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Perception of intent in marital communication: An extension of the behavioral marital approach and the measurement of encoding and decoding

Baccus, Grady King, Ph.D.

The Ohio State University, 1987
PERCEPTION OF INTENT IN MARITAL COMMUNICATION:
AN EXTENSION OF THE BEHAVIORAL MARITAL APPROACH
AND THE MEASUREMENT OF ENCODING AND DECODING

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of the Ohio State University

by

Grady King Baccus, B.A., M.A.

* * * * *

The Ohio State University
1987

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INTRODUCTION

The causes of marital dissatisfaction are presently misunderstood and controlled. One of the most important indicators of marital dissatisfaction is the divorce rate. The divorce rate in the United States is alarming. It greatly exceeds the divorce rate of any other country. In 1965 the U.S. divorce rate was 2.5 per 1000 people indicating that for every 1000 persons 2.5 were divorced. By 1975, the U.S. divorce rate increased to 5.0 per 1000 (Glick & Norton, 1979). According to survey data, 38% of all first marriages are likely to end in divorce (Glick & Norton, 1979). Since 1910 the United States has shown a steady increase in the rate of divorce. The 1985 divorce rate is five times higher than the 1910 divorce rate. Currently five divorces occur for every 1000 persons. From 1910 to 1930 the divorce rate rose from one per 1000 persons to about two per 1000 persons. The divorce rate per year equalled three per 1000 persons in 1940, rose to 4.5/1000 by 1975, and has not been below five per 1000 since 1976. Also important is the number of children under 18 years of age that are affected by divorced parents. That figure in 1964 was 8.7/1000 (Vital Statistics of the United States, 1974).

Black families are even more drastically affected by divorce than White families. One interesting statistic comparing the incidence of Black vs. White divorce rate calculates the number of divorced persons per 1000 married persons living together. In 1976 across races there
were 75 divorced persons/1000 married persons living together. For White persons the rate was 69/1000, while for Black persons the rate was 150/1000. Using this statistic the divorce rate for Black persons is more than twice the rate for White persons (Current Population Reports, 1976). One possible explanation for the higher divorce rate for Blacks is the degree of stress associated with more adverse socio-economic conditions as compared to Whites.

There is mounting evidence that marital happiness is associated with higher levels of both physical and mental health. In her survey of 4452 households in California, Karen Renne (1970) found that people reporting physical illness, low morale, isolation, and job dissatisfaction, depression, or heavy consumption of alcohol were more likely to be dissatisfied with their marriages. Healthy people were much less likely to be dissatisfied with their marriages than those with a disability, symptom or chronic condition. Also those people with the most severe physical problems were most likely to be dissatisfied with their marriages. Heavy drinkers, or those who had more than three drinks at a time, were more likely than others to be dissatisfied with their marriages. Although purely correlational, this study suggests marital happiness is related to various indices of good health.

Gove (1973) studied the deaths due to cirrhosis of the liver, for the United States in 1959-1961. Mortality rates for both sexes were highest for divorced people. Married couples had the lowest mortality rate due to cirrhosis. Bachrach (1975) studied admission rates for inpatient services in state and county hospitals in October 1972. Divorced and separated patients had admission rates for alcoholic
disorder that were 18 times higher than married patients. Married persons were far less likely to be hospitalized for alcoholic disorder than divorced or separated persons, according to this data.

With regard to inpatient psychiatric hospitalization most studies show that married people represent the fewest admissions while divorces and separated constitute the highest admission rates (Segraves, 1978). The divorced and separated are over-represented as users of outpatient psychiatric services as well. National surveys conducted by the National Institute of Mental Health (Biometrics Branch, 1969) which collected data from over one million admissions in over 2,000 clinics found that admission rates to outpatient services were more than five times higher for divorced and single persons than married persons.

Kramer, Pollack, Redick & Locke (1973) reviewed the information collected by the National Center for Health Statistics between 1959-1961 concerning the relationship between suicide and marital status. Divorced and widowed had the highest rates of suicide, with married persons having the lowest rates of suicide. These data extended to 14 other countries as well. Weissman (1974), reviewing a number of studies on the epidemiology of suicide attempts between 1960 and 1971, found that divorced persons represented the category corresponding to the highest rate of suicide attempts.

Kobrin & Hendershot (1977) found that mortality rates by marital status between the ages of 15 and 64 are higher for unmarried than for married persons. Divorced males have three times the mortality rate of married males while divorced females have twice the mortality rate of married females.
It is quite obvious from the above review, that married people have a much lower risk of physical and mental health problems than divorced or separated individuals. This finding becomes more intriguing when one considers that not all married individuals are happily married. If marital programs were widely available for the treatment of marital problems, it is conceivable that the status of marriage as a rewarding experience would be improved, thus reducing the presumed impact of a variety of psychopathological ills.

One should not conclude from the literature cited that marital problems are the cause of psychological and physiological illness. Although the correlational data are impressive, one need not look very far to find many examples of cases in which psychological and physiological health abound in the presence of serious marital difficulty. Marital disturbance represents a complex problem and one which has been the source of serious theoretical inquiry for some time. Psychoanalysis, systems theory, and the behavioral approach are the three most widely applied theories of marriage and marital distress.

The psychoanalytic model of marriage

The psychoanalytic explanation for marital distress rests on assumption that the marital partner experienced an inability to form a mature and independent self concept during childhood (Meissner, 1978). The analytic view attributes responsibility to parents in fostering healthy attachment, separation, and individuation in their children. Mahler, Pine, and Bergman (1975) point out that since the infant needs total nurturance, it is in a symbolic state of unity with the significant mothering figure. However, through a process of
discrete developmental sequences, that normal child learns to separate from this symbolic dependency and gradually establishes a relatively autonomous and independent state of being. This process sets the stage for each individual to successfully cope with subsequent relationships of various types and to tolerate the vicissitudes of change each relationship demands. If the individual can't differentiate and separate his own sense of self from that of his parents he will be unable to direct his energies to the development of his own life and interests in order to meet the environmental demands of existence. Then the individual remains dependent on others, especially those with whom he is closely involved, such as a spouse.

For the psychoanalytic perspective it is essential that married couples separate themselves from old attachments and relationships. It is important that as a child each marital partner learned to differentiate self from patents. If this is done then it is easier for that person to share and participate in the emotional life of marriage. The less individuation that has occurred in early life, the more emotional spill over in adult relationships. Lidz (1965) states that it is common within distressed relationships for one person to assume a hyper-adequate role and the other an inadequate role with an insufficient personality.

Slipp (1973) states that over compensation can occur in an individual that has had an emotionally deprived childhood relationship with the nurturing parent. In order to resist feelings of rejection and worthlessness, an individual then assumes a facade of security and adequacy. Displacement can also occur in an inadequate personality whereby the individual projects his own feelings of inadequacy onto
another member of the family system who then serves as a scapegoat. People with identities that are stable and defined can experience strong emotion in a relationship and not develop a sense of flooding of the self or destruction of self identity. Those with poor individuation are subjected to difficulty in managing intense emotional involvement. A person with a poorly defined self might become extremely vulnerable to feelings of pity generated by significant others. These individuals often resort to infantile dependency which further substantiates their sense of inferiority and inadequacy (Steinglass, 1978).

In a marriage, the original parent-child relationship is re-eamed by the marital partners. Bowlby (1968) states that the early attachment between mother and child is of utmost significance in the ability to form adult relationships. If the attachment experience is not developed by the mother, a secure marital relationship will not result. If early attachment needs are not met, the individual continues in life trying to find someone with whom those needs can be fulfilled. When these needs are not met by the spouse, there is a regressive return to an infantile state of development when attachment conflicts occurred.

According to this theory, in an unsuccessful marriage at least one of the partners is still emotionally attached to his or her parental figure(s). Such an individual does not have an autonomous sense of self because there is no perceived separation between self and others. One of the ways in which separation of self from others can be impeded is by overprotection from the child's mother (Levy, 1970). Overprotective mothers often punish independent behaviors by the
child. An overprotective mother is often unable to set boundaries and responds to the child as though he were an extension of herself. So the child develops an intense attachment to the mother and becomes overly dependent.

One might ask why the primary responsibility for the personality development of the child rests with the mother and not the father. According to psychoanalytic theory the mother has been perceived as more crucial to the development of the child because it is more often the mother who is the initial and primary nurturing figure for the child, which sets the stage for the attachment process between mother and infant. So one can argue that it is not female personality vs. male personality that disrupts the symbiotic unity with the significant nurturing figure, but rather the personality of the significant nurturing figure that predisposes later intrapsychic conflicts.

Separation anxiety is inherent during childhood. The child develops conflicting desires of continued attachment vs. separation according to many psychoanalytic theorists (Meissner, 1978, Segraves, 1982; Slipp, 1973). As the child emotionally separates, he begins to learn that he is an individual, apart from his parents. He learns there is a difference between self and others. This sets the stage for the development of mature relationships with others where the mature person can tolerate differences between concerns of others and concerns of self. He does not have to force others to agree since he is able to negotiate differences without feeling personally attached. Likewise, the mature adult who has mastered the early process of separation and individuation does not constantly look to others for
praise, since gaining acceptance is not the major goal for that person. Similarly, the mature person is not wrecked with infantile dependencies, becoming hurt and emotionally devastated when rejection from others is sensed.

An important concept in the psychoanalytic theory of marriage is introjection. Introjection refers to how the child reacts to the behavior of his parents. Introjection occurs when the child takes from the mother and adopts as part of his own view of himself a collection of behaviors exhibited by the mother. For example, if the mother is critical, the child might sense rejection by the mother. What the child introjects is influenced by the child's needs and his level of maturity (Meissner, 1978). If the mother-infant relationship is pathological, the child can experience extreme oscillations of love and hate for the mother. Positive and negative introjects can be established with the same figure. Feelings of love and hate can both be pathological in the psychoanalytic theory of marriage. If the mother responds to the child's need for separation by overprotecting the child, the result might be that the child never learns to feel totally independent from the mother. Similarly, if the mother responds to the separation process with anger, the child can adopt a helpless, victimized sense of self.

A concept known as projective identification relates to a process whereby inner feelings denied as part of the self are felt to exist in others. These projected parts of the self are perceived in the spouse. For example, a man who has serious difficulty controlling his anger may complain that his wife (and others) is extremely hostile. The same man might feel that he is the victim of his wife's aggression
(i.e., nagging). If he only sees himself as the victim, he is less free to modify his behavior to adjust to the varying demands of day to day marriage.

According to the psychoanalytic model of marriage, it is just this type of fixed thinking that results from pathogenic introjects of the mother-infant dyad. Two types of introjected configurations that emerge are aggression and narcissism. These two configurations take on a polar organization. For example, the introjective components of aggression are aggressor vs. victim. Similarly, the introjective components of narcissism are grandiosity versus inferiority (Kohut, 1971). The theory assumes that while one polarity of the configuration is expressed, one opposite polarity is "split off" or repressed, so that the victim role is assumed one does not become aware of the aggressor needs that are repressed.

**Psychodynamically oriented marital therapy**

Psychodynamically oriented marital therapy is much like individual psychodynamic therapy (Gurman, 1978). Since the psychodynamic approach views marital dysfunction as caused by traumas occurring before the marriage then treatment within this model should be aimed at restructuring the individual's personality. Consequently the goals of psychodynamic marital therapy go beyond the present difficulties existing in the marriage. Underlying dynamic issues and transference feelings are identified, but not interpreted by the analyst. The therapist accepts the patients' projections and unreal expectations that occur as a natural part of the transference. Indeed a "transference neurosis" is encouraged in which the patient reenacts in
the treatment relationship a host of neurotic conflicts, many of which are rooted in childhood experiences.

Unfortunately there have been no outcome studies utilizing the psychodynamic approach to marital therapy. Analysts have failed to find a way of objectively measuring or evaluating the effectiveness of their therapy. Historically it has been argued that psychoanalysis is too complex a phenomenon for careful, scientific study (Jacobson, 1979). Psychoanalysis has developed outside of traditional academic settings where research is highly stressed. Rather it was developed by practitioners of analysis with far reaching theoretic notions.

Its reliance on unobservable data such as unconscious material has made it difficult to measure the effectiveness of psychoanalytic treatment. Also, the emphasis on individual pathology in the development of marital problems further complicates the measurement of psychoanalytic marital therapy effectiveness.

