Interactional characteristics of facial pain patients and their spouses: Assessment of self-report and behavioral observation measures of cohesion, adaptability, and marital satisfaction

Pamela Guyler Boll
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Interactional characteristics of facial pain patients and their spouses: Assessment of self-report and behavioral observation measures of cohesion, adaptability, and marital satisfaction

Boll, Pamela Guyler, Ed.D.

The College of William and Mary, 1990

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Interactional Characteristics of Facial Pain Patients and Their Spouses: Assessment of Self-Report and Behavioral Observation Measures of Cohesion, Adaptability, and Marital Satisfaction

A Dissertation Presented to
The Faculty of the School of Education
The College of William and Mary

In Partial Fulfillment
of the Requirement for the Degree
Doctor of Education

by
Pamela Guyler Boll
April, 1990
Interactional Characteristics of Facial Pain Patients and Their Spouses: Assessment of Self-Report and Behavioral Observation Measures of Cohesion, Adapatability, and Marital Satisfaction

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DEDICATION

To Amelia Bard Lukens, my grandmother;
To Lois Lukens Guyler, my mother; and
To Kirstin Laran Boll, my daughter.

May this piece of writing break the cycle of
pain, suffering, and victimization of the
women in our family.

And to "Daddy," Thomas Winslow Guyler.
At last I know you're proud of me!
May your spirit of dedication carry on through my work.
The principal investigator for the following research was Daniel M. Laskin, D. D. S., Chairman, Department of Oral and Maxillofacial Surgery, Medical College of Virginia, School of Dentistry; and Stephen M. Auerbach, Ph. D., Department of Clinical Psychology, Virginia Commonwealth University, was psychological advisor to the grant project.

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CHAPTER I: Introduction

Statement of the Problem and Need for the Study

To examine the patient within the context of their social environment is consistent and compatible with good medical practice (Ornstein & Sobel, 1987). "Attending to the psychological needs of the patient can complement the technical focus of modern biomedicine and may yield tremendous dividends in terms of comfort, decreased anxiety, and even recovery" (p. 254); thereby, suggesting that perhaps a psychotherapeutic intervention could be beneficial.

Social and psychological disturbances are likely to occur to patients suffering from chronic pain (Crook & Tunks, 1985). Individuals who attend chronic pain clinics and who are persistent pain sufferers are usually considered to be atypical of the "general population who suffer from persistent pain but who are not referred to such clinics" (p. 876). These patients are thought of as possibly lacking in positive coping skills and are perhaps less adaptive to problems relating to social roles, work roles, and have higher emotional distress (Crook & Tunks, 1985). Adaptability is seen as perhaps a weak area for the pain patient. Crook and Tunks (1985) suggest that attention must be focused beyond the medical disorder and may require an environmental change for the patient along with reeducation.
and rehabilitation. Individualizing treatment programs where attention to "needs, attitudes, and circumstances" is essential; flexibility of procedures with different sorts of patients is imperative and useful (Meichenbaum & Turk, 1987, p. 219).

This study will compare pain couples' self-report and the health care professionals' evaluation of the state of their marital relationships as well as the pain patients' level of pain in an attempt to document the "needs, attitudes, and circumstances" of this population.

Current research shows that families have a strong impact on the health of individuals within the family system (Flor & Turk, 1985); and chronic personal and family suffering is common among pain patients who deny affect, especially anger (Bouckoms, Litman, & Baer, 1985). Pain patients usually describe themselves as successful copers and as aggressive "despite chronic family illness and psychological stress. Angry, depressed feelings may be present, but an idealized view of the situation is usually foremost. A pseudo-healthy state based on denial of feelings is striking by the dissonance between what the patient claims and the physician observes face to face with the patient and in the disruption of the patient's life" (p. 886).

