported the highest scores on this variable. From this finding one could tentatively conclude that internal husbands whose wives are only moderately less inclined to believe in personal control, slightly less inclined to believe in control by chance, and much more likely to believe in control by powerful others (husbands?) are those most likely to report high levels of adjustment in the area of affectional expression. However, the small cell sizes involved in this multivariate test relegate such inferences to the domain of hypotheses to be tested.

The significant univariate effects for husbands' LOC when the LOC of their wives was not taken into account must be interpreted with caution for several reasons. First, it must be remembered that the multivariate test for this analysis was nonsignificant. Second, the findings of a significant multivariate interaction effect for husband-wife LOC and the significant multivariate effects which emerged for

husband-wife LOC differences argue against interpreting the effects of one spouse's LOC without taking into account the LOC orientation of the other. This suggests that the findings from studies involving the LOC of only one spouse (Constantine, 1979; Janoff-Bulman, 1981) need to be interpreted with special caution. Therefore, it appears appropriate to suggest that the significance of the separate husbands' and wives' analyses resides simply in the greater relative effect which husbands' LOC, as compared to that of their wives, seems to hold for consensus and satisfaction within the marriage. However, this relatively stronger effect is primarily the result of internal husbands' reports of higher consensus and satisfaction and has less to do with the reported adjustment of their wives. Therefore only slight support was provided for the generalization that the marital adjustment of wives is more contingent on the personality characteristics of their husbands than the marital adjustment of husbands is on the personality characteristics of their wives (Barry, 1970; Doherty, 1981).

Taken as a whole, the results of this research are supportive of the position advanced by Doherty (1981) that it is not the absolute strength of LOC beliefs but the LOC positions of spouses relative to one another which influences marital adjustment. The initial support for this assumption comes from the findings of significant multivariate effects for the interaction of husbands' and wives' LOC in the absence of significant main effects. The second area of support for this assumption stems from the results obtained by grouping couples on the basis of relative differences on the I, P, and C scales. However,

Doherty (1981) concluded that in regard to LOC "only one form of dissimilarity was associated with marital dissatisfaction, namely, the more external wife and more internal husband" (p. 376). The results of the present investigation indicate that a simple consideration of similarity-dissimilarity in LOC might not be adequate in explaining the relationship of this variable to marital adjustment. The interpretation of this relationship can be enhanced by a consideration of the concept of hierarchy (Haley, 1976; Madanes, 1981).

Within a family context symptomatic behavior can be viewed as an expression of incongruence in the family hierarchy (Haley, 1976). Such incongruence is typically the result of one individual entering into a coalition with another family member that violates a generational boundary. This might include a mother entering into a coalition with her daughter against the husband or a husband involved in a coalition with his mother against his wife. Such confusion in hierarchy can be seen as violating the organizational structure of the family and resulting in ambiguity as to who are one's peers and who are one's superiors. Much less attention has been given to the concept of hierarchy with the marital dyad. However, Madanes (1981) maintains that symptoms in a spouse can be a metaphorical expression of an undefined power structure around a specific marital issue. Unlike Madanes, the present investigation indirectly addresses marital hierarchy in a general sense only. However, to the degree that spousal differences in LOC beliefs correlate with marital hierarchy, the results indicate that a general defining of the hierarchy may be associated with higher levels of marital adjustment.

The significant multivariate effect on the C scale was found to be primarily a function of the dependent variable consensus. This variable refers to the extent of agreement between husband and wife on issues considered to be of importance to their relationship.

For husbands' consensus scores, couples obtaining equal scores on the C scale report significantly lower scores than either couples where the husband or wife was higher on the C scale. This could suggest that for couples where either spouse takes a relatively more active, assertive, independent position in the marriage (clear hierarchy) greater consensus is reported by husbands than when neither spouse is defined as the leader. For wives' consensus scores, this significant difference was found only for the case where the husband appears to be the defined leader.