The systems model of marriage

The systems approach has at its roots a collection of assumptions known as General Systems Theory. The foundation of general systems theory is based on a set of hypotheses concerned with describing the formal properties of organizational systems. An organization is comprised of a set of units or elements arrayed in some state of relationship with each other. These elements interact with each other and thus form an organizational structure. No element in the organizational system is analyzed separately without considering other elements of an interactive nature. The approach that is used by systems theory is holistic, not mechanistic or reductionistic.
(Bateson, 1972). The philosophy implies an existence of a patterning of elements arranged in a designated or predictable fashion.

In contrast, a reductionist model is one that analyzes cause and effect. In such a model, elements are presumed to be linear in that one element causes the other. In a linear model, there is no consideration of a "feedback" sequence where each variable can be a cause as well as an effect. A reductionist model attempts to limit or isolate variables of observation to the smallest or most basic unit of analysis. Wiener (1962) states that a "feedback loop" assumes that two variables can be related in a circular fashion, which serves the purpose of self-regulating the system. Both variables have a patterned effect on the other variable in the system. Consequently, in a marital dyad each spouse has a significant regulatory effect on the other spouse.

Feedback loops can be positive or negative. An example of a positive feedback loop, is a situation in which husband's drinking behavior leads to wife's complaining, which leads to more drinking behavior by husband, which leads to more intense complaining by wife, etc. The concept of feedback loops is sometimes referred to as cybernetics (Bertalanffy, 1962). Cybernetics is the study of servo-mechanisms in electrical, mechanical, and biological systems. A servo-mechanism is a self-regulatory system, much like a thermostat of machine. The function of a servo-mechanism is to maintain a state of homeostasis through negative feedback.

The pioneering work in the development of systems theory in the study of the family was done by a small group of researchers in Palo Alto, California, beginning over 20 years ago. This group was
composed of therapists and theoreticians led by Don Jackson and Gregory Bateson. Psychiatrist Don Jackson was the director of the Schizophrenia Family Therapy project. He founded the Mental Research Institute (MRI) in Palo Alto (Segraves, 1982). Anthropologist Gregory Bateson directed a research project concerned with studying communication in marriages. The assumption growing out of this research is the idea that marital discord is characterized by pathological communication.

Bateson is best known for his theory of the "double bind." A paradoxical communication is one that moves in two opposite directions at the same time. A double bind exists when two logically inconsistent messages are present simultaneously. In this type of communication, one communicates the opposite of what is felt. The classic example is of the mother who visits her schizophrenic son in a psychiatric hospital. She initially greets him warmly, with open arms. However, when he reciprocates the gesture by hugging her, apparently uncomfortable with the increased intimacy, she becomes tense and slightly, but noticeably, pulls away. The son, sensing the apprehension, also pulls away, but when the mother notices this behavior, she quickly scolds the son presumably for not being happy to see her. The son was faced with two inconsistent and opposite messages; one that the mother wanted to hug him and secondly that she was reluctant to hug him.

An essential assertion of "communication theory" developed by the MRI group is that communication is present in every phenomenon. Communication can be nonverbal as well as verbal. Even when one is silent there are nonverbal messages being communicated, perhaps
without the knowledge of the communicator. Since all behavior is intended to have message value, all behavior is an attempt to communicate some type of message (Watzlawick, Beavin & Jackson, 1967).

Communication possesses three characteristics: syntax, semantics and pragmatics. Syntax refers to the particular structure of information that is transmitted. One important aspect of syntax is in defining the sender vs. the receiver of the message. Another variable of consideration within the area of syntax is that of encoding or the ability to accurately communicate the message. Syntax relates to the formal aspects of communication such as the sentence structure used, the volume, who speaks to whom, etc.

A second area of study within communication theory is that of "semantics" or the "meaning" of the communication. Syntax and semantics can refer to encoding and decoding skills respectively. The relationship between encoding and decoding or syntax and semantics is much like the relationship between reliability and validity. Decoding or the interpretation of the message is dependent on the speaker's ability to express the message the speaker desires to convey.

The third aspect of communication is that of pragmatics or the purpose of communication. The effect may be functional or dysfunctional to the relationship, depending on whether the message was accepted or rejected. The pragmatic aspect of communication views behavioral outcome and communication as virtually synonymous (Fisher, 1978). The pragmatic view was heralded by Watzlawick, Beavin and Jackson's (1967) Pragmatics of Human Communication.

One common observation of the systems approach is that behaviors within marriage are often patterned rule-bound sequences which serve
to give meaning to the relationship. Don Jackson is the major proponent of this idea. According to this view, marital partners bargain with each other in the initial stages of the relationship. The term "quid pro quo" is Jackson's term for the initial bargain reached by spouses. Jackson's marital therapy involves teaching people how to negotiate or bargain using the formulation of "quid pro quo" contracts. The term "quid pro quo" means "this for that" and involves each spouse performing a behavior desired by the other spouse. For example, the wife might agree to handle the family finances if the husband agrees to take the wife to dinner once per week.

Jackson believes that in a marital relationship, each spouse behaves in a manner that maintains his or her own advantage. This advantage is the ability to define the rules of the relationship. Each partner desires change in the spouse and the attempts to direct change in one's spouse determine one's ability to define how the relationship should also change. According to Jackson, the goal of family and marital therapy is to define the rules of the relationship (Seagraves, 1978). An example of a marital rule would be that when the wife naggs, the husband withdraws and when the husband withdraws, the wife nags more. This pattern is a self perpetuating phenomenon where more nagging increases the probability of more withdrawal, ad infinitum.

One popular concept of the communication subdivision of the systems approach is the "black box" analogy. The black box represents the inner workings of a marriage (i.e., thoughts, interactions, feelings, etc.). According to this theory, what is important is not
the inner workings of the marriage, but the system of rules that
govern the overall operation of the marriage.

Just as one would not tamper with the inside of a bomb in order to
defuse it, one should not analyze the internal mental structures of
spouses within a marriage. What is important to the MRI group is how
the marriage works. This approach suggests utilization of knowledge
about transactions between people not application of knowledge about
characteristics of each given individual. Communication is what makes
a marriage work and patterns of communication reflect rules about the
nature of the marital relationship (Jackson, 1965). Jackson's view is
that the early phase of marriage consists of two people bargaining to
establish rules that will ultimately govern the nature of the
relationship.

A second subdivision of systems theory is the structural family
theory by Minuchin (1974). This theory stresses the importance of
organizational boundaries within a marriage. A marriage with clear
boundaries means that the marriage is not subject to interference by
other systems such as children or inlaws. If boundaries are enmeshed
there is greater likelihood that forces outside the marriage can
disrupt the marital dyad. In addition to the concept of boundaries,
the structural approach also emphasizes the patterning of transactions
between the partners in the marital dyad. This idea makes use of the
different functional roles within the transaction. For example, a
forceful decision-making husband and a quiet passive wife would have a
characteristic way of communicating that typifies the corresponding
role creating a certain fit. By changing the fit it is presumed that
behavioral change will occur also.
Another concept used by Minuchin (1974) which represents the structural family approach emphasizes the way marriages differ in regard to responding to stress. Marital stress can result from stresses, such as the interaction between the spouses and people outside of the family. It then becomes the job of the marital dyad to adapt to this stress.

A third subdivision of systems theory is family systems theory (Bowen, 1960). To summarize this approach, it is deeply rooted in biological theory. Murray Bowen is family systems theory's most influential proponent. This theory postulates the existence of a parallel process; emotional vs. intellectual. Each individual is composed of these two parts. The emotional system is derived from man's phylogenetic past which is a result of his primitive heritage. The emotional system by nature is irrational and leads to emotional illnesses. In contrast, the intellectual system is a product of man's evolitional advancement rooted in cerebral cortex activity and "involves the ability to think, reason and reflect and enables man to govern his life in certain areas according to logic, intellect, and reason" (Bowen, 1976, p. 60).

The family theory also emphasizes differentiation of the "self." Differentiation refers to a system guided by the intellectual process whereas an undifferentiated or "fused" self is a function of the emotional system representing primitive, impulsive and instinctual urges. Differentiation affects the way spouses in a relationship interact with each other. The assumption is that the more fused an individual is, the more difficult it will be for him to establish relationships that preserve his individuality and separateness.
(Steinglass, 1978). Emotional fusion results when the child does not emotionally separate from the significant nurturing figure. In contrast, the mature individual is one who is differentiated and separated from pre-existing attachments. In Bowen's family system approach, a common observation is that people tend to choose marital partners who repeat the family interactions of their childhood.

**Systems oriented marital therapy**

In terms of marital therapy from the systems approach, two subcamps have been noticeable, that of the communicationists (i.e., the Palo Alto group) and Bowen's theory of marital therapy. Of these two systems divisions the communication approaches are more closely tied to general systems theory. As with the psychoanalytic perspective, the systems perspective has yet to yield a therapy outcome study. For this reason, a discussion of marital therapy from the systems perspective will be limited to comments concerning the description of treatment approaches from communication and Bowen subdivisions.

As stated above Bowen focusses on the importance of differentiation and fusion. The goal of Bowen's therapy is to teach the spouses how to differentiate themselves from their spouses. This is done by first defining and clarifying the relationship for each spouse. By clarifying the degree of fusion, Bowen believes it becomes easier to destroy the fusion. This "defusing" process is helped by teaching spouses to use "I" statements when discussing issues with the partner. Inherent in this idea is the notion of a third object being used by distressed couples creating a "triangle". For example, children are often the third object in a distressed couples
relationship and quite often fusion occurs between a child and one of the parents. The therapist's role is to refuse to be drawn into a similar triangular relationship with the marital couple.

Marital therapy from the communication aspect of systems theory treats each member of the family together as a family unit. If children are part of the family unit, they are treated along with the marital couple. Systems theory emphasizes the interdependent nature of each member of the family, such that change in one family member disturbs the homeostatic balance, forcing other members to change in an opposite direction. The communication systems theorist works to redefine the way in which family members construe their relationship to each other. A redefinition of the relationship is necessary because as communication systems theorists believe, the disturbed pattern of functioning is a function of members getting "stuck" in a particular view of the relationship. Indeed, Haley (1976) asserts "the main goal of therapy is to get people to behave differently and so to have different subjective experiences" (p. 45).

In summary, the systems approach to the treatment of marital problems began with a broad collection of ideas from General Systems theory. This collection of ideas eschews the "reductionistic" model that reduces a phenomenon of interest, such as marital difficulty, to a measurable array of separate variables to be analyzed in a cause-effect manner. General systems theory gave way to a number of influential "family theories" such as the Minuchin's Structural Family Therapy, Bowen's Family Systems Theory and the Palo Alto group of communications-oriented therapy. The different systems approaches are extremely divergent and for this reason no cohesive or unifying set of
principles can be offered that would encompass all of the many differences in theoretical emphasis. In fact, it is believed that some of the proponents of systems theory (i.e., Bowen) do not represent the beliefs of the approach. Indeed, Bowen's theory seems to be more compatible with psychoanalytic theory than systems. A similar observation can be made of Don Jackson's emphasis on teaching couples how to negotiate behavior exchange through the use of contracts, which is a technique used by behavior theorists.

The behavioral model of marriage

The behavioral approach to marital discord has focussed on the operant methodology stating that behavior is determined by its consequence. Behavior change is dependent on the consequences of behavior. If the consequences of the behavior are positive, then the behaviors will change in an increasing manner. That is to say, the behavior is likely to occur again if a behavior is followed by the termination of an aversive event. The behavior then is said to be negatively reinforced and will likely occur again or increase in rate of responding. If the behavior is followed by an aversive event, the behavior will be decreased in rate of responding. In order to define what is reinforcing or punishing, it is necessary to examine the effect of the consequences on the level of responding.

Within the marital context, the reinforcement of desirable behaviors by a spouse will lead to subsequent increase of those behaviors within the partner. The behavior of the partner is the primary determinant of how the spouse feels and behaves in the relationship (Jacobson & Dallas, 1981). However, these authors do add that causality in a marital relationship need not be unidirectional
but can also be circular, with the behavior of one spouse being caused by the behaviors of the partner which in turn is caused by some subsequent behavior of the spouse's partner. Nevertheless, these authors conclude that low reinforcement rates and excessive punishment are antecedents as well as maintainers of marital distress.