In chronic pain research today, the prevailing trend is
toward a greater exploration of the environment in which the patient lives and the people with whom he/she interacts. Fordyce, Roberts, and Sternbach (1985) note the powerful consequences of the environment on the patient when discussing the behavioral management of chronic pain. Since pain and illness are experienced by an individual in the context of his/her environment, pain has a tremendous effect on the patient and the patient's family as well (Flor & Turk, 1985; Flor, Turk, & Rudy, 1987; Payne & Norfleet, 1986; Turk, Flor, & Rudy, 1987; Turk, Meichenbaum, & Genest, 1983). Turk, Meichenbaum, and Genest (1983) and Turk, Flor, and Rudy (1987) stress that pain changes the patient's life, but in addition, forces change in all areas of family interaction: recreation, finances, household responsibilities, sexual activities, and child rearing practices. Pain becomes a family problem when the focus of an entire family system is on pain.

Including the spouse in the treatment of a patient's medical problem seems obvious to the family therapist; nevertheless, this practice is uncommon in the medical community (Dym, & Berman, 1985). As the research moves from focusing on the pain patient individually to focusing on the patient's spouse and family as well, there exists a need for descriptive information on the pain couple. Some chronic pain literature suggests that chronic facial pain patients may live in dysfunctional families (Boll, DuVall, & Mercuri,
1983; Malow & Olson, 1984), and spouse involvement may be crucial to medical improvement in the patient (Boll & Mercuri, 1988).

Turk et al. (1983) propose the inclusion of the family in the assessment and therapeutic processes of the pain patient. They suggest spouse involvement for clarifying ambiguities, charting couple interaction, and avoiding sabotaging behaviors on the part of the significant others. Significant others and family members may also benefit from information obtained from the patients' pain ratings. Baekeland and Lundwall (1975) note that a high dropout rate in treatment was directly related to a lack of participation of significant others in a review of 19 studies comparing social support and treatment dropout.

The belief system of the patients is crucial regarding their feelings toward the effectiveness of psychotherapy (Cameron, 1978; Frank, 1974). Cameron (1978) and Frank (1974) suggest that which type of psychotherapy is not as important as the patients' beliefs of its' benefits.

Boll and Mercuri (1988) suggest a collaborative effort in the resolution of complex temporomandibular joint dysfunction where the patient is considered a major contributor to the treatment decision-making team. There needs to be agreement between patient and doctor to increase the likelihood of patients' following medical recommendations (Meichenbaum & Turk, 1987). "Adherence
conveys the implication of choice and mutuality in treatment planning and implementation" (p. 20). The doctor/patient relationship is critical to patient [and spouse] following through with the recommendations of the health care providers (Meichenbaum & Turk, 1987).

While couple and/or family therapy may become an integral component of a multi-dimensional chronic pain center in the future, current research does not empirically support a move in that direction. Flor et al. (1987) voice their "intuitive sense" that families should be involved in pain treatment, but they state that little evidence is currently in existence to support their intuition. Clearly a major difficulty at present according to Flor et al. (1987) is that guidelines for family or spouse involvement in pain treatment are lacking. Individualizing the treatment program (Meichenbaum & Turk, 1987) for couples with marital difficulties could perhaps meet the needs of certain pain patients and their spouses.

A major problem with including spouses in treatment with pain patients would be overcoming the couples' skepticism about such an approach. The literature (Pilowsky, Chapman, & Bonica, 1977; Sternbach & Rusk, 1973) indicates that pain patients typically view their pain in physical rather than psychological terms, and they are more likely than medical patients to "deny life problems not directly related to disease" (Pilowsky et al., 1977, p.
Therefore, it is likely these pain patients and their spouses would be resistant to viewing couples' psychotherapy as relevant to the resolution of the pain problem. This project proposes to empirically investigate whether in fact pain couples' view their marital relationships differently from experienced family therapists.