Additional support for the assumed importance of hierarchical clarity is provided by the examination of the I by C scale interaction on husbands' and wives' consensus. If one ignores the twenty-three couples (16%) comprising the two theoretically inconsistent LOC groups (where husbands are higher than their wives on both the I and C scales or lower than their wives on both the I and C scales), an interesting pattern emerges regarding degree of couple consensus and husband-wife hierarchy. For both husbands and wives, the LOC group reporting the highest consensus is comprised of husbands scoring higher on the I scale and lower on the C scale than their wives. In this case a congruent hierarchy can be thought to exist with the husband theoretically more independent, active in problem solving, assertive, and achieving

(Lefcourt, 1976). In short, the husband appears to be defined as the dyadic leader. The next highest scoring group is that composed of wives who appear to be defined as the dyadic leader. An examination of the group obtaining the lowest scores on consensus offers further support for the possible importance of defined dyadic leadership. Husbands who scored lower than their wives on the I scale and equal to their wives on the C scale reported consensus scores significantly lower than all other LOC groups. The two groups reporting the next lowest levels of consensus are those composed of husbands higher than their wives on the I scale, and equal on the C scale and couples equal on both scales. In all three of the lowest scoring consensus groups the issue of defined leadership can be considered ambiguous. The significantly lowest scoring group, where the wife scores more internal than her husband within a potentially confusing context, can be viewed as the most problematical. This appears to represent the situation where husbands are not the defined leaders (highest scorers on consensus), their wives are not the defined leaders (next highest scorers on consensus), but within an ambiguous context their wives can be viewed as slightly more internal in LOC beliefs. The issue of undefined leadership within the dyad in this situation may find expression in the relatively high level of disagreement over relationship issues. In addition, when this group is compared to the LOC group where the husband appears to be the defined leader on the remaining adjustment sub-scales, the differences are in the same direction for all with the internal husbands group scoring significantly higher on six of the eight at the .10 level.

The probabilities for differences between these two groups are as follows:

<u>Husbands</u>		<u>Wives</u>	
Consensus	p = .002	Consensus	p = .0368
Cohesion	p = .0764	Cohesion	p = .3664
Satisfaction	p = .0539	Satisfaction	p = .0702
Affection	p = .0155	Affection	p = .3193

Although the nature of this discussion has been that of post hoc interpretation, the pattern presented may provide fertile ground for research efforts specifically addressing the relationship between marital hierarchy and marital adjustment.

The results of the analyses involving the comparison of the twenty-eight couples in which the husbands were consistently more internal than their wives with the twenty-seven couples in which the husbands were consistently less internal than their wives were particularly interesting. In regard to the above discussion of marital hierarchy these findings suggested that a defined leader must not only be identified, but for high levels of marital adjustment to exist, this leader should be identified as the husband. For all of the dependent variables the more internal husbands groups scored higher than the less internal husbands group. For three of these dependent variables (husbands' affectional expression and husbands' and wives' consensus) the differences were significant at the .05 level. This would indicate that, within this sample, couples in which the husband is the defined leader report higher levels of marital adjustment than couples in which the wife emerges in a clear position of leadership.

The results of the present investigation are contrary to the findings of previous research on the relationship between LOC and marital adjustment. Mlott and Lira (1977) found couples in therapy to be associated with husbands who were more internal than their wives while no significant LOC differences were found in the stable marriage group. Doherty (1981) found that couples in which wives reported low marital satisfaction were characterized by husbands who were more internal than their wives while for couples reporting high marital satisfaction no LOC differences between spouses were found. In addition, Doherty reports that the wife-more-internal group showed significantly higher satisfaction than the husband-more-internal group. Again, this is exactly the opposite of the findings in the present investigation.

Aside from differences in samples, instrumentation, and methodology between these studies, no readily apparent explanation for this inconsistency in findings is available. However, several interpretations exist which may clarify the situation somewhat. First, the more adjusted couples in the present sample in which the husbands were more internal than their wives are those who correspond to the picture in which the husband conforms to conventional role prescriptions (Doherty, 1978), who fit the mold of the stereotypical "good husband" (Corsini, 1956). The opposite case, wives more internal than their husbands, would seem to represent unconventional husband-wife roles and might account for the lower adjustment scores of these couples. However, this interpretation alone does not explain the findings of Mlott and Lira (1977) or of Doherty (1981) where the conventional husband-wife roles