The beginnings of behaviorally oriented marital therapy

Stuart (1969) was the first to apply operant procedures to this treatment of marital dysfunction. He treated four distressed couples seeking marital therapy. Stuart reasoned that marital distress often results from poor communication between spouses. Stuart introduced a token economy within the homes of the married couples. Both husband and wife listed three behaviors that each wanted to change in their spouse. Stuart began with one behavior requested of the husbands by their wives, which was that the husbands talk more with their wives. For each hour that the husband met the set criteria for talking enough with his wife, he received a token from her. The wife gave the husband feedback every 30 minutes concerning his performance. If this feedback was not given, the wife had to relinquish a token to the husband by the end of two hours. The tokens could buy the husbands sexual activity from their wives. As a result, both talking by the husband and sexual activity increased.

The results illustrate some of the key concepts of the operant paradigm. In order to elicit desired behaviors from their spouses, the subjects underwent specific behavior change. Also, specific contingencies of behavior were clarified and implemented. Expectations and behaviors were clearly delineated and agreed upon.
These mutually agreed upon behaviors were exchanged to the exclusion of naturally occurring coercive methods to achieve behavior change.

Assumptions of behavioral marital therapy

The most fundamental assumption of behavioral marital therapy is that nondistressed marital relationships are characterized by more positive exchange of rewards between marital partners than distressed marital relationships. According to behavior exchange theory, couples satisfied with their relationship should exchange behaviors that have low cost and high reward to both members (Gottman, Notarius, Markman, Bank, Yoppi & Rubin, 1976). This implies that a person will perceive a relationship as satisfying when he or she receives positive outcomes from his or her partner. To test this behavior exchange model of marital distress, these authors had distressed and nondistressed married couples rate their partner's communication while both were attempting to resolve problems. As predicted by the behavior exchange model, distressed couples rated their partner's communication more negatively than nondistressed couples (Gottman et al. 1976).

A second assumption of the behavior exchange theory of communication is that mutually satisfying relationships (nondistressed) are characterized by patterns of communication in which successive responses are likely to be more similar than nonsuccessive responses. This idea is known as reciprocity and implies that negative responses are likely to follow negative responses and positive responses are likely to follow positive responses. Gottman et al. (1976) tested the hypothesis that distressed marriages produced negative reciprocity and nondistressed marriages produced positive reciprocity. To put it another way,
negative reciprocity suggests the likelihood of a negative response will occur given a negative stimulus is greater than the unconditional probability of negative responses. To test the reciprocity hypothesis Gottman et al. (1976) conducted sequential analysis of couple's communication. Using different sets of subjects in two different studies, the positive reciprocity of nondistressed couples found in Study 1 was not confirmed in Study 2. Neither study found support for negative reciprocity in distressed couples.

Margolin & Wampold (1981) further tested the reciprocity hypothesis, finding impressive confirmation. These authors found that positive reciprocity characterized both distressed and nondistressed couples, but that negative reciprocity characterized distressed couples. The later finding indicates that in distressed couples, emitting a negative response increased the probability of receiving a similar response. To find that positive and negative reciprocity characterized both distressed and nondistressed couples is not a conflicting result. It simply suggests that distressed couples' communication is more contingent on communication whereas nondistressed couples' negative communication is less likely to be contingent on communication. In other words, distressed couples find ways of maintaining negative interactive chains of communication in addition to positive chains of interaction. However, nondistressed couples find ways to break a negative communicative interaction not maintain it.

Methodology of behavioral marital research

The methodology used in research examining the behavior exchange theory is worth mentioning. A typical way of measuring communication
employs the use of ratings by each member in terms of the degrees of positivity felt. Positivity is rated on a 5-point scale: super negative = 1, negative = 2, neutral = 3, positive = 4, and super positive = 5. The speaker rates the positivity of his or her intent, and the listener rates how positive he or she feels about what the speaker has said. Intent is the degree to which the speaker wishes the listener to feel positive or negative. Similarly impact is the degree to which the listener feels positive or negative about the speaker's communication. The speaker and listener roles change as the dialogue between members progresses. The ratings are aided by a device called a talk table or communication box. This device is merely a light display with two rows of five lights representing the five positivity ratings. The lights are controlled by each member pressing buttons that correspond to the lights on the display panel. Each member is told to hold the button controls so that his or her partner cannot see the ratings. Similarly, the couples cannot see their partner's rating on the light display between them. The conversation is controlled by the speaker flipping a toggle switch when he or she is finished talking, which gives his or her partner the opportunity to talk. This switching of who has the floor also gives the couple the opportunity to rate both intent and impact of communication during that interval.

In behavioral marital research couples have been given a variety of problems to discuss with the general aim of creating conflict for couples to attempt to resolve. These conflict tasks are attempts to represent analogues of how couples solve problems in their normal marital relationship. One common source of conflict task is the
Inventory of Marital Conflict (IMC) devised by Olson and Ryder (1970). The IMC is a high conflict consensus decision making task that presents the couple with a short vignette describing a marital problem a couple is having. The subjects are asked to agree on which spouse in the vignette is responsible for the problem and is given a short time to reach a consensus. The source of conflict comes from the fact that each partner is given a slightly different version of the story favoring the opposite sex in the vignette.

Another type of conflict task commonly used involves having couples resolve a problem that currently exists in their relationship. The problem is derived from a questionnaire (Personal Problem Inventory) which lists ten problems commonly reported in marital relationships (i.e., money, communication, relatives, sex, religion, recreation, friends, alcohol and drugs, potential children and jealousy). Usually the couple is then asked to discuss one of the major problems as indicated on this form. When problem solving, each spouse is to use one of the five ratings each time an idea is communicated. Usually, the values assigned each rating are summed and the numerical average represents the degree of positivity of the dimension (i.e., impact or intent). One study (Floyd, 1981) found that both distressed and nondistressed couples rated more negatively when discussing a relationship problem than when discussing an IMC vignette. This finding indicates that more attention should be given to the nature of the conflict task couples are given to discuss.

Several methodologies have been used to test the behavior exchange model of marital distress. Not only have couples' self-ratings supported the model (e.g., Gottman et al., 1976) but objective
observers' ratings (e.g., Gottman, Markman & Notarius, 1977; Birchler, Weiss, & Vincent, 1975; Rausch, Barry, Hertel & Swain, 1974) have supported the behavior exchange model. Cross sectional studies, such as these, that compare distressed and nondistressed couples at one point in time do not generate hypotheses concerning the etiology of marital distress. The behavior exchange model presumes to explain marital distress as a function of a communication deficit within relationships. Isolating communication as the causal agent in relationship breakdown can best be achieved by conducting longitudinal research which measures communication at various stages of the marital and premarital relationships.

Thus far only one longitudinal study of this nature has been conducted (Markman, 1981). Markman has compared communication at time 1, time 2 (1 year later), time 3 (2 1/2 years later) and most recently, time 4 (5 1/2 years later). The results indicated that the more positive couples communicated (impact) when they were planning marriage at time 1, the more satisfied they were with their relationship at time 3 (2 1/2 years later) and time 4 (5 1/2 years later). This finding suggests that marital distress can be predicted by communication measures. The failure of time 1 and time 2 (one year interval) correlations may represent a sleeper effect, meaning that it takes a sufficient duration of time before marital dissatisfaction occurs.

As impressive as the longitudinal findings are, they can be criticized in several ways. The most significant criticism is the relatively small sample size. At time 1, 26 couples participated, but at time 3, only 14 couples participated. This represents a
substantial drop-out rate and one can only wonder how the 12 subjects that failed to continue differed from the original sample.

Another issue involved in the suggestion that communication deficits precede marital dissatisfaction rests with the possible confounding, if not tautological effect of problem-solving ability. Marital dissatisfaction is very similar to, if not identical to, having marital problems. As mentioned previously, studies testing the behavior exchange model observe communication while couples are problem solving in a series of conflict tasks. Markman (1981) presented the couples with five conflict tasks, one of which was a personal problem discussion during when the couples discussed the major problem in their relationship. Since communication in these studies involves trying to solve a relationship problem, it does not seem entirely reasonable to assert that communication deficits precede marital distress because marital distress automatically presumes an inability to effectively communicate regarding a problem in the relationship. Clearly, more research in this area is needed.

Behavioral communication training

One of the most widely investigated strategies for treating marital couples has been a group of divergent procedures which focus on teaching how to communicate more effectively. The format of these programs is highly structured utilizing a didactic-educational componental format. One of the more popular communication training programs is derived from the work of Carl Rogers which emphasizes the importance of empathy in changing behavior. For example, Pierce (1973) investigated the effectiveness of teaching empathy skills as contrasted with insight-oriented therapy. In the empathy skills
group, couples were taught to attend to each other's communication and to listen more accurately. Pierce found that the empathy skills group was rated by observers as communicating better than the psychodynamic groups as measured by observing a 15-minute interview conducted with each spouse before and after training. The exact nature of the clinical intervention in this study is unclear, making the results methodologically uninterpretable. In addition, couples in the insight-oriented group were selected from a different population (i.e., parents of emotionally disturbed children seeking therapy of their child's problems) than the couples in the empathy skills training group. By not randomizing subjects into control and experimental groups post treatment differences between groups could have been due to pretreatment differences.

Another variety of communication skills training program is the Conjugal Relationship Enhancement (CRE) program. In addition to teaching empathy, direct expression of feeling and the ability to clarify partner's feelings are taught through role playing, modelling and giving feedback concerning performance. To study this approach, Rappaport (1976) exposed couples to four sessions of therapy over a two-month period. Each subject served as his own control being tested twice prior to treatment (initial visit and after waiting two months) and once post treatment. Dependent measures included both behavioral measures developed by the investigators and self report measures. Couples exhibited positive changes from pretest to posttest as compared to the pre and post two-month waiting period. The results of this study are possibly confounded by using a within-subjects design, which is vulnerable to internal validity problems. Since all couples
received treatment and the same type of treatment it can be argued that the effect was not due to the treatment but to some other variable such as the mere passage of time or expectancy effect.

Collins (1971) utilized an untreated control group to compare the results of CRE. These couples met for a six-month duration of therapy as compared to the two-month treatment period in Rappaport's (1976) study. Experimental couples showed significant improvement over the control group on two of the four self-report measures with the remaining two measures showing a nonsignificant trend toward improvement.

Weiman (1973) compared the effects of CRE with a behavioral exchange group and a waiting-test control group. The behavioral exchange treatment utilized a problem solving format involving each spouse choosing specific behaviors which they would like to see their spouses exhibit (i.e., take out the garbage once per week). Couples were taught to use contingency management skills such as positive reinforcement, shaping, and targeting specific behaviors to change. The results demonstrated an equal but significant positive effect of CRE and the behavioral exchange program.

**Behavioral premarital therapy**

A recent premarital program utilizing communication skills training for preventing relationship distress in couples planning a marriage (PREP) has been initiated by Howard Markman (1982). The Premarital Relationships Enhancement Program (PREP) designed by Markman has a number of components or stages. The program consists of five group or individual sessions lasting approximately 2 1/2 hours each. It involves homework assignments, lecturetes and videotape
feedback. The couples are encouraged to avoid negative kinds of communication and engage in positive communication skills. The model of good communication is the case in which the speaker's intent equals the impact on the listener. This can be achieved by increasing expressive ability and/or increasing listening skills. Speaker skills include expressing feelings, being specific rather than vague and speaking for self. Expressing feelings involves self disclosure by getting feelings, issues and problems out in the open, as well as expressing positive feelings via compliments, praises, etc.

Being "specific" is another important part of the program. Distressed couples are often vague in the way they view their partners behavior (Jacobson, 1977). For example, the wife may initially make a vague statement that her husband isn't romantic anymore, which can translate to a more specific complaint that he does not compliment her as much. Behavior change of the latter (i.e., increased number of compliments) is much easier to achieve or modify than attempting to achieve a vague expectation of being more romantic.

Other aspects of speaker skills involve: using "I" statements or speaking for self; staying focussed on one issue at a time (staying on the beam) maintaining eye contact; asking for feedback ("please tell me what you hear me say"); and checking out or validating feelings (i.e., "this is what I heard you say, am I right?").