This study will attempt to establish guidelines for the dental community for identifying patients and spouses who could perhaps benefit from couples therapy. In addition, this study proposes: 1) to accurately describe the family interactions of pain couples who have sought services from a chronic pain research/treatment center; 2) to determine the relationship(s) between self-reports and behavioral observation/clinical ratings of pain couples' family interactions; and, 3) to explore the relationship between self-reports of perceived pain and the family type of the pain couples.

**Definition of Terms**

*Health care professionals/providers:* family therapists in this current study.

*Affective pain:* the dimension of pain which indicates how much the pain interferes with the patient's life; the emotional and psychological portion of the pain experience (measured by the VAS).

*Sensory pain:* the dimension of pain which indicates
the intensity of the pain; how much the pain hurts physically (measured by the VAS).

**Chronic pain:** pain which has lasted for three months or longer (Merskey, 1986).

**Pain couple:** pain patient and spouse.

**TMD:** temporomandibular disorders. Includes TMJ, DJD, MPD, etc.

**TMJ:** temporomandibular joint syndrome. A syndrome characterized primarily by disease in the temporomandibular joint. Often includes degenerative joint disease (DJD). Considered to be a truly physiological disorder.

**MPD:** myofascial pain dysfunction syndrome. A syndrome characterized primarily by muscular pain in the face (near the temporomandibular joint) and neck without organic dysfunction. Primarily considered to be a stress-related disorder.

**Couple cohesion:** the degree to which the couple is emotionally bonded to each other (measured by FACES--III, Couples Version).

**Couple adaptability:** the degree to which the couple is flexible and can adapt in response to situational or developmental stress (measured by FACES--III, Couples Version).

**Family/Marital satisfaction:** the degree to which the couple is currently satisfied with the marriage (measured by
Theoretical Rationale

Henry B. Richardson (1945) proposed to the medical world the notion of examining the patient and his family to see how the family contributes to the development of disease and illness. Richardson noted that "the time is now ripe for a coordinated attack on the problems of family adjustment in relation to the maintenance of health and the treatment of illness" (1945, p. xviii). In his revolutionary book, Patients Have Families, Richardson explores in detail the medical history of families where "nearly all of the families . . . were characterized by a similar amount of tension, expressed in different ways . . . the family pattern was important for an understanding of the ills of the family and the development of family illness" (p. 48).

Patients Have Families was a first account of environmental contributions to the onset of disease. Richardson (1945) not only drew connections between emotional states and illness but also hypothesized that working environments, which included long hours, poor working conditions, exposure to chemicals, and poor interpersonal working relationships, reduced a person's resistance to illness. He believed that poor housing, unhygienic living conditions, and inadequate money for food and medical care "all predispose an individual to illness,
and they are all directly or indirectly related to the family unit" (pp. 65-66).

During the 1930's and early 1940's, the development of psychosomatic medicine as a specialty became an area of investigation where "psyche and soma, mind and body, are one" (Richardson, 1945, p. xv). Within the psychosomatic movement, Richardson proposed that investigation into the concept of the family unit be explored. His notions to some are still revolutionary. "The members of the family may be compared to the organs of the body, in spite of obvious differences. Although the intra-family relationships are not often essential to life, each individual is profoundly affected by the others and by the family as a whole" (p. 79). Richardson relates the concept of family equilibrium as a variable which affects disease, and notes that disease is a "manifestation of a disturbance in the life equilibrium and shows itself to the doctor mainly in the effort to restore that balance... The body often over-reacts... but on the whole the effect is to preserve the life adjustment" (p. 78).

More recently Minuchin and colleagues at the Philadelphia Child Guidance Clinic have explored the individual with an illness in the context of the environment (Minuchin et al., 1975; Minuchin, Rosman, & Baker, 1978). Minuchin's family therapy theory, based in systems theory, has focused attention on the identified patient in his
"social context" (Minuchin, 1974, p. 4). Minuchin et al. (1978) hypothesize that the psychological makeup of the individual and his/her behavior is influenced by family members from childhood onward. This model takes into account the "significance of the individual family member's psychological experience" (p. 10) and looks further to the larger system of the family, thus observing the extent to which family members influence each other's behavior. This model clearly examines the individual within his/her context.