were associated with low marital adjustment. It seems probable that other mediating variables influence the effects of LOC differences between spouses on their reports of marital adjustment. One such variable could be level of interpersonal trust. Hochreich (1974, 1975) defined defensive externals as external-low trust individuals and congruent externals as external-high trust individuals. Theoretical distinctions between these two groups were found for males only. Doherty (1977) examined the LOC and interpersonal trust variables in relation to marital complaints. The two groups of husbands with wives having the highest complaint scores on the Locke Wallace Scale were external-high trust husbands (congruent externals) and internal-low trust husbands (no LOC classification exists for this group). This provides one clear example of the mediating effect of interpersonal trust on the relationship between husbands' LOC and the marital complaints of his partner. Of particular interest is the finding regarding the wives of the internal-low trust husbands that indicated interpersonal benefits accruing to wives of internal husbands may be a function of the level of interpersonal trust of these husbands. Therefore, it appears that a comprehensive understanding of LOC differences between spouses might depend on the mediating influences of other variables such as the level of interpersonal trust and conventional versus unconventional marital hierarchies. This seems to be an area in which further research endeavors could be profitable.

Summary

In this chapter the sample was described and results of the analyses presented. The results were interpreted in light of the specific hypotheses tested and were related to previous research findings. The discussion of findings centered on 1) the utility of Levenson's multi-dimensional conceptualization of LOC, 2) the effect of LOC differences on marital adjustment variables, 3) assumptions regarding the relationship of the marital hierarchy to adjustment, and 4) the possible mediating role of interpersonal trust in explaining discrepancies between findings of this research and previous reports in the literature.

CHAPTER 5

Summary, Conclusions, and Implications

The study of the relationship between spousal LOC and marital adjustment is a relatively new area of inquiry. A review of the literature indicated the need for further research that would address three primary issues. The first was that although the apparent benefits of a multidimensional assessment of LOC have often been espoused (Lefcourt, 1976), such a conceptualization of this construct had not been applied to the study of marital adjustment. The second was that although spousal LOC differences had been found to vary as a function of levels of marital adjustment (Doherty, 1981; Mlott & Lira, 1977), only one study (Rantuccio, 1979) had employed a methodology similar to the present investigation that examined the effects of spousal LOC differences on marital adjustment. This study (Rantuccio, 1979), used a unidimensional LOC assessment instrument and found no significant relationship between spousal LOC differences and marital adjustment. The third issue involved the question of whether it was the absolute value of spouses' LOC or the spouses' LOC beliefs relative to one another (or both) that influences marital adjustment. The need existed for a study which would simultaneously take into account both possibilities.

The purpose of this research, therefore, was to test a series of hypotheses concerning the relationship of LOC to marital adjustment that would address the above needs. The specific null hypotheses were formulated as follows:

- Ho₁ There is no difference between husband LOC classifications on the mean scores of both husbands' and wives' marital adjustment.
- Ho₂ There is no difference between wife LOC classifications on the mean scores of both husbands' and wives' marital adjustment.
- Ho₃ There is no interaction effect between husbands' and wives' LOC classifications on the mean scores of both husbands' and wives' marital adjustment.
- Ho₄ There is no difference between classifications of husband-wife LOC similarities on husbands' and wives' mean scores on marital adjustment.

Subjects for this research were married graduate students randomly selected from a computer printout of all graduate students enrolled at Virginia Polytechnic Institute and State University. Levenson's I, P, and C scales (Levenson, 1972) and the Dyadic Adjustment Scale (Spanier, 1976) were completed and returned by 160 couples (response rate of 80%). Fifteen couples were eliminated from the analyses due to incomplete responses to the instruments (4 couples) or deviant scores on the I, P, and C scales (eleven couples). The final sample, therefore, consisted of 145 graduate students and their spouses.

Groups for testing of the hypotheses were formed in a two step process. First, hierarchical cluster analysis procedures (Baker, 1972) were used to reveal the underlying structure of the sample couples on

the I, P, and C scales. Second, scoring criteria based on the mean I, P, and C scale scores obtained from the cluster analyses were applied to individual couples to insure uniformity within the specific groups. Multivariate analysis of variance procedures were used to compare groups for differences on husbands' and wives' sub-scale scores on the Dyadic Adjustment Scale. The corresponding univariate analyses of variance were used to determine on which dependent variables significant multivariate effects were most apparent. Pairwise comparisons of least square means were used to discover which effects differed significantly from one another.