Listening or attending skills include: summarizing the other, reflecting feelings and not interrupting. An often found problem is that of "mindreading" (Gottman, Notarius, Gonso & Markman, 1976), which is any statement that attributes past, present or future behavior or facts to the other person. Examples are: "You didn't
study last night.; "You never went to the party."; "You're not
listening to me."; "You hate my mother.;" and "You really don't trust
me." Other behaviors to avoid are: using trait names (i.e., "You're
insensitive.); "guilting" the other person (i.e., "You just don't care
about my feelings -- you hurt me and don't really care."), and giving
ultimatums (i.e., "You do that and I'll leave.").

Another phase of the PREP program is teaching couples to solve
problems using contracts. "Good faith" contracts involve partners
agreeing to change specific behaviors noncontingent on any behavior
change by the other partner. Conversely, "quid pro quo" contracts
involve contingent mutual changes of behavior by both partners (i.e.,
"I'll take out the garbage, if you cook dinner"). PREP emphasizes
teaching couples to use good faith contracts to encourage a
"willingness to compromise and accommodate each other" (Markham, in
press).

Applications of recent behavioral marital therapy

Jacobson (1977) conducted an outcome study on behavioral marital
therapy. Couples were involved in weekly sessions over an eight week
period. There was a two week baseline between the initial session and
first treatment session. In the initial session, couples'
relationship satisfaction was measured by the Marital Adjustment Test
(MAT), constructed by Locke and Wallace (1959). Also, they were asked
to discuss one major and one minor relationship problem during a five
to ten minute period. Also, during this period, couples communication
was measured to assess the percentage of positive and negative
responses.
Five of ten couples were exposed to an eight week treatment program aimed at teaching couples to interact more positively while problem solving. During each session, couples were assigned to work on resolving a minor issue of their choice. During this time they were given appropriate feedback concerning appropriate problem solving behavior. Whenever couples responded in an inappropriate manner when discussing problems, the therapist would interrupt discussion and explain what was wrong and give more appropriate responses. Couples were also given homework to perform prior to each session. The homework involved daily practice of the communication skills learned in prior sessions. In addition, couples learned to use contracts to change desired behavior. These contracts required each spouse to agree to change a behavior in the direction desired by the other spouse.

In the final session, couples were given a past test consisting of the MAT. Also, the communication was again measured. Positive responses consisted of areas that presumably facilitate communication. The responses were those operationalized as encouraging problem resolution (agreement), compromise, requesting change and accepting responsibility. Negative responses were defined as commands, criticisms, disagreements, complaints, "put-downs", and interruptions.

The results revealed that couples undergoing the behavioral marital treatment program improved their relationship satisfaction while the control group did not. Secondly, the treatment program produced increased levels of positive communication, whereas, the control groups level of communication remained the same. A six month
follow-up session that measured marital satisfaction (MAT) found significant drop in marital satisfaction of the experimental group between post test and six month follow-up.

Jacobson, Follette, Revenstorf, Hahlweg, Baucom and Margolin, (1984), criticize many behavioral marital therapy outcome studies in which conclusions are derived from comparisons of group mean scores of marital satisfaction measures. These authors suggest analyzing the clinical significance of variability in scores. These researchers reanalyzed data from four behavioral marital outcome studies. On the basis of a "statistically reliable" measure of proportion of couples who improve the results ranged from approximately two fifths to two thirds, with 54.7% being the mean improvement rate. This finding suggests that about one half of couples receiving behavioral marital therapy might actually improve at a significant level. Regarding the proportion of couples where both spouses report improved satisfaction during the course of therapy, the rate ranged from 21.2% to 53.3% with a mean of 35.4%. When the criterion was the proportion of couples reporting truly happy relationships after therapy, the mean was 35.3%.

Jacobson et al. (1984) admit that the data regarding clinical significance in behavioral marital outcome studies is modest at best. Other marital therapies do not attempt to measure outcome of treatment. One of the possible reasons given for lack of more impressive results is that therapy done under research constraints might be more conservative than therapy done in clinical practice. For example, in research on marital therapy, restrictions might be placed on the issues or problems discussed, while such restrictions might not be made in clinical practice. Other possible differences
between clinical practice and research include length of therapy and level of marital dysfunction qualifying for therapeutic intervention. One might expect length of therapy to vary and that more flexible criteria for treatment exist in clinical practice as opposed to research on therapy outcome.

Components of behavioral marital therapy

Behavioral marital therapy focuses on two major areas: communication and behavior exchange. Improvement of communication is presumably achieved by increasing positive forms of communication while decreasing negative ones. Behavior exchange is presumably enhanced by teaching couples to negotiate contracts. While the former (communication skills) has an empirically established basis in the literature, contracting or behavior exchange has not been nearly as well researched.

In a recent investigation, Jacobson (1984) found the two major components of behavioral marital therapy: behavior exchange and communication/problem-solving training to be equally effective in producing marital satisfaction and no more effective, separately than when combined. Thirty-six couples were randomly assigned to a behavior exchange group, a communication/problem-solving group, a combined therapy group using both components, or a waiting list control group.

The behavior exchange component of behavioral marital therapy emphasized changing behaviors desired by spouses in the home environment. Homework was utilized in investigating positive exchanges of desired behaviors in the home environment.
The communication/problem-solving training component was designed to teach couples communication skills focusing on positive interaction during treatment sessions. The ultimate aim was long range to prevent future problems by implementing previously learned communication skills. The emphasis of communication training was to train couples in skills to be used after therapy had been terminated, while behavior exchange focused on immediate behavior change.

The results of this study indicated that treated couples in all three experimental groups (behavior exchange, communication training and both combined) showed more improvement than the untreated group in all of three measures. The first measure was a global measure of marital satisfaction—the Dyadic Adjustment Scale (DAS). The control group showed no improvement on the post test measure. However, the three experimental groups showed significantly greater positive change in marital satisfaction from pre- to post-test. In addition, the behavior exchange therapy produced greater positive change in marital satisfaction than communication training or combined therapy.

The second instrument was the Areas of Change Questionnaire which consists of 34 common marital events that pertain to possible behaviors or situations which spouses might like to have changed in their relationship. Spouses rate each area on a 7-point scale related to how much change is desired, ranging from much less behavior desired (-3) to much more behavior desired (+3), with zero meaning no change desired. The total of the absolute values indicated the degree of total change each couple desired. The second measure from this questionnaire represented the proportion of problems eliminated between pre-treatment and post-treatment conditions. The proportion
was calculated by dividing the post-treatment number of areas needing change by the total number of pre-treatment areas needing change. For example, if eight items needed change during pre-treatment but at post-treatment only four items needed changing, the proportion of problems (items) eliminated is .50. The third measure from the questionnaire represented the percentage of items reduced from pre-test to post-test conditions. The results for total change of problems, reduction of problems and elimination of problems, the three behavioral marital therapy conditions were significantly superior in producing change in the desired direction. The separate components were found not to produce significantly different results nor did they differ from the combined group in producing change.

The third instrument used was the Spouse Observation Checklist (SOC), which is a behavioral checklist of 409 items, which was completed by each spouse on a daily basis. Respondents indicate if an event has occurred during a 24-hour period and if the event was positive, neutral, or negative. Three measures were obtained: the number of positive events occurred, the number of negative events occurred, and the ratio of positive events to total number of events. All three treatment conditions led to significant reductions in negative behaviors. However, only the behavioral exchange conditions led to significant increase in positive behavior.

There is recent empirical evidence that spouses are not accurate in reporting or observing behaviors occurring in their relationship (Jacobson & Moore, 1981). In this study the Spouse Observation Checklist (SOC) was analyzed in terms of reliability. Spouse observations have been used in research to evaluate the effectiveness
of behavioral marital therapy (Jacobson, 1977, 1979; Margolin & Weiss, 1978). Jacobson and Moore compared the percentages of consensus between spouses concerning behaviors in which they had mutually engaged. The mean agreement was 47.8%. Distressed couples agreed on an average of 42%, whereas nondistressed couples agree an average of 52%. Considering these findings, caution should be taken when relying on spouse observation of marital behaviors to assess marital satisfaction or effectiveness of marital therapy.

Although Jacobson (1984) attempted to measure independent components of behavioral marital therapy (behavioral exchange and communication training), it is not clear that these two components are indeed distinct and independent. Jacobson explains that behavioral exchange focuses on teaching couples to change behaviors in their home environment, while communication training involves laboratory instruction. With this distinction in mind, it's difficult not to expect couples to practice at home communication skills learned previously in therapy sessions. Therefore, the distinction between the two components may not be reliable.

Concerns with behavioral marital therapy

There have been relatively few outcome studies measuring the effectiveness of behavioral marital therapy and no study comparing behavioral marital therapy to other forms of marital therapy. There needs to be more validation of this approach as well as dismantling studies comparing the differential effectiveness of the various components of behavioral marital therapy (i.e., speaker skill acquisition, listener skill acquisition, contracting, etc.).
The primary focus of behavioral marital therapy is its strict emphasis on observable data. The behavioral approach to marital discord also is concerned with empirical validation of procedures and theoretical notions. However, the behavioral approach has difficulty dealing with behaviors occurring in the remote past of marital couples. Similarly, the systems approach has difficulty with past events. The psychoanalytic approach is most geared to treating past behaviors, but is at a loss in changing immediate current behaviors. The inability of the behavioral approach to deal with the arena of past events remains a major criticism of behavioral approaches to marital therapy.

A related concern with the behavioral approach is its lack of depth in dealing with marital issues. In the behavioral approach it is essential that couples actively work at producing behavior change. This orientation assumes that couples place a high priority on changing behaviors in their marriage and that they are willing to work on producing behavior change. Couples are often reluctant to specify what behaviors need changing in the relationship.

The behavioral approach to marital therapy has often been described as too simplistic (Segraves, 1978). This perception is due in part to the behavioral assumption that there is a lack of interrelationship between behavior and inner psychological events. This particular assumption inevitably sets the behavioral approach at odds with the psychoanalytic approach that views inner psychological events as causing relationship difficulties.

The behavioral approach attempts to teach couples ways to alter their behavior and thus to negotiate maximum reinforcement for both
spouses. Behavior change is the ultimate goal of the behavioral approach. However, this goal is too short-sighted for the psychoanalytic approach. The behavioral approach has traditionally rejected the notion that intrapsychic phenomena are important variables to consider in marital therapy, because intrapsychic phenomena can not be directly measured. They are inferred by psychoanalytic therapists who argue that behavior change should take a back-seat to intrapsychic understanding.

**Interpersonal Theory**

Marital discord represents a breakdown of interpersonal relationships. For years, social psychologists have stressed the importance of inner representational schemas in determining the nature of interpersonal contact. Kelly (1955) developed a theory concerning the connection between inner psychological events and interpersonal behavior. Kelly believed that people have idiosyncratic ways of viewing the world. Expectations and cognitions about significant others, Kelly terms "constructs." These "personal constructs" guide in interpreting, predicting and thereby controlling the environment. Kelly observed behavior to be a function of how one construes his environment. Kelly's goal of therapy was to change the manner in which people construe their world. Kelly hypothesized that people behave in ways discrepant with their inner representational world. For example, if one views himself as being insecure around others, he should act in ways that a secure person would act. By adopting different roles, one changes the way one construes self, others and situations.
Both psychoanalytic and social psychological theory postulate that psychological development is a process of external reality being gradually shaped to reflect one's inner representational world (Segraves, 1978). Kaplan (1976), concluded that faulty interpersonal assumptions often underly psychopathology. Due to the interrelatedness of inner psychological events and concommitant behavior, a good marital theory should consider both variables as important. Segraves (1978) has offered such a theory and labels it an interpersonal theory of marital discord. In this theory Segraves examines the role each mate's behavior plays in changing the behavior of the spouse. Segraves also examines the nature of one's inner world and its effect on one's behavior.

One idea that is shared by various approaches (psychoanalytic, systems, and behavioral) according to Seagraves is that individuals tend to have expectations or models concerning ways in which significant others will act and tend to behave toward these significant others in ways that are congruent with that expectation or model. Wachtel (1977) considers "transference" as the idiosyncratic ways in which the patient construes the past and present wherein the present produces the behaviors as were produced in the past.