Minuchin et al. (1975) have introduced their conceptual model of psychosomatic illness in children using an "open systems model" which incorporates the systems viewpoint of illness. Here the patient and illness are examined simultaneously while paying close attention to the context of the family environment. Minuchin states that in their research they "have begun to look beyond the individual to the individual in his social contexts and to the feedback process between individual and context" (p. 1032). Their work has led to more effective treatment techniques in working with what they call psychosomatic syndromes.

Minuchin et al. (1975) list four family transactional characteristics which "provide the context for using illness as a mode of communications" (p. 1033): enmeshment, overprotectiveness, rigidity, and lack of conflict resolution. Enmeshment is characterized by a great degree
of overinvolvement among family members in which individuals are poorly differentiated, there is an interdependence of relationships, and there are weak family subsystem boundaries. Overprotectiveness is characterized by a high degree of concern among family members for each other's welfare. The enmeshed family that becomes pathological exhibits rigidity while maintaining the status quo. These families also have a low threshold for conflict, problems are often left unresolved, and the family often believes the only problem in the family is the illness of one of its members.

Boll, DuVall, and Mercuri (1983), Malow and Olson (1984), and Whitney (1986) hypothesize that chronic facial pain patients fit Minuchin's model of the psychosomatic family and exhibit family interactional patterns which focus on enmeshment, rigidity, overprotectiveness, and a lack of conflict resolution.

Minuchin and Fishman (1981) hypothesize that "the family is constantly subjected to demands for change, coming from within and without. . . . Change is, in fact, the norm, and a long-range view of any family would show great flexibility, constant fluctuation, and quite probably more disequilibrium than balance" (pp. 20-21). Change needs to be understood as a challenge where it is viewed as an opportunity for growth, thus being incorporated into a more flexible view of the world (Ornstein & Sobel, 1987). This
study assumes that couples faced with a pain problem would be subject to experiencing change within the family system and perhaps exhibit difficulties in the areas listed above.

General Hypotheses

Olson (1977) states that we must gain two perspectives when attempting to ascertain information on interpersonal relationships. When studying dyadic (couple) relationships, Olson suggests the collection of data via both self-report (insider's viewpoint) and behavioral observation (outsider's viewpoint). He states that these two perspectives are in actuality two different domains. If we are to gain a comprehensive picture of interpersonal relationships, then we need both perspectives. "These are two mutually exclusive frames of reference, and neither is sufficient alone, but together they can provide a more comprehensive understanding of interpersonal dynamics" (Olson, 1977, p. 117).

Filsinger (1983) advises the use of multi-method assessment and considers the self-report as an insider's subjective frame of reference. He also recognizes the use of observer subjective reports as an outsider's subjective view. Olson (1977) supports using observer subjective reports particularly when making clinical assessments. This is where behavior is observed and "subjective evaluations and descriptions are made" (p. 119). The importance of selecting methods which will yield the most useful and valid
data is crucial to the researcher. Both insider and outsider points of view are incorporated into this study to help the author "develop theoretical formulations" (p. 128) and clarify "conflictual findings in the same field" (p. 129) as Olson recommends.

A methodological problem in comparing "insider" vs. "outsider" perspectives of families is that there is consistently a lack of agreement across these two methods (Olson, 1977; Olson, Portner, & Lavee, 1985). Both perspectives are collected to enhance the complexity of the picture of the pain couple. Although the previous literature denotes a disparity between self-report and behavioral observation, this population may not fit that norm of disparity. Initially, both patient and spouse have volunteered, and both patient and spouse are in agreement concerning attending the initial medical evaluation as a couple. This could perhaps cause the results to be different from what the literature reports.