Null hypotheses one and two were retained. No differences among husbands or wives designated as internals, defensive externals, or congruent externals were found. However, a subsequent analysis of husbands and wives which considered the above groups apart from the interaction effect of the two indicated that husband LOC was more strongly related to the marital adjustment variables than was wife LOC.

Null hypothesis three was rejected at the .05 level. A significant multivariate effect was evident for the interaction of husbands' and wives' LOC. This effect was most evident on husbands' affectional expression and was mainly attributable to high scores of the internal husbands-defensive external wives group.

Null hypothesis four was rejected at the .10 level for the analyses involving the total sample. Significant multivariate effects were found for groups formed on the basis of both the I and C scale scores. This indicated that couple LOC differences do have an effect on their marital

adjustment scores. The C scale effect was most evident on husbands' and wives' consensus scores. Those couples scoring equally on the C scale reported the lowest consensus scores. This finding was heavily influenced by the interaction with the I scale groups in that those couples in which the wife scored higher than her husband on the I scale and equal to her husband on the C scale reported extremely low consensus scores. The I scale multivariate effect was most pronounced on husbands' consensus, cohesion, and affectional expression. This effect was uniformly attributable to the significantly higher dependent variable scores of husbands who scored higher on the I scale than their wives.

Null hypothesis four was also rejected at the .05 level by the analyses comparing consistently more internal husband couples with consistently more internal wife couples. This multivariate effect was most evident on husbands' consensus and affectional expression scores and wives' consensus scores. The more internal husband group also scored consistently, though nonsignificantly, higher on each of the remaining dependent variables.

Conclusions

The major findings of this research were:

1. LOC discriminations based on a multidimensional conceptualization of this variable (Levenson, 1972) revealed significant differences on marital adjustment scores between groups.

Given that the use of a unidimensional LOC assessment instrument (Rotter, 1966) failed to find such differences in a comparable study (Rantuccio,

1979), the author concludes that the I, P, and C scales may be the existing instrument of choice for future research involving the relationship of LOC and marital adjustment. It is also concluded that development of a LOC assessment instrument specific to the marital relationship might profitably take into account the tripartite conceptualization of this variable.

2. Where significant multivariate effects of LOC on marital adjustment were evident, significant univariate effects were discovered for a minority of the eight dependent variables.

Given the distinct possibility that the use of total adjustment scores (a unidimensional conceptualization of marital adjustment) might have masked the significant LOC effects on selected sub-scales, the author concludes that the multidimensional use of the Dyadic Adjustment Scale is the method of choice for research such as this investigation.

3. Significant multivariate interaction effects between husbands' and wives' LOC classifications emerged in the absence of significant main effects for either husbands' or wives' LOC.

From this finding the author concludes that the interpretation of LOC effects on marital adjustment which fail to account for the LOC beliefs of both spouses are seriously jeopardized.

4. Significant multivariate effects for couple LOC differences and significant univariate effects on both husbands' and wives' dependent variables were found.

Although individual spouse's LOC may have an effect on marital adjustment, this research failed to provide support for such a notion. Given findings three and four above, the author concurs with Doherty (1981) that it is not the strength of individual spouse's LOC but the LOC

beliefs of spouses relative to one another which impacts on the couple's marital adjustment.

5. Examination of the significant multivariate effect for couples grouped on the basis of their relative C scale scores revealed that couples scoring equally on this variable had significantly lower scores on husbands' consensus. In addition these couples scored the lowest on five of the seven remaining dependent variables.

Given this finding, the author concludes that no support for couple similarity on this personality variable being associated with high levels of marital adjustment is provided. Lewis and Spanier's (1979) proposition that marital quality is enhanced by similarity of personality characteristics receives no support from this research with regard to LOC.

6. Examination of the significant multivariate effects for couples grouped on the basis of their relative I scale scores revealed that couples in which the husband scored higher than the wife on this variable had significantly higher scores on husbands' consensus, cohesion and affectional expression. In addition these couples scored higher than the other two groups, although nonsignificantly on four of the remaining five dependent variables.