Segraves (1978) criticized the systems approach for borrowing ideas from Kelly who postulated that behavior and inner representational models are reciprocally related. Some of the important assumptions of the systems approach are (1) the importance of current interpersonal variables in a marriage, (2) the circularity of interpersonal variables creating interdependent relationships among
variables, (3) and the hypothesis that certain sequences of behaviors are self perpetuating.

Social psychologists have also made similar observations. For example, Stotland & Canon (1972) used the term "response-determined stimulus effect" to describe the circularity in person-person relationships. Similarly, Leary (1957) described how certain behaviors produce reciprocal behaviors in others. Also, Carson (1969) suggested that many behaviors are self perpetuating.

It seems clearly plausible that behaviors are not mere isolated events, but rather have an influence on and are impacted by behavior observed in others through interpersonal interactions. By responding to past events, individuals often develop consistent patterns of thought based on prior experience. Expectations develop and become entrenched in the way one construes his or her world. The cognitive model is a collection of similar theories addressing the ways we construe our world.

**Cognitive model of marriage**

The recent interest in cognitive variables can be attributed to Bandura (1977) who has emphasized the importance of symbolic meaning in the understanding of human behavior. However, Bandura was, no doubt, affected by George Kelly who emphasized interpersonal constructs or schemas. The concept of schema is somewhat related to the concept of "transference." Both schemas and transferences are self-perpetuating in the sense that material of the past affects current interpersonal behavior.

Meichenbaum (1977) has theorized that internal speech produces self control, while faulty internal dialogue accounts for maladaptive
behaviors. Meichenbaum postulates internal speech is an inner representational schema for producing behavioral patterns congruent with the message of the internal dialogue. Beck (1976) stresses the existence of negative self statements in the etiology and maintenance of depression. The cognitive therapies are definite in their assertion that belief systems should be specified as targets of change in clinical populations. Recently, behaviorists have incorporated cognitions as behaviors now accepted as observable units of measure.

Cognitive theorists have recently formulated a theory concerned with beliefs about the causes of behaviors exhibited. An "attribution" is an inference of causality made by a person who has direct or indirect information about an event. Attribution theory states that actors and observers attribute causality of behavior differentially. Specifically actors assume their behavior to be caused by situational-environmental factors, whereas, observers attribute causality of another's behavior to stable dispositional factors within the actor. Baucom, Bell and Duhe (1982) found that happily married couples viewed positive marital events as more stable than negative marital events.

A study by Holtzworth-Munroe and Jacobson (1984) examined the attributional activity of marital couples. This study specifically examined whether, and when, spouses engage in attributional activity and/or form causal attributions to explain their partners' behavior. This study attempted to approximate naturally occurring cognitive activity using actual partner-initiated behaviors devised from a 354 item questionnaire. Twenty nondistressed and twenty-one distressed couples identified the frequency of partner-initiated behaviors which
were occurring in their marriage. Thus, salient partner behaviors, rather than hypothetical events were examined. These behaviors were chosen to include both frequently and infrequently occurring events. The behaviors also varied in terms of their impact on the subject, some having a positive and some a negative impact when they occurred. On the Indirect Attributional Probe, spouses listed their thoughts and feelings about imagining the occurrence of these partner initiated behaviors. Each listed thought or feeling was coded as to whether or not it was attributional. Thus, the main dependent variable was the number of attributional thoughts per partner-initiated behavior.

Impact of behavior affected attributional activity, with behaviors having a negative impact eliciting more attributional activity than positive behaviors. Distress level interacted with sex to affect attributional activity. Husbands in unsatisfying relationships reported more attributional thoughts than did happily married husbands, while wives in the two groups did not differ. Distressed spouses produced attributional thoughts most often for frequently occurring negative behaviors. Relative to their happily married counterparts, distressed couples produced more attributional thoughts for frequent negative and infrequent positive events.

Each thought which had been coded as attributional was further coded as "distress-maintaining" or "relationship-enhancing". An attributional thought was coded as "relationship-enhancing" if it was deemed likely to lead to positive feelings about the marriage and/or the partner. A "distress-maintaining" code meant that the statement was expected to produce or exacerbate negative feelings about the marriage and/or the partner. Distressed spouses produced a higher
percentage of "distress-maintaining" attributions than nondistressed spouses, and unhappily married husbands had a lower percentage of "relationship-enhancing" attributions than satisfied husbands. These results supported attributional theories of marital distress, which hypothesize that couples produce causal attributions consistent with their predominant affect toward the partner and the relationship.

In summary, the recent trend in marital therapy has been to focus on cognitive factors. The behavioral approach is now examining perceptual accuracy or the relationship between intent and impact. Jacobson and Margolin (1979) stress the importance of cognitive evaluation, assessing couples assumptions about the causes of their marital disturbance. Much of Don Jackson's work stresses the need to examine and modify communication patterns in disturbed marriages. Jackson utilizes contract negotiation as a means to improve relationship agreements or rules of the relationship. Jackson considers couples' premises about the phenomena they perceive in their relationship. Thus his ideas overlap with cognitive-behavioral theory.

Even the psychoanalytic school considers the role of cognitive factors. The central concept of "transference" presumes a misperception by the client concerning present relationships and early childhood relationships. Fears learned in previous relationships are carried over in new relationships, where they become inappropriate (transference). It then becomes the job of the analyst to examine these expectations about significant others.

Limitations of Approaches to Marriage

Adherents to the psychoanalytic approach do not as a rule attempt to facilitate the quality of marital interaction. The analytic view
focuses on the underlying pathology of each individual, seeing the marital discord as a breakdown of mutual gratification of neurotic needs of the individuals. From the psychoanalytic perspective marital problems are a result of individual pathology. Since personality change is a major goal within the analytic framework, importance is given to breadth and depth of the changes that are sought. Thus, the psychoanalytic marital therapist might set goals that are "higher" than those of either the behavioral or the systems therapist. One neglected consideration is that since many couples come to marital therapy with the intent to solve interpersonal problems, they might not be willing to work on long term personality reconstructional issues.

The psychoanalytic approach has one serious limitation. Usually the psychoanalytic approach rejects the importance of current interpersonal behaviors in a marriage; preferring to focus on internal-intrapsychic resolution of childhood conflicts of the past. The strict psychoanalytic approach, postulates that any meaningful behavior change in an individual can only be accomplished by interpretation of early past childhood relationship conflicts.

The systems approach does not lend itself to the measurement of its variables of interest. The systems approach has no unique, nor cohesive set of practices or procedures. Its theoretical notions overlap considerably with other disciplines. However, the major contribution of the systems model has been the departure from the rigidly followed intrapsychic model followed in the 1950's. The systems model is also more molar than the traditional behavioral model.
that often considers only "behaviors" as important variables by which to intervene in marital discord.

One of the most valuable contributions of the behavioral approach is the integration of research and treatment. It is clear that neither the psychoanalytic nor systems approaches have successfully assessed therapeutic outcomes or attempted to validate theoretical notions. The behavioral approach has attempted to isolate the components of therapy (Jacobson, 1982) and has attempted to define and refine specific treatments for specific problems (Gurman, 1978). Neither psychoanalytic nor systems theory can claim one outcome study testing the effectiveness of its theory (Jacobson, 1978).

One aspect not addressed by the behavioral model, until recently, has been the cognitive aspect of marriage. Expectations and beliefs are measurable behaviors and if they operate in marriages, they should be investigated.

Since the behavioral approach measures communication of marital partners, if perceptions affect the way spouses communicate, the behavioral approach should be concerned with the measurement of these variables. Some work has been done outside of the behavioral methodology in efforts to delineate aspects of communication not presently investigated with the behavioral approach. The following discussion concerns various aspects of communication not previously discussed, but consistent with some of the ideas previously mentioned.

Communication in marriages

The existing literature suggests that behavioral exchange programs, when they include either communication or problem solving training alone, or communication training plus behavioral exchange are
an effective treatment for marital problems. Neither the psychoanalytic nor the systems approach can claim any outcome studies measuring the effects of their individual treatments. The family approach rejects the idea of marital therapy in favor of family therapy. The psychoanalytic approach considers its therapy too complex for adequate empirical investigation.

As stated previously, communication seems to be the common thread running through each of the marital therapies that have been discussed. The psychoanalytic model focusses on the communication patterns during early childhood between parents and children. The systems approaches emphasize communication rules in terms of how they define marital relationships. The behavioral approach stresses the need for communication training. The cognitive approach recognizes the communication of cognitive schemas that represent the expectations of behaviors.

Clearly communication is an important ingredient in relationship enhancement. The existing literature on marital therapy suggests that the most promising therapies use the behavioral approach. Improving communication skills appears to be the best single strategy in improving marriages. However, more work is needed in order to define those aspects of communication that are most salient to alleviating marital distress.

Improvement of communication is the sine qua non of behavioral marital therapy. The idea that communication problems are in some way related to marital dysfunction is practically ubiquitous within the field of marital research and marital therapy. Every major theoretical approach focusses, to some extent, on the communicative
process within the marital dyad. Systems theory and behavioral theory focus directly on the communication patterns of the marital couple, while psychoanalytic theory attributes the cause of marital distress to the relationship each spouse had during childhood with his or her respective parents. With communication as a common thread running through each of the major ideologies about marital dysfunction, a definition of the term "communication" is in order.

The word "communication" comes from the Latin "communis" meaning common. Fotheringham (1966) indicates that the pervasive purpose of communication is highly pragmatic—"to help a receiver perceive a meaning similar to that in the mind of the communicator." This implies that communication might be considered good or effective if the information or ideas are shared by, or common to those people involved in the communicative act.

To ascertain the most common problems marital therapists find when working with marital couples in distress, Geiss and O'Leary (1981) mailed questionnaires to 250 members of the American Association of Marriage and Family Therapists. These authors found when therapists were asked to rate frequency and severity of 29 problems commonly experienced by distressed couples, the problem overwhelmingly endorsed most often by marital therapists was communication. Communication was named by these marital therapists as the most severe and most frequently observed problem.

No doubt the ability to communicate effectively involves many social skills. Probably no interpersonal task faced by couples in contemporary society requires the use of social skills as much as the marital relationship (Eisler & Frederiksen, 1980). The term social
skill is a multidimensional one. Social skill deficits (such as lack of appropriate eye contact; lack of assertion; lack of appropriate verbal skills; lack of appropriate motoric behaviors, etc.) have been researched with various types of clinical populations (Morrison & Bellack, 1981). Many particular clinical subgroups have been isolated to study these deficits, including schizophrenics, depressives, alcoholics, sexual deviates and overly aggressive individuals. Clearly the degree to which a person is socially skilled reflects an increased ability to express oneself in a way that will be received desirably by others.

Encoding and decoding of communication

Within the area of communication research a common distinction is made between "sending" and "receiving" information. Encoding is a term used to describe the ability to send a message to a listener accurately, while "decoding" reflects the ability to receive or interpret a message accurately. A social skills deficit would involve ineffective or destructive communication. This deficit may be a result of poor encoding ability; decoding ability, or both.

"Social perception" is a term often applied to the concept of decoding. As Cantril (1969) states "social perception is a term that is hard to define." However, a general definition of "social perception" is that it is perception where the source of the stimulus is another individual. The importance of social perception has been implicated in many areas such as teacher perceptions of pupils, patient perceptions of doctors, and assignment of responsibility for wrong doing (Morrison and Bellack, 1981). However, little attention
has been given to the role of social perception in marriages. In fact, these authors point out that social perception has virtually been neglected in the area of interpersonal relationships.

One exception is a study by Kahn (1970) in which spouses were asked to communicate specified emotions to their partner while repeating a prearranged phrase. Sometimes the phrase was congruent with the emotion they were told to display while in other conditions the phrase was inconsistent with the emotion expressed. The results indicated that happily married couples were significantly more accurate than unhappily married couples in interpreting their spouses emotions in both congruent and noncongruent conditions.