Olson and Portner (1983) describe the Circumplex Model which they developed to assess cohesion and adaptability (see Definition of Terms section) in family and marital relationships. These two concepts create the Family Adaptability and Cohesion Evaluation Scales (FACES—II) which is derived from family therapy literature and family theory and describes two primary dimensions of behavior in families. The Circumplex Model of family systems "can be
used to provide a systematic assessment of a marital and family system and for planning treatment intervention" (Olson, 1989, p. 7). "Another way to consider the Circumplex Model is as a map of 16 types of couple and family relationships..." (Olson, 1989, p. 13). Both a self-report and a behavioral observation instrument were developed. The results from each vantage point can then be charted on the Circumplex Model to determine their family/couple type.

In this study the behavioral observation/clinical rating instrument will be the Clinical Rating Scale (CRS) (Olson & Killorin, 1985) and the Family Adaptability and Cohesion Evaluation Scales—III, Couples Version (FACES—III) will be used as the self-report instrument (Olson et al., 1985). The CRS was developed primarily for clinical assessment of families and couples on cohesion, change [adaptability], and communication (Olson & Killorin, 1984).

The FACES (FACES) self-report instrument (Olson et al., 1985) consistently discriminates between problem and non-problem families and can predict in a particular direction. FACES--III was created to enable the clinician or researcher to place families or individuals within a family on the Circumplex Model. "As hypothesized by the Circumplex Model, significantly more non-problem families were balanced while significantly more problem families were extreme types" (p. 1). A central hypothesis is that extreme families on both
dimensions will function less adequately than balanced families, will have difficulties coping with developmental and situational stress, and will have less positive communication skills. "This assumes a curvilinear relationship on the dimensions of cohesion and adaptability. This means that too little or too much cohesion or adaptability is seen as dysfunctional to the family system" (p. 6).

Incongruence among family members has been found in all self-report scales when examining family systems (Olson, 1985). This lack of agreement between individual family members on self-report instruments is a consistent problem with family therapy research according to Olson and colleagues. The lack of congruence is demonstrated on numerous reports with an average correlation being in the .40's (Olson, 1977; Olson et al., 1983). However, one would expect differences, and collecting data from as many family members as possible is important when attempting to ascertain the diversity of opinions from various family members (Olson et al., 1985). Clearly this difference between individuals' viewpoints is important to examine.

In addition, family therapy researchers (Fisher, Kokes, Ransom, Phillips, & Rudd, 1985) are calling for the creation of relational data. This would include the examination of the patient and the spouse as a unit, as well as individually. This would provide us with information on
couple functioning as well as individual differences and similarities.

Although family therapy research literature notes incongruence among family members on self-report instruments, some literature indicates that agreement among spouses is significantly related to marital happiness (Ross, Clifford, & Eisenman, 1987). Headache couples who completed couples therapy versus those who dropped out of treatment were the couples who were more stable in their relationship (Roy, 1989). And, Broderick and O'Leary (1986) report "higher levels of positive feelings, commitment, and positive behavior were associated with higher levels of marital satisfaction" (p. 516).

Determining a family satisfaction score (to be referred to primarily as marital satisfaction) for individuals and couples is possible with the FACES--II and FACES--III instrument (Olson & Portner, 1983; Olson et al., 1985). The family satisfaction score is derived by administering the FACES--III instrument to each member of the family twice. The "perceived" cohesion and adaptability scores and the "ideal" cohesion and adaptability scores of each family member are established. The perceived/ideal discrepancy score for each dimension is then computed, summed, and labeled as the family satisfaction score for each person.

And finally, a study utilizing a pain patient population would be incomplete without assessing the pain
patient's pain. The Visual Analogue Scale (VAS) developed by Price, Barrell, and Gracely (1980) measures sensory and affective pain [see Definition of Terms section] and is considered a highly reliable self-report instrument for measuring pain.

Analyses of the preceding literature indicates the feasibility of the following hypotheses in this study:

1. FACES profiles of pain patients and their spouses will show poorer functioning in the areas of Cohesion and Adaptability than the normative sample.