From this finding, one could surmise that couples in which the husband scores relatively higher than his wife on the I scale report higher levels of marital adjustment than couples in which the wife scores higher or equal to her husband. However, given the contrary findings of Mlott and Lira (1977) and Doherty (1981) the author suggests that conclusions on this issue await further research.

7. The comparison of couples in which the husband is consistently more internal on the I, the P, and the C scales than his wife with couples in which

the wife is consistently more internal than her husband revealed a significant multivariate effect. The husband-more-internal group scored significantly higher on husbands' and wives' consensus and husbands' affectional expression. In addition, this group scored higher, although nonsignificantly, on each of the remaining dependent variables.

From this finding, the author concludes that it is not dissimilarity of LOC perceptions per se that is associated with marital adjustment, but the nature of the LOC differences between couples. Given the contradictory nature of these findings in relation to previous research (Doherty, 1981; Mlott & Lira, 1977), the author concludes that more research into the effects of LOC differences on marital adjustment is indicated. It may be that other variables such as hierarchy or interpersonal trust will prove more helpful than the notion of similarity-dissimilarity of personality in understanding this relationship.

In general, the findings of this research indicated a significant relationship between LOC and marital adjustment. Consistent support for this relationship resulting from relative couple LOC differences versus individual LOC beliefs was provided. Although consistent support for the positive effect of husbands being relatively more internal than their wives was provided and several plausible explanations for this effect were suggested, the reconciliation of this finding with previous research remains an unanswered issue. Greater understanding of this question must await further empirical investigation.

Implications

The major implication of this research involves the systemic nature of the results. It was not the individual LOC characteristics of either

spouse, but the interaction of these characteristics which had significant effects on couples' reported adjustment. Given this repeated finding, the implication is that in order to better understand the interpersonal ramifications of LOC interactions within intimate relationships such as marriage, it may be necessary to incorporate this traditionally individual construct into a systemic conceptualization of relationship functioning.

As a result of information obtained during the course of this investigation, the following recommendations are offered:

1. The largest single contribution to research on the relationship of LOC to marital adjustment would be the development of a reliable, valid LOC assessment instrument specific to the marital relationship.

Such an instrument would be expected to increase the predictive utility of the LOC construct as it applies to marriage (Rotter, 1975). Based on the present investigation, it is suggested that the development of this instrument take into account the multidimensional nature of the LOC construct. A second suggestion concerning this instrument's development would be the consideration of a "relationship LOC" component. This component would differ qualitatively from the individual LOC concept as applied to the relationship. The focus or subject of LOC in this instance would be the relationship per se rather than the individuals who comprise it. Husbands and wives might be asked to respond to statements such as "Decisions in our relationship are not actively made, they just seem to happen," or "When tension arises between us, it is the result of our behavior toward one another" or "When tensions arise between us, it is the result of factors external

to our relationship (e.g., one of us is in a bad mood, a hard day at the office, etc.)." Such statements ask the spouses to comment on the LOC of their relationship. This might provide one way of incorporating the LOC construct into a systemic conceptualization of relationship functioning. Used in conjunction with statements such as, "When tensions arise between us, I can do something to reduce the strain," which asks for individuals to comment on their individual LOC specific to their marriage, a broader understanding of this relationship might be obtained.

2. Future research on the relationship of LOC to marital adjustment should take into consideration other related variables thought to be relevant to marital adjustment.

The fulfillment of this recommendation could take two related directions. The first might include the mediating effect of variables such as interpersonal trust, previously addressed by this author, on the relationship between spousal LOC and marital adjustment. The second direction would be to examine the possible mediating effect of spousal LOC on variables previously found to be related to marital adjustment, thereby building on past research efforts in this area. Several possibilities are: the mediating effect of spousal LOC on such interpersonal variables as degree of self-disclosure, congruence of role perceptions, sexual compatibility, and problem solving effectiveness between spouses.

3. The comparison of a clinical versus nonclinical population for LOC differences using both the Rotter I-E scale (Rotter, 1966) and Levenson's I, P, and C scales (Levenson, 1972) is indicated.

The present research found significant effects for spousal LOC on marital adjustment within an essentially normal population using the I, P, and C scales. Previous researchers (Mlott & Lira, 1977) found significant LOC differences between a clinical and nonclinical population using the Rotter I-E scale. As elaborated previously, the results of these studies are essentially contradictory. Therefore, the simultaneous use of both LOC instruments in the same study appears indicated as a first step in explaining this inconsistency.