In Kahn's study, however, no attempt was made to measure the relative contributions of each spouse to the marital dyad. Husband and wife scores were summed together to yield couple scores, rather than individual scores for each husband for each wife. Individual comparisons were measured in another study (Noller, 1980) that investigated encoding and decoding accuracy of husbands and wives. In this study couples sent a standard set of ambiguous messages to his or her spouse and decoded a similar set received from the spouse. The ambiguous messages were designed so that the verbal content could have a positive, neutral or negative meaning depending on the nonverbal communication accompanying it. Each partner sent a number of messages using the words set by the tester, while encoding one of the three possible meanings, with the other partner deciding which of the three meanings was accurate. Independent observers were used to decode the messages as well, so that encoding and decoding errors could be attributed to encoding or decoding ability of each partner. If two
thirds of the judges agreed that the encoder accurately sent the message, the item was classified as a "good communication." In this case, if the receiver (spouse) but not the judges inaccurately coded the message, the error was attributed to the receiver as a decoding error. Only good messages were used to measure decoding errors. However, if the spouse and two-thirds of the judges incorrectly decoded the message then it was assumed that the item had not been clearly sent and an encoding error was attributed to the communicating spouse. Couples in the high marital adjustment group made fewer encoding and decoding errors than couples in the low marital adjustment group. Wives were better encoders and sent more good communications than husbands, but husbands in the high marital adjustment group were better encoders than husbands in the low adjustment group. Husbands in the low marital adjustment group were significantly less accurate than wives in that group when communicating positive emotions.

Noller admits that the artificiality of the tasks was a note-worthy limitation of this study. The authors report that some subjects viewed the tasks as an "acting exercise," since couples were not actually experiencing the feelings they were told to communicate.

Hall (1979) researched the ability to decode or interpret verbal and nonverbal cues from another. These cues involve perceiving affect (e.g., happiness, sadness); interpersonal orientation (e.g., dominance, submission); intentions; verbal meaning; and general understanding of social contexts and roles. Research in this area has primarily utilized the Profile of Nonverbal Sensitivity (PONS) in order to measure nonverbal decoding ability. This test was developed
by Rosenthal (1979) and consists of a presentation of a series of photographs of a person portraying various situational roles. The subject's task is to choose the correct situation from a variety of pairs of situations which the stimulus person portrays. Hall (1979) reviewed nonverbal decoding ability in studies using the PONS as well as other methods. The results indicate a superior nonverbal decoding ability for females when compared to males. In a further review of nonverbal encoding or the ability to accurately express nonverbal cues, females again performed better than males. The findings of female superiority in nonverbal encoding and decoding ability may have important implications for marital communication. However, none of the encoding or decoding studies reviewed examined verbal communication in marital relationships. The present study attempts to address this issue.

Clearly, many people would agree that social perception is an ingredient of social skill. Many marital therapy programs are teaching couples to express their feelings, beliefs and emotions in order to communicate better with their spouses. Similarly, many programs stress decoding skills or teaching spouses to listen to each other more effectively in an attempt to better interpret each other's feelings and moods.

In several marital interaction studies, communication has been operationalized by using the term "impact" which refers to the way in which a person receives a verbal message from his or her spouse. Thus a person/subject rates the degree to which he or she feels positive about what his or her spouse has said. However, using impact of communication as the only dependent measure to analyze couples'
communication might be too restrictive. The communication deficit model (Gottman et al., 1976) assumes that a communication deficit exists when communication intent of one spouse is not positively correlated with the received impact on the listening spouse. Intent refers to how positive one desires his message to be received. Intent represents intended impact.

An important consideration to be made when analyzing the effect of communication concerns the "concurrent" relationship between intent and impact. If intent scores and impact scores were measured together concurrently within couples, each couple and each spouse could obtain discrepancy scores between intent and impact ratings. The analysis of these discrepancy scores may help discover an aspect of the communication process that has previously remained unnoticed. For example, it makes intuitive sense to predict that nondistressed couples would have a higher degree of consonance between intent and impact than distressed couples. (To illustrate, if the sender and receiver communicate well, it would be expected that the sender's intent of communication would correlate highly with receiver's impact of sender's communication). To date, one study (Markman, 1981) has attempted to analyze these types of discrepancy scores. Markman attempted to assess perceptual accuracy by measuring the relationship between intent and impact. The results showed that the lower the discrepancy between intent and impact at Time 1, the more satisfied couples were 5 1/2 years later (Time 4). Such analyses seem to be the first steps in defining encoding (the ability to express oneself) and its influence on marital distress.
**Perception of intent**

In order to determine decoding ability it seems relevant to introduce a third variable in addition to intent and impact—this variable can be referred to as the perception of the speaker's intent. If there is a high correlation between perception of sender's intent and sender's (actual) intent, then the receiver has good decoding ability. In other words, if one is a good decoder, it is because one can accurately perceive another's intent. Perceptions of other's intent can and should affect ratings of impact. For example, if one is rating impact of another's communication, that rating is probably based on some inference of the other's intentions derived in part from the verbal statements made by the speaker.

When viewed in this manner, the concept of impact takes on a broader meaning, encompassing aspects of intentions or cognitions. This broader meaning is reminiscent of the colloquial expression, "It's not what you say, but how you say it." Implied here is the difference between actions and intentions. The same action or behavior can produce more than one inference regarding intentions. To illustrate, Mary's behavior at a party can be construed to be flirtatious by her husband or friendly socialization by Mary. Similarly, advice by Mary's parents can be defined as either harmless concern, or meddling into John and Mary's marital life. Attributing intentions is a necessary ingredient of dyadic communication. Intent is both a component of impact as well as perception of spouse's intent. Ostensibly this reflects the mistake of isolating impact as the only measure important to analyze in couple's communication.
Laing, Phillipson, and Lee (1966) postulated a slightly different explanation of the relevance of perception in communication. These authors discussed three intervening variables in the communication process (agreement, understanding and realization). "Agreement" simply refers to x and y holding the same or different ideas about the topic. Sharing the same idea indicates agreement whereas having differing ideas indicates disagreement. "Understanding" refers to x and y perceiving accurately the other's ideas. If x knows how y will answer in a given situation then x understands y. The third variable considered by Laing et al. is "realization" which is how x thinks he is perceived by y. Realization is giving the information of accuracy of the other's perception of self. This knowledge of the other's intent then is the litmus test for "understanding." "Realization" then is a validation of "understanding" by the other. In the present study agreement is measured by the degree to which x's intent equals y's impact. Understanding is measured by the degree to which x's intent equals y's perception of x's intent. Although realization is not a specific variable in the present investigation, it can be easily introduced in an interaction, simply by informing x what y perceived x's intent to be.

The above analysis has important implications for marital therapy. For example, if there is low correlation between John's intent and Mary's impact, knowing that Mary has good decoding ability (perception of John's intent equals John's intent) would suggest that John has difficulty with expressive skills. Consequently, marital therapy should be focused on teaching John to better express his feelings rather than teaching Mary listening skill. Noller (1980)
suggests that learning to express positive messages is needed for husbands during marital therapy. This suggestion is based on results of this study which found husbands in the low adjustment group to be poorer encoders and decoders than husbands in the high marital adjustment group; while encoding and decoding abilities of wives in the high adjustment group was significantly different than wives with low adjustment group.

Recent research has indicated that there may be sex differences in the way male and female partners communicate and perceive each other's communication. Baccus (in preparation), studying black dating couples, found nondistressed females to rate their partner's communication (impact) less positively and more negatively than nondistressed males. This study was different from other studies in that it assessed dependency of male and female communication ratings.

Marital interaction

A matched dependent t analysis tests the hypothesis that two independent variables are not independent of each other. Pairs of scores one from each of two independent variables are analyzed to determine if dependency exists. The researchers in behavioral marital literature have assumed independency of husband and wife communication measures of impact and intent since the research uses analysis of variance with distress vs. nondistress and husband vs. wife as independent variables. In the Baccus study, the assumption was made that male and female communication was not independent of each other. The matched dependent t test was used rather than ANOVA and its use was justified due to the finding that male and female ratings were significantly correlated in both distressed and nondistressed groups.
The results indicated that females felt more negative impact than males in the nondistressed but not in the distressed group. There are a number of possible explanations for this finding. The study used dating couples, not married couples. The same finding may not be replicated in married couples. This study is the only study using exclusively Black couples and the results may not generalize to other ethnic groups. The issue of dependency with regard to spouse ratings is an important one in light of the paucity of marital interaction studies in which sex differences have been reported.

Another study (Floyd, 1981), found sex differences in perceptions of couples and objective observers. Floyd compared couples rating of each partner's communication with those ratings made of each partner by outside observers. Ten nondistressed and six distressed couples were video and audio taped discussing one relationship problem and one problem that a hypothetical couple was having. The couples as well as the outside observers evaluated the same units of communication. Distressed husbands' communication was rated significantly lower by the distressed wives than by outside observers, whereas distressed husbands rated their wives' communication significantly higher than the observers. These authors conclude that distressed wives may have a negative perceptual screen whereas distressed husbands may have a positive perceptual screen.

The present study attempted to validate encoding and decoding of verbal communication in marital couples. For the purposes of this investigation, encoding was defined as the difference between intent and spouse impact scores, whereas decoding was defined as the
difference between perception of spouse intent scores and spouse intent scores.

The following predictions were made:

1. Distressed couples will have less positive impact ratings than will nondistressed couples. This prediction is consistent with previous results (Gottman et al., 1976; Markman, 1979 & 1981) that found nondistressed couples produced more positive impact ratings than distressed couples.

2. Distressed couples will have greater discrepancy scores between intent and impact ratings (encoding) than will nondistressed couples. This prediction is consistent with Noller's (1980) study of nonverbal communication of marital couples in which nondistressed couples encoded significantly more accurate nonverbal meanings.

3. Distressed couples will have greater discrepancy scores between perception of spouse intent and actual intent of spouse (decoding) than will non-distressed couples. This prediction is consistent with Noller's (1980) study and with Kahn's (1970) study that found distressed couples less accurate in decoding their partner's nonverbal communication.

4. Wives will have lower discrepancy scores between impact and spouse's intent than will husbands (greater encoding ability).

5. Wives will have lower discrepancy scores between perception of spouse's intent and spouse's intent than will husbands (greater decoding ability). Predictions 4 & 5 are consistent with the many studies using the Profile of Nonverbal Sensitivity (PONS), showing that females are better encoders and decoders of nonverbal behavior than males.

6. Distressed wives will have more negative perceptions of intent than distressed husbands.
<table>
<thead>
<tr>
<th>Prediction</th>
<th>Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Distressed couples less positive than nondistressed couples.</td>
<td>Impact</td>
</tr>
<tr>
<td>No predictions</td>
<td>Intent</td>
</tr>
<tr>
<td>2. Distressed couples less accurate than nondistressed couples.</td>
<td>Encoding</td>
</tr>
<tr>
<td>3. Distressed couples less accurate than nondistressed couples.</td>
<td>Decoding</td>
</tr>
<tr>
<td>4. Husbands less accurate than wives.</td>
<td>Encoding</td>
</tr>
<tr>
<td>5. Husbands less accurate than wives</td>
<td>Decoding</td>
</tr>
<tr>
<td>6. Distressed wives less positive than distressed husbands.</td>
<td>Perception of Intent</td>
</tr>
</tbody>
</table>
METHOD

Subjects and Selection

The sample consisted of twenty married couples. Eleven couples (ten nondistressed and one distressed) were respondents to an advertisement placed in the Ohio State University campus paper, The Lantern. Five distressed couples were referred from Southwest Mental Health Center in Columbus, Ohio, as a result of seeking marital therapy. Although therapy was not offered as part of the research, couples were referred to marital therapy if they indicated interest in receiving therapy. All five of the distressed couples recruited from Southwest Mental Health Center were referred to marital therapy at their request.

Three distressed couples were referred by therapists in private practice. These couples were being seen for marital therapy in the Columbus, Ohio area. The tenth distressed couple was referred by a private therapist in the Middletown, Connecticut area. Hence ten distressed couples were obtained from three different agencies and locations over a two year period of time.

To discriminate between distressed vs. nondistressed marriages all couples completed the Marital Adjustment Test (MAT, Locke and Wallace, 1959). Couples in which both spouses scored above 100 were placed in the non-distressed group. This is the cut off procedure suggested by Locke and Wallace. In addition to both spouses scoring below 100 on
the MAT, the distressed couples had to meet the additional criteria of seeking marital therapy.