2. There will be a statistically significant positive relationship between the FACES self-report measures of pain patients, spouses, and pain couples and the behavioral observation measures (CRS and Clinical Rating (CR)) of Cohesion, Adaptability, and Marital Satisfaction.

3. There will be a statistically significant difference (as measured by the FACES on the Circumplex Model) between groups (Balanced, Mid-Range, Extreme) in perceived pain as measured by the VAS. (The higher the pain the less functional the family group.)

Sample and Data Gathering Procedures

Sample Population
Patients who presented to the Medical College of Virginia/Virginia Commonwealth University (MCV/VCU) Temporomandibular Joint (TMJ) and Facial Pain Research Center and the Department of Oral and Maxillofacial Surgery were screened for inclusion in the Behavioral Observation Couples Study. Patients who were married or living with someone for a year or longer were considered for the study (or who had a long-term relationship as a couple). All patients who were scheduled on two particular clinic days from June, 1986, through July, 1987, were asked by a staff member to bring their spouse to the first medical evaluation. Those patients who agreed to bring their spouse were included in this study. The patient was told they would meet with a pain researcher (the author) from the pain center prior to their visit with the doctor, if possible, or after their initial medical evaluation for one hour.

The patients were seen by a medical staff member of the TMJ and Facial Pain Research Center or the Department of Oral and Maxillofacial Surgery (doctors often work in both). Participation in the study did not effect the doctor's choice of medical treatment nor the patients' medical diagnosis. The doctors were not privy to the couples' data prior to the medical evaluation. Other data collected on the individual patients as part of the normal protocol of the pain center was given to the doctor prior to the medical evaluation.
The pain symptoms were diagnosed and fell into the following categories listed below:

A. Temporomandibular Disorders
   1. TMJ: arthritis (degenerative joint disease—DJD, tumors, . . .).
   2. MPD.

B. OTHER (vascular pain, headache, neuralgia, . . .).

Data Gathering Procedures

Data was collected in two ways.

1. Those patients and spouses who agreed to participate in the study prior to their initial visit were forwarded self-report instruments by the secretary (described below). They were asked to complete these instruments prior to the initial medical evaluation.

2. Those patients and spouses who agreed to participate in the study the day of the initial medical evaluation were asked to complete the self-report instruments prior to meeting with the pain researcher.

Data Collection — Phase I. The patients and spouses were asked to complete separately the Family Adaptability and Cohesion Evaluation Scales (FACES—III, Couples Version). These were completed either prior to or following the initial medical evaluation.

Data Collection — Phase II. During Phase II the pain couples met with the pain researcher where the basic concepts of the study were explained to the couples. The
patients were asked to complete the Visual Analogue Scale (VAS) to assess the sensory and affective dimensions of pain. A brief interview (see author for Couples Interview) was then conducted to determine how the pain effected the couples' lives and ascertain their willingness to participate in psychotherapy -- individual, couple/marital, and/or group [this is not part of the dissertation].

The couples were videotaped answering six questions dealing with decisions-making and working together answering questions related to conflict (see APPENDIX -- Questions for Couples). Prior to videotaping, the pain couples were asked to read and sign a video release form (see APPENDIX -- Video Release Form) which was witnessed, dated, and signed by the pain researcher. The pain couples were then instructed to read aloud the questions, to answer them verbally between each other within a maximum of 30 minutes, and to stop the videotaping when the questions were answered.