4. Related to number 3 above, a replication of Doherty's (1981) research using both LOC measures seems warranted. In addition, it would prove useful to examine the effects of extreme group formation by marital adjustment scores on LOC and then the effects of extreme group formation by LOC scores on marital adjustment.

The above suggestion could prove helpful in explaining the inconsistencies between Doherty's results and those of the present investigation. It is possible that these inconsistencies could emerge within the same sample as a function of which couples are excluded from analysis in the group formation processes. Such a finding would bring to the fore an important conceptual issue. Is there greater utility in examining the potential effects of spousal LOC on marital adjustment or in the study of the effects of marital adjustment on spousal LOC? Given the conceptual assumptions on which this research is grounded, the author would argue in favor of the former. However, this investigator also remains mindful of the possibility that the relationship between spousal LOC and marital adjustment might be simply correlational, influenced by a contingency relationship with an as yet unidentified variable or variables.

5. The final recommendation for future research involving LOC and the marital relationship is to include a measure of the value to the couple of the reinforcement under consideration.

The inclusion of the value dimension has been found to increase the predictive utility of the LOC construct in several instances (Lefcourt, 1976). In fact, Lefcourt concludes his monograph by stating that it is perhaps in the development of situation specific LOC measures, "and the use of them within value X expectancy frameworks, that we can anticipate finding improvements in precision and clinical prediction which may save the locus of control construct from the waning of interest that is so common among personality constructs" (p. 139). Other things being equal, when the value of a particular reinforcement is high LOC has been found to be more highly correlated with related behaviors than when the value is low (Naditch, 1973). In short, the predictive utility of the LOC construct increases as the reinforcement in question is more highly valued. Therefore, an effective research strategy might be to take into account the value to the couple of the particular dependent variable under consideration, e.g., consensus, cohesion, etc. However, due to the possible contamination of socially desirable responses, this strategy may necessitate some creative thinking to prove effective.

Chapter Five has presented the purposes, conclusions, and implications of this investigation. As many questions were raised as answered which is not atypical for undertakings such as this. In fact, it is perhaps the recommendations for future research that constitutes the most significant contribution of this study.

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APPENDIX A

Letter to Participants



COLLEGE OF HOME ECONOMICS

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061

CENTER FOR FAMILY SERVICES (703) 961-7201

Dear Graduate Student(s) and Spouse:

Within the last several weeks I have had the opportunity to speak to at least one of you on the phone. I would like to thank you again for your willingness to participate in this research.

As I mentioned on the telephone this study is concerned with your perceptions of marriage and some of your marital preferences. It is hoped that your honest response to this questionnaire will enable the staff at the Center for Family Services to have a better understanding of the marital perceptions common to a wide variety of graduate students and their spouses. The information you provide will help us to continue to provide quality services, especially to graduate student couples seeking help with family difficulties.

All respondents are guaranteed Confidentiality and Anonymity. Findings from this research will be reported on a group basis only.

IMPORTANT—For the purposes of this research it is necessary that I be able to identify responses as belonging to a particular couple. To accomplish this and insure your anonymity PLEASE CHOOSE A THREE DIGIT IDENTIFICATION NUMBER AND ENTER THAT NUMBER IN THE APPROPRIATE SPACE AT THE TOP OF BOTH COPIES OF THE QUESTIONNAIRE. In this way I will be able to identify responses as belonging to a particular couple without knowing that couple's identity.

Let me remind you once again of the importance of completing the questionnaire independently of your spouse. Please do not consult with one another regarding your responses. When you have completed the questionnaire place it in one of the white envelopes provided. When you have both completed the questionnaire place the two white envelopes in the stamped, return-addressed manilla envelope and drop in the mail.

If you have any questions, or if you are interested in a summary of the findings, please contact either of the persons below. Thank you once again for your participation.

Sincerely,

James B. Horner

, Ph.D.

Director, Center for Family Services

P.S. Please don't forget to number the questionnaires.

APPENDIX B

Demographic Information

Identification Number _____

Please answer the following questions by filling in the blank or circling the appropriate number.