Spanier, 1976, has criticized the use of the MAT, suggesting that it has low reliability. Using a split-half reliability measure corrected by the Spearman-Brown formula, Locke and Wallace (1959) calculated a coefficient of .90. However Spanier (1972) found a coefficient of on .77. In Spanier's (1976) attempt to improve upon the MAT, The Dyadic Adjustment Scale (DAS) was developed. The DAS purports to measure four distinct dimensions which include satisfaction, cohesion, consensus and affectional expression. Although the Cronbach-Alpha coefficient was very high (.96), the DAS correlated very highly with the MAT (.86). In addition the four factor analyzed dimensions have yet to be verified by other investigators in the field.

Margolin & Wampold (1981) used a combination of the MAT and the DAS. This modified MAT included only those items appearing on both measures and scored according to the original MAT scoring key. These authors also used a convergent criteria of requiring couples to be seeking marital therapy in order to be placed in the distressed group. Neil Jacobson, perhaps the most published investigator within the field of behavioral marital therapy views the MAT as internally consistent and as reliably discriminating between distressed and nondistressed couples (Jacobson, 1984). Nine of the ten distressed couples were recruited in response to their request for marital therapy and were subsequently administered the MAT. The one distressed couple who was contacted after responding to an advertisement for research participation, requested marital therapy
before actual participation in the research. The convergent criteria employed in the present study (i.e., seeking marital therapy and both spouses scoring below 100 on MAT) was employed in order to minimize the possible limitations in reliability with the use of the MAT.

Subject characteristics

One couple was of Black origin (distressed group). One couple consisted of a Spanish husband and white wife (distressed group). All other couples were of white origin. Distressed couples did not differ from nondistressed couples in age, educational level, length of marriage, or income. The average age of couples was 26.5 years (18–61 years). The average number of years of education was 13.8 years (12–20 years) with 12 years representing the completion of grade 12, 14 representing four years of college and greater than 14 representing increasing graduate level education. The average length of marriage was 4.1 years (2 mos. – 22 years.). The average combined income was 22,000 dollars (17,000 – 50,000).

Procedure

All couples were interviewed by the author. The couples were assured that all information would be confidential and signed a consent form. The couples were then interviewed concerning the history of their relationship (i.e., how they met, what attracted them to each other, etc.). In addition to gathering information the history-taking was intended to increase the rapport between the couples and the interviewer. Next the couples completed a series of questionnaires commonly used in marital research, including the Personal History Form, the Locke–Wallace Marital Adjustment Test, and the Problem Inventory (see Appendix).
**Questionnaire Phase**

The first questionnaire completed was the Personal History Form (PHF), is a 15-item self-report form that includes information regarding socioeconomic status such as income, education and occupation. The PHF also includes other demographic data such as age, length of relationship, religion and number of children. The second questionnaire, the Marital Adjustment Test is the most commonly used measure of marital satisfaction and has relatively good reliability and validity (Birchler et al., 1975; O'Leary & Turkewitz, 1978). The Problem Inventory Form (PI) (third form) asks the couples individually to rank order a list of 10 common marital problems in terms of the perceived degree of intensity in their relationship. The couples rank ordered their individual perceptions of problem intensity as well as predicted their partner's response. The problem areas include issues such as money, sex, and relatives. After completing the PI, the couples exchanged forms and agreed on what was the major problem area in their relationship. This problem area was used to generate discussion during the interaction phase of the experiment.

**Interaction Phase**

The couples were instructed how to use the coding form. A sample of the instructions are included in the Appendix. The coding form consists of a series of affect ratings indicating the perceived positivity of each dimension. Spouses individually rated impact, intent, and perception of intent on a five point scale from very negative (1) through very positive (5). At each change in speakers while discussing, the speaker rated intent while the listener rated impact and perception of speakers' intent. Couples were not allowed
to see their spouses ratings. The couples practiced using the coding form while discussing a predetermined issue (e.g., jointly using $500 between them). The couples practiced until they felt comfortable using the coding form and it was established by the interviewer that they were using it correctly.

Task I consisted of a fifteen minute interaction while discussing a vignette from The Inventory of Marital Conflicts (Olson & Ryder, 1970). The Inventory of Marital Conflict (IMC) has been used to generate conflict between husband and wife. Previous research has shown that use of the IMC generates communication behaviors which discriminate between distressed and nondistressed couples (Birchler et al., 1976; Gottman et al., 1976; Vincent et al., 1975). The IMC consists of a short vignette depicting a situation involving a married couple. The task will be for the couple to decide which person (husband or wife) in the story is responsible for the problem presented. Each partner was presented with a slightly different husband or wife version of the story favoring one of the spouses in the story (husband or wife). Each partner was given the version favoring his or her sex. Thus, the intent was to generate a degree of conflict between spouses. The IMC vignette selected for use in the present study is presented in the Appendix. The couples were told that they had 15 minutes to discuss the IMC vignette, during which time they are to agree on a number of questions concerning the resolution of the problem. While resolving the problem, they were to rate communication on the coding form.

Task 2 consisted of having the couples discuss their most severe relationship problem as indicated in their joint Problem Inventory.
As stated earlier, the issues included in the PI cover a list of 10 problems commonly associated with marital couples. Discussion lasted 15 minutes during which time the task was for the couples to explore the issues in the major problem and to then reach a mutually satisfying resolution to the problem. While discussing the problem they were to rate communication on the coding form.
RESULTS

To assess the effect of level of distress and sex on communication, five independent 2(level of distress) X 2(sex) Analysis of Variance Tests (ANOVAS) were performed. The dependent variables were impact, intent, perception of intent, encoding and decoding. The encoding variable was obtained by calculating the absolute value of difference between impact and spouse intent scores. The decoding variable was obtained by calculating the absolute value of difference between perception of intent and spouse intent scores. Subsequent t tests were performed for comparison of individual cell means.

Intent

No differences were found in the way distressed and nondistressed husbands and wives intended their communication to be received by their spouses.

Impact

There were significant main effects for sex (p<.05) and level of distress (p<.01) (See Figure 1) for the impact variables.

Wives felt more negative (impact) about spouses communication than husbands.

Distressed couples felt more negative (impact) about spouses communication than nondistressed couples (p<.05). This finding supports the first hypothesis.

Individual t tests were performed to compare individual cell means. The results revealed that distressed wives felt more
negative (impact) about husbands communication that nondistressed wives felt about husbands communication (p < .01, see Table 1).

Distressed husbands did not differ from nondistressed husbands in how they felt (impact) about wives' communication. Nor did distressed husbands differ in impact from nondistressed wives.
Figure 1: Impact
Perception of Intent

Analysis of perception of intent revealed no main effects for sex or level of distress. However a significant interaction between level of distress and sex was found.

Husbands did not differ significantly from wives in how they perceived spouses' intent.

Distressed couples did not differ significantly from nondistressed couples in perception of spouses' intent.

Distressed wives had more negative perception of their spouses intent than other three groups (distressed husbands (p<.05), nondistressed husbands (p<.05), and nondistressed wives (p<.01) had of their spouses' intent (See Figure 2).

These findings support the sixth hypothesis.

Encoding

A significant difference between communication intent and spouse impact was found. (See Figure 3)

Distressed couples had greater discrepancy between intent and impact (poorer encoding) than nondistressed couples (p<.01).

This finding supports the second hypothesis.

Decoding

A significant difference between perception of spouses intent and intent of spouse was found. (See figure 4)

Distressed couples have greater discrepancy between perception of spouses intent and intent of spouse (poor decoding) than nondistressed couples (p<.01).

This finding supports the third hypothesis.
Figure 2: Perception of Intent
Figure 3: Encoding

Mean value of difference between subject intent and spouse impact.
Figure 4: Decoding

Mean value of difference between subject perception of spouse intent and spouse intent.

Nondistressed

Distressed

Wives

Husbands
Table 1

Analysis of Variance for Impact

<table>
<thead>
<tr>
<th>Effect</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
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<tr>
<td>Sex</td>
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<td>1</td>
<td>1.668727</td>
<td>4.052063</td>
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<tr>
<td>Distress</td>
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<td>0.00813**</td>
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<td>.861423</td>
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<tr>
<td>Within</td>
<td>14.82558</td>
<td>36</td>
<td>.411821</td>
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</table>

* p<.05
** p<.01

Means and Standard Deviations for Impact Variable

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>StDv</th>
<th>N</th>
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</thead>
<tbody>
<tr>
<td>Nondistressed husbands</td>
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<td>.494951</td>
<td>10</td>
</tr>
<tr>
<td>Distressed husbands</td>
<td>3.353</td>
<td>.856389</td>
<td>10</td>
</tr>
<tr>
<td>Nondistressed wives</td>
<td>3.512</td>
<td>.559064</td>
<td>10</td>
</tr>
<tr>
<td>Distressed wives</td>
<td>2.651</td>
<td>.596963</td>
<td>10</td>
</tr>
<tr>
<td>Mean for entire sample</td>
<td>3.1857</td>
<td>.726359</td>
<td>40</td>
</tr>
</tbody>
</table>

Comparison of Impact Ratings for Distressed and Nondistressed Wives

<table>
<thead>
<tr>
<th>Nondistressed Wives</th>
<th>Mean</th>
<th>N</th>
<th>Distressed Wives</th>
<th>Mean</th>
<th>N</th>
<th>Difference</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>3.512</td>
<td>10</td>
<td></td>
<td>2.651</td>
<td>10</td>
<td>.8609998</td>
</tr>
</tbody>
</table>

t (based on pooled variance estimate) = 3.000084 df = 36*

** t (based on separate variance estimates) = 3.329022 df = 18

* p<.01
### Table 2

Analysis of Variance for Perception of Intent

<table>
<thead>
<tr>
<th>Effect</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
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<td>Sex</td>
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<td>1.03041</td>
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<td>0.01820*</td>
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<tr>
<td>Within</td>
<td>11.70127</td>
<td>36</td>
<td>.3250352</td>
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</tr>
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</table>

* p<.05

---

Means and Standard Deviations for Perception of Intent

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>StdV</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nondistressed husbands</td>
<td>3.642</td>
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<tr>
<td>Distressed husbands</td>
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<td>10</td>
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<tr>
<td>Nondistressed wives</td>
<td>3.763</td>
<td>.486305</td>
<td>10</td>
</tr>
<tr>
<td>Distressed wives</td>
<td>2.994</td>
<td>.762892</td>
<td>10</td>
</tr>
<tr>
<td>Mean for entire sample</td>
<td>3.539</td>
<td>.635581</td>
<td>40</td>
</tr>
</tbody>
</table>
Comparison of Distressed Wives and Nondistressed Wives

Perception of Intent

<table>
<thead>
<tr>
<th>Mean</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nondistressed Wives N</td>
<td>Distressed Wives N</td>
</tr>
<tr>
<td>3.763</td>
<td>10</td>
</tr>
</tbody>
</table>

t (based on pooled variance estimate) = 3.016201 df = 36*
t (based on separate variance estimates) = 2.687929 df = 18
* p<.01

Comparison of Distressed Wives and Nondistressed Husbands

Perception of Intent

<table>
<thead>
<tr>
<th>Mean</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distressed Wives N</td>
<td>Nondistressed Husbands N</td>
</tr>
<tr>
<td>2.994</td>
<td>10</td>
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</tbody>
</table>

t (based on pooled variance estimate) = 2.541526 df = 36*
t (based on separate variance estimates) = 2.366196 df = 18
* p<.05

Comparison of Distressed Wives and Distressed Husbands

Perception of Intent

<table>
<thead>
<tr>
<th>Mean</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distressed Wives N</td>
<td>Distressed Husbands N</td>
</tr>
<tr>
<td>2.994</td>
<td>10</td>
</tr>
</tbody>
</table>

t (based on pooled variance estimate) = 2.992576 df = 36*
t (based on separate variance estimates) = 2.549471 df = 18
* p<.01
Table 3

Analysis of Variance for Encoding

<table>
<thead>
<tr>
<th>Effect</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
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</thead>
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<tr>
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<td>0.22500</td>
<td>0.45102</td>
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* p<.01

Means and Standard Deviations for Subject Intent and Spouse Impact (Encoding)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>StDv</th>
<th>N</th>
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</thead>
<tbody>
<tr>
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<td>Nondistressed wives</td>
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<td>10</td>
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<tr>
<td>Distressed wives</td>
<td>1.029</td>
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<td>10</td>
</tr>
<tr>
<td>Mean for entire sample</td>
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<td>.778488</td>
<td>40</td>
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</tbody>
</table>
Table 4

Analysis of Variance for Decoding

<table>
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<th>Effect</th>
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<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
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</thead>
<tbody>
<tr>
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<td>1</td>
<td>0.000002</td>
<td>0.000064</td>
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<td>Distress</td>
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<td>0.430562</td>
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*p < .01

Means and Standard Deviations for Subject Perception of Intent and Spouse Intent (Decoding)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>StdV</th>
<th>N</th>
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<tbody>
<tr>
<td>Nondistressed husbands</td>
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<td>Distressed wives</td>
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<td>.6387141</td>
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</tr>
<tr>
<td>Mean for entire sample</td>
<td>.7142</td>
<td>.5985021</td>
<td>40</td>
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</tbody>
</table>
DISCUSSION

Four of the six predictions were confirmed by the results of the present study. Distressed couples produced less positive impact ratings than nondistressed couples. Distressed couples produced less accurate encoding than nondistressed couples. Distressed couples produced less accurate decoding than nondistressed couples. Distressed wives produced more negative perceptions of husbands intentions than nondistressed wives. The two hypotheses giving wives the superior encoding and decoding ability were not supported by the present investigation.