Approval for the Study

This family therapy research project was approved by the National Institute of Dental Research (NIDR DE06946-02): Pathophysiology of MPD and other facial pain syndromes; the Medical College of Virginia/Virginia Commonwealth of Virginia's Human Subjects Committee; and the College of William and Mary, School of Education's Human Subjects Committee.
Limitations of the Study

The population for this study was comprised of only patients who were seeking treatment for their pain problem and whose spouses were willing to attend the initial medical evaluation as a couple. This skews the patient population. Agreement to participate in psychotherapy may be high in this study, because the pain population was comprised of volunteers. Ramsey (1982) notes that volunteers are perhaps somewhat unrepresentative of the typical patient population. A limitation of the study was the small number of couples interviewed and medically evaluated; a larger number of couples would have been desirable. The MCV/VCU TMJ and Facial Pain Research Center and Department of Oral and Maxillofacial Surgery's patient population lives throughout the state of Virginia and travel time appeared to limit the availability of having both spouses present during a typical work week. In addition, some patients appeared reluctant to invite their spouse to attend the initial medical evaluation session and therefore limited the population pool further.
CHAPTER II: Review of the Literature

Pain

Social and psychological disturbances are likely to occur to patients suffering from chronic pain (Crook & Tunks, 1985). Individuals who attend chronic pain clinics and who are persistent pain sufferers are usually considered to be atypical of the "general population who suffer from persistent pain but who are not referred to such clinics" (p. 876). These patients are thought to be possibly lacking in positive coping skills and are perhaps less adaptive to problems relating to social roles, work roles, and have higher emotional distress (Crook & Tunks, 1985). In addition, these chronic pain patients report poor sexual adjustment (suggested by a high frequency of preorgasmic and secondary erectile dysfunction) and low marital satisfaction (Merskey & Spear, 1976). Adaptability is seen as perhaps a weak area for the pain patient.

Feuerstein, Sult, & Houle (1985) in an empirical study comparing low back pain patients and healthy matched controls suggest their findings support the relationship between environmental stressors and pain. They suggest that operant mechanisms and stress play a role in the appearance of pain in the family; and "increased family conflict was associated with increased distress and increased pain, while increased family independence was correlated with less..."
distress and increased pain. Less peer cohesion, less physical comfort, and less job clarity were correlated with increased pain, but not distress" (p. 295).

Crook and Tunks (1985) suggest that attention must be focused beyond the medical disorder and may require an environmental change for the patient along with reeducation and rehabilitation. Individualizing treatment programs where attention to "needs, attitudes, and circumstances" is essential; flexibility of procedures with different sorts of patients is imperative and useful (Meichenbaum & Turk, 1987, p. 219).

Pain can be divided into two types: acute and chronic (see Definition of Terms section). For the purposes of this study, a distinction will not be made between types of pain patients. However, length of time in pain will be reported.

Pain and Couples/Families

Current research shows that families have a strong impact on the health of individuals within the family system (Flor & Turk, 1985); and chronic personal and family suffering is common among pain patients who deny affect, especially anger (Bouckoms et al., 1985). Pain patients usually describe themselves as successful copers and as aggressive "despite chronic family illness and psychological stress. Angry, depressed feelings may be present, but an
idealized view of the situation is usually foremost. A pseudo-healthy state based on denial of feelings is striking by the dissonance between what the patient claims and the physician observes face to face with the patient and in the disruption of the patient's life" (p. 886). In addition, Waring (1977) suggests that the families of pain patients usually have difficulty expressing thoughts and feelings, typically characteristics of the families with traditional psychosomatic disorders.

In chronic pain research today, the prevailing trend is toward a greater exploration of the environment in which the patient lives and the people with whom he/she interacts. Fordyce, Roberts, and Sternbach (1985) note the powerful consequences of the environment on the patient when discussing the behavioral management of chronic pain. Since pain and illness are experienced by an individual in the context of his/her environment, pain has a tremendous effect on the patient and the patient's family as well (Flor & Turk, 1985; Flor et al., 1987; Payne & Norfleet, 1986; Turk et al., 1987; Turk et al., 1983). Turk et al. (1983) and Turk et al. (1987) stress that pain changes the patient's life, but in addition, forces change in all areas of family interaction: recreation, finances, household responsibilities, sexual activities, and child rearing practices. Pain becomes a family problem when the focus of
an entire family system is on pain.