1. Your sex:
 - 1 Male
 - 2 Female
2. Your race:
 - 1 White
 - 2 Black
 - 3 Other
3. Your age: _____
4. Years married to present spouse: _____
5. Number of marriages for self:
 - 1 One
 - 2 Two
 - 3 Three or more
6. Number of children in household:
 - 1 None
 - 2 One
 - 3 Two
 - 4 Three
 - 5 Four or more
7. Your employment status:
 - 1 Employed full-time
 - 2 Employed part-time
 - 3 Unemployed
8. Student status as of February, 1982
 - 1 Not a registered student
 - 2 Full-time graduate student
 - 3 Part-time graduate student
 - 4 Full-time undergraduate
 - 5 Part-time undergraduate
9. If a student, your departmental abbreviation: _____
10. Highest level completed:
 - 1 Less than high school
 - 2 High school
 - 3 Some college
 - 4 College degree (4 year)
 - 5 Some masters degree work
 - 6 Masters degree
 - 7 Some doctoral work
 - 8 Doctorate
11. Your average church attendance:
 - 1 Twice a week or more
 - 2 Once a week
 - 3 Twice a month
 - 4 A couple of times a year
 - 5 Never
12. Your yearly income:
 - 1 less than \$6,000
 - 2 \$6,000 to \$10,000
 - 3 \$10,001 to \$15,000
 - 4 \$15,001 to \$20,000
 - 5 \$20,001 to \$30,000
 - 6 \$30,001 to \$40,000
 - 7 \$40,001 to \$50,000
 - 8 more than \$50,000
13. The demands of graduate school have placed a strain on our marriage:
 - 1 Yes
 - 2 No
14. Have received marital counseling concerning present marriage:
 - 1 Yes
 - 2 No

APPENDIX C

Dyadic Adjustment Scale

APPENDIX D

Levenson's Internal, Powerful Others, and Chance Scales

Please read each of the following statements and place the number corresponding to your level of agreement in the space provided.
Do not skip any item.

Strongly Agree	<u>6</u>
Agree	<u>5</u>
Slightly Agree	<u>4</u>
Slightly disagree	<u>3</u>
Disagree	<u>2</u>
Strongly Disagree	<u>1</u>

- _____ 1. Whether or not I get to be a leader depends mostly on my ability.
- _____ 2. To a great extent my life is controlled by accidental happenings.
- _____ 3. I feel like what happens in my life is mostly determined by powerful people.
- _____ 4. Whether or not I get into a car accident depends mostly on how good a driver I am.
- _____ 5. When I make plans, I am almost certain to make them work.
- _____ 6. Often there is no chance of protecting my personal interests from bad luck happenings.
- _____ 7. When I get what I want it is usually because I am lucky.
- _____ 8. Even if I were a good leader, I would not be made a leader unless I play up to those in positions of power.
- _____ 9. How many friends I have depends on how nice a person I am.
- _____ 10. I have often found that what is going to happen will happen.
- _____ 11. My life is chiefly controlled by powerful others.
- _____ 12. Whether or not I get into a car accident is merely a matter of luck.
- _____ 13. Getting what I want means I have to please those people above me.
- _____ 14. It's not always wise for me to plan too far ahead because many things turn out to be a matter of good or bad fortune.

- _____ 15. People like myself have very little chance of protecting our personal interests when they conflict with those of powerful other people.
- _____ 16. Whether or not I get to be a leader depends on whether I'm lucky enough to be in the right place at the right time.
- _____ 17. If people were to decide they didn't like me, I probably wouldn't make many friends.
- _____ 18. I can pretty much determine what will happen in my life.
- _____ 19. I am usually able to protect my personal interests.
- _____ 20. Whether or not I get into a car accident depends mostly on the other driver.
- _____ 21. When I get what I want, it is usually because I worked hard for it.
- _____ 22. In order to have my plans work, I make sure that they fit in with the desires of people who have power over me.
- _____ 23. My life is determined by my own actions.
- _____ 24. It's chiefly a matter of fate whether or not I have a few friends or many friends.