Apparently the present study is unique in its finding that husbands and wives differ significantly in the impact they experience in response to spouse's communication. Since no sex differences in impact have been found before using this particular design, hypothetical explanations should be explored. One possible explanation for the present finding of sex differences may lie in the type of design used. Couples in the present study not only rated impact and intent, but also perception of intent. It was the particular task of the listener to rate impact and perception of intent concurrently. Perhaps, the additional task of rating perception of intent almost simultaneously with impact produced a meaningful change in the way impact is experienced. It is interesting to note that distressed wives produced significantly more negative ratings than their husbands on both impact and perception of intent.
variables. Perhaps perceiving husbands intentions in a negative direction also led distressed wives to experience more negative impact as well. Indeed this study found that distressed wives rated more negative impact and perception of intent than nondistressed wives.

One limitation of the present study was the use of a multi-varied recruitment procedure. The ideal recruitment procedure would be to have both distressed and nondistressed couples obtained from the same recruitment source. However, since distressed couples do not typically respond to traditional recruitment methods, studies have relied on differential strategies to recruit distressed and nondistressed marital couples.

The present study was unsuccessful in recruiting an adequate number of distressed couples from several student newspaper advertisements and posting of notices throughout the university campus at The Ohio State University and various places within the City of Columbus (i.e., grocery stores, Laundromats, etc.). After eight months of failure using this procedure the experimenter was successful in gaining the approval of Southwest Mental Health Center in using it as a referral source to obtain a clinical sample of couples seeking marital therapy. However, other mental health agencies were reluctant to grant permission to solicit clients for purposes of research.

A second limitation of the present study was the relatively small sample size obtained (i.e., 20 couples). However, since this study replicated the findings in other marital interaction studies regarding impact and intent (Gottman et al., 1976; 1977), the sample size might be adequate.
In other marital interaction studies, small sample sizes are not uncommon. In Study I by Gottman et al. (1976) only ten distressed and six nondistressed couples were selected for analysis. Floyd (1981) used six distressed couples and ten nondistressed couples in their marital interaction study.

A third methodological issue concerns external validity. Perhaps the couples in this study do not communicate as positively or negatively in real life settings as they did in the present laboratory setting. Rating communication while involved in discussion in the presence of an experimenter in an unnatural setting may alter couples normal style of communication.

Indeed couples that request marital therapy may want to seem distressed and consequently alter their communication to reflect this desire to appear distressed. Likewise nondistressed couples in their desire to appear functional may alter their communication in a manner to avoid seeming distressed. The present study informally examined this issue by thorough debriefing of couples during which time couples were asked if they thought their communication during the session felt normal. No couples indicated they felt they communicated any differently than they normally did, but still the question remains concerning whether or not couples can be unbiased in their communication or reporting of feelings.

A related issue involves the possible demand characteristics due to recruitment procedures and laboratory procedures. Distressed couples referred by mental health agencies are aware that their recruitment is related to their admission of marital difficulties. This may predispose couples to communicate more negatively than normal
because they might feel the experimenter expects negative communication. It is also possible that distressed couples recruited in this fashion may feel they need to minimize the marital problems they have and communicate more positively than they normally would. In either case, a post experimental inquiry examining preconceived perceptions that would potentially contaminate the data is very vital.

A fourth possible limitation of the present study concerns another departure from the methodology used in previous studies. Rather than use the previously described apparatus of previous studies (i.e., talk table or communication box) the present study had couples rate communication on rating sheets attached to a clipboard held by each spouse. It can be argued that communication measures obtained by pushing buttons on hand-held devices produces different data than circling numbers on rating sheets. However, the author of the present study contends no such differences exist. Perhaps the issue is worth further examination.

The present study produced some interesting and novel findings that previous research has failed to address. Notably empirically derived measures of perceptions as they relate to marital distress have not been taken using the behavioral model of marital distress. Particularly perception of intent is a new variable which previous to this date had not been experimentally studied. In this study perception of intent was shown to be relevant to sex of spouse and marital distress. Specifically distressed females perceive their husbands intent of communication more negatively than distressed husbands perceived their wives intent of communication. Other
research (Noller, 1980) has suggested that wives are more sensitive to marital distress than husbands due to a superior encoding ability and therefore marital therapy might well be aimed at improving expressive skills of husbands. The use of outside observers as Noller employed is an interesting way to determine if accurate communication of nonverbal feeling is a result of one spouse's superior encoding or the other spouse's superior decoding. However, in the present study since encoding of spouse x was defined as the difference between x's intent and his or her partner's (y's) impact, encoding ability is established by the value of the difference between these two variables and represents x's encoding ability.

From the results of the present study, a question arises concerning the validity of perception of intent made by husbands and wives. Distressed wives perceive their husband's communication intent more negatively than distressed husbands perceive the communication intent of their wives. Are distressed wives accurate in their more negative perception of their husband's communication intent? If one is to believe that husbands and wives accurately report their (actual) communication intent, then one would have to conclude that wives are not accurate, since distressed husbands report their communication intent more positively than wives report perceiving their communication intent.

Noller (1982a) examined the accuracy of distressed couples in decoding positive, neutral and negative messages. Noller assigned a number to each communication message, the number represented the degree that the intention selected by the decoder was more positive or
more negative than the correct intention. Positive messages decoded as negative were assigned a score (number) of -2, positive messages decoded as neutral were given a score of -1, and positive messages decoded as positive intention were assigned a score of 0. Negative messages received a score of +2 when decoded as positive, +1 when decoded as neutral, and 0 when decoded as negative. The larger the score the greater the degree of decoding bias in both positive and negative directions. Distressed couples did not differ from nondistressed couples in the degree of bias. However, it was found that distressed husbands had a bias to decode in a negative direction and distressed wives had a bias to decode in a positive direction. If distressed wives have a tendency to decode their husbands intentions more positively than they are, then wives who perceive their husbands' communication intentions as negative are "underresponding" to their husbands intentions rather than "overresponding." In other words if a distressed husband's communication intention is negative the wife is more inclined to rate his intentions as more positive than his intentions actually are. This finding sheds new light on the interpretation of perceptions in distressed marriage. It implies that distressed husbands are communicating with more negative intent than they admit having and that distressed wives are accurately perceiving their husbands' communication intent. This may mean that distressed husbands are merely incapable of accurately encoding or expressing their feelings verbally.

If we assume that the wife does not have a negative bias in decoding, and if we consider Noller's (1980) finding that distressed husbands are poorer than their wives in encoding positive emotions,
then marital therapy aimed at teaching husbands to communicate positive feelings might improve the quality of interaction between husbands and wives in distressed relationships.

The present study is unique in that it is one of the few marital interaction studies of verbal communication to measure encoding or decoding ability and the only study known by the present author to measure couples communication of their own feelings. The finding that decoding ability is greater for nondistressed couples than distressed couples is an interesting one. None-the-less, the expected wife superiority in decoding ability was not supported, nor was there support for wife superiority in encoding ability. One explanation for this lack of anticipated findings is that the sample size was too small to detect differences between sex with regard to these two variables. Another possible explanation rests in the particular design of the present study.

In order to obtain encoding and decoding scores, each subject was responsible for assessing three variables of communication: intent, impact, and perception of intent. Consequently, during each speaker change signalling when ratings were to be made, the speaker rated one variable (intent) while the listener rated two variables (impact and perception of intent). Having each subject alternate between making one rating and two ratings might be too intrusive, artificial, and difficult. If the study had been designed so that each subject only had to make one rating per verbal exchange the results might be different than those obtained. No doubt communication would flow more naturally with less time being used to rate multiple variables. One suggestion would be to measure encoding and decoding at different
times so that each subject would only need to make one rating during each rating period.

Another possible explanation for the failure in finding wife superiority in encoding and decoding may lie in the data analysis. The present study analyzed the means of all five communication ratings after assigning scores of 1-5 for very negative through very positive. If Noller's (1980) finding that husbands are poorer encoders of positive emotion is correct, the present study by not comparing positive and negative ratings, could not detect the difference if it was present. Regarding decoding ability, the present study was unable to determine unequivocally decoding ability of husbands compared to wives partly because each spouse's decoding score is partially derived from his or her spouse's intent rating. If each spouse's intent rating was indicative of his/her true intentions, there would be no apparent problem in using discrepancy scores of spouse's intent rating and subject's perception of intent rating to measure decoding ability. But if one spouse does not accurately report his or her intentions, then the subject's perception of intent is really a measure of this inaccuracy.

For example if a husband has negative intentions, but rates his intentions as positive, the wife would be accurate if she perceived his intention as negative. However she would receive a very high discrepancy score, interpreted as she having poor decoding ability due to her husband's inaccurate reporting of his true intent.

One way to determine if couples are correctly identifying their feelings is to treat the couples with marital therapy. Pre- and post-therapy communication measures may find that prior to therapy one
or both spouses are guilty of inaccurately reporting their true feelings of intent and or impact.

In summary, this study found that while distressed couples did not differ from nondistressed couples in their communication intent, impact was nonetheless found to discriminate between distressed and nondistressed couples. Also, encoding and decoding was significantly less accurate in distressed couples compared to nondistressed couples. Lastly, sex differences were found with perception of spouse intent being significantly lower for wives in distressed marriages as compared to husbands in distressed marriages and as compared to nondistressed couples. More research is needed to investigate the perceptual differences as they affect the quality of communication in distressed and nondistressed relationships.

The unique way in which the present study measured encoding and decoding ability of distressed and nondistressed couples deserves some discussion. Previous studies cited measuring encoding and decoding of verbal communication in marital studies (i.e., Kahn, 1970; Noller, 1980) rely on couples' ability to encode and decode predetermined verbal messages of a predetermined emotional state (i.e., positively, neutrally or negatively). Consequently the feelings encoded and decoded are not real feelings experienced by the couples. However, in the present study the feelings encoded and decoded are presumed to be real because couples are instructed to talk about issues as they would normally and to rate their feelings (impact, intent, and perception of intent) as they occur naturally (see Instructions to Couples in Appendix).
The value of measuring encoding and decoding ability of verbal communication in marital couples using the design of the present study needs to be emphasized. Since encoding and decoding measures are derived from couples' own communication while solving problems endorsed by these same couples researcher and therapists should be better able to isolate patterns of communication that can account for deficits in the communication process and intervene accordingly. For example, a therapist using the methodology of the present study and using a video tape of the couples communication, might discover that a particular husband has a specific difficulty decoding certain kinds of messages (i.e., requests for affection) from his wife, but has no difficulty decoding other kinds of messages from his wife.

Similarly used, the methodology of the present study might aid couples in determining the cause of distressed wives more negative perception of husbands intentions based on husbands communication. By processing couples' communication using a videotape recorder and by analyzing the three channels of communication measured in the present study, clarification of intentions, perceptions, and feelings can be made, perhaps improving the communication of couples in therapy and hopefully improving the quality of marital satisfaction.
REFERENCES


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