APPENDIX E

Frequency Distributions of Selected Variables
for Husbands and Wives

	Husbands			Wives		
	FREQ	%	Cum %	FREQ	%	Cum %
Age						
20-22	0	0	0	14	9	9
22-24	22	15	15	27	18	27
25-26	24	16	31	28	20	47
27-28	26	19	50	22	15	62
29-30	15	10	60	16	11	73
31-32	16	11	71	8	6	79
33-35	18	12	83	10	7	86
36-44	16	11	94	12	8	94
45-55	8	6	100	8	6	100
Years Married						
1	33	22	22	33	22	22
2	21	14	36	21	14	36
3	18	13	49	18	13	49
4	12	8	57	12	8	57
5	10	7	64	10	7	64
6	10	7	71	10	7	71
7	10	7	78	10	7	78
8-12	15	10	88	15	10	88
13-29	16	12	100	16	12	100
Times Married						
1	131	90	90	135	93	93
2	13	9	99	10	7	100
3	1	1	100			
Number of Children						
0	88	61	61	88	61	61
1	26	17	79	26	17	79
2	24	16	95	24	16	95
3	4	3	98	4	3	98
4	2	1	99	2	1	99
5	1	1	100	1	1	100

	Husbands			Wives		
	FREQ	%	Cum %	FREQ	%	Cum %
Employment						
full-time	68	47	47	51	35	35
part-time	64	44	91	61	42	77
unemployed	13	9	100	33	23	100
Student Status						
not a student	45	30	30	54	38	38
full-time grad	73	51	81	51	35	73
part-time grad	18	13	94	34	23	96
full-time undergrad	9	6	100	6	4	100
Church Attendance						
twice/week or more	12	8	8	11	7	7
once/week	29	20	28	39	27	34
twice/month	14	9	37	13	9	43
couple times/year	41	29	66	43	30	73
never	49	34	100	39	27	100
Yearly Income						
under \$6,000	19	13	13	62	43	43
\$6,000 to \$10,000	54	37	50	36	24	67
\$10,001 to \$15,000	15	10	60	27	19	86
\$15,001 to \$20,000	28	20	80	16	11	97
\$20,001 to \$30,000	17	11	91	1	0	97
\$30,001 to \$40,000	5	4	95	2	2	99
\$40,001 to \$50,000	5	3	98	1	1	100
more than \$50,000	2	2	100	0		
Strain on Marriage						
yes	60	42	42	71	49	49
no	83	68	100	72	51	100
Therapy for Marriage						
yes	10	7	7	11	8	8
no	135	93	100	134	92	100

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PERCEPTION OF CONTROL AND MARITAL ADJUSTMENT

by

James B. Horner

(ABSTRACT)

This research investigated the relationship between locus of control (LOC) and marital adjustment in a random sample of 145 married graduate students and their spouses (72% of subjects contacted). Each spouse was given Levenson's I, P, and C scales (Levenson, 1972) and the Dyadic Adjustment Scale (Spanier, 1975) to complete and return by mail.

The null hypotheses for this research were as follows:

- 1) There is no relationship between husbands', wives', or the interaction of husband-wife LOC scores on the couples' marital adjustment.
- 2) There is no relationship between couples' LOC differences and their marital adjustment.

Groups for the testing of hypotheses were formed on the basis of hierarchical cluster analyses (Baker, 1972) of individual LOC scores (hypothesis one) and couple LOC scores for hypothesis two. Multivariate analysis of variance procedures were used to compare groups on the basis of husbands' and wives' scores on the Dyadic Adjustment Scale. Null hypotheses related to individual LOC effects were retained while null hypotheses related to couple LOC interaction and couple LOC differences were rejected.

The results indicated that 1) it was spouses' LOC orientation rela-

tive to one another versus the absolute value of their individual LOC scores which was associated with reported levels of marital adjustment, and 2) the marital LOC configurations in which the husband was relatively more internal than his wife was associated with higher levels of marital adjustment than the mirror image configuration. This second finding was opposite to that of Doherty (1981) and Mlott and Lira (1977). Tentative explanations for this discrepancy involving conventional versus unconventional role performance, marital hierarchy, and possible intervening variables such as interpersonal trust were discussed. Recommendations for future research included the use of a tripartite conceptualization of the LOC construct specific to the marital relationship and the simultaneous consideration of other variables thought to be related to marital adjustment.