Including the spouse in the treatment of a patient's medical problem seems obvious to the family therapist; nevertheless, this practice is uncommon in the medical community (Dym & Berman, 1985). As the research moves from focusing on the pain patient individually to focusing on the patient's spouse and family as well, there exists a need for descriptive information on the pain couple.

There has been considerable speculation about the role of the family and family factors in both the origin and maintenance of pain symptoms in chronic pain patients. Turk et al. (1987) reviewed these articles in depth. Clinicians have suggested that family relationships and family interactional patterns have a significant influence on the emission of pain behavior by individuals in those families.

Turk et al. (1983) propose the inclusion of the family in the assessment and therapeutic processes of the pain patient. They suggest spouse involvement for clarifying ambiguities, charting couple interaction, and avoiding sabotaging behaviors on the part of the significant others. Significant others and family members may also benefit from information obtained from the patients' pain ratings. Baekeland and Lundwall (1975) note that a high dropout rate in treatment was directly related to a lack of participation of significant others in a review of 19 studies comparing social support and treatment dropout.
The concept of including the spouse and family members in the treatment of the chronic pain patient is also documented by Fordyce (1976). In his operant conditioning program at the University of Washington, the analysis of pain behavior includes the examination of ways in which a "key person" in the patient's life may inadvertently reinforce and help maintain pain over time. He notes that "the social responsiveness of others as an important element in the picture usually relates to but one key person" (p. 204).

More recently family therapy has been introduced as a means of more effectively bringing about change in the patient and the family in chronic pain situations (Shanfield, Heiman, Cope, & Jones, 1979). Mohamed, Weisz, and Waring (1978) state that family dynamics play a role in tolerance, complaint, illness behavior, and expression of pain. Waring (1977) recommends assessment and often family therapy in order to avoid treatment failure with chronic pain patients.

Hudgens (1977, 1979) reports using family therapy with inpatient pain management programs. Family members, usually the spouse or parents, help implement behavioral goals such as eliminating medication, increasing tolerance for exercise and activity, and reducing overuse of the health care system. By enlisting the help of the family, Hudgens reports that 75% of the patients were able to return to
active lives. Other inpatient programs of this kind have proliferated in pain clinics during the past decade (Herman & Baptiste, 1981; Maruta, Osborne, Swanson, & Halling, 1981); and more recently, the use of family-based behavioral therapies in out-patient chronic pain treatment programs has also been reported (Follick & Ahern, 1982).

Swanson and Maruta (1980) emphasize the impact of poor communication between pain patient and family members. Delvey and Hopkins (1982) stress the role of the spouse as an implicit reinforcer of pain behavior on the part of the patient. Byng-Hall (1980) punctuates the relationship between the pain symptom and marital distance. Studies using uncontrolled and unstructured observations of "pain families" have been reported. Roy (1982) emphasizes the need for "sound" clinical research in the area of family issues and chronic pain.

While couple and/or family therapy may become an integral component of a multi-dimensional chronic pain center in the future, current research does not empirically support a move in that direction. Flor et al. (1987) voice their "intuitive sense" that families should be involved in pain treatment, but they state that little evidence currently exists to support their intuition. One study utilizing social learning based marital therapy for chronic pain patients and their spouses is reported in Dissertation Abstracts International but is negligible due to the sample
size of four (Langer, 1983). Clear guidelines for family or spouse involvement in pain treatment are currently lacking according to Flor et al. (1987). Individualizing a treatment program (Meichenbaum & Turk, 1987) for couples could perhaps meet the needs of certain pain patients and their spouses. While the feelings and the belief systems of the patients must be considered regarding the effectiveness of psychotherapy, Cameron (1978) and Frank (1974) suggest that which "type" of psychotherapy is not as important as the patients' perceptions of its' benefits.

Educating the pain couples' about the benefits of marital therapy in a pain situation might assist the clinician in overcoming the couples' skepticism of the efficacy of such an approach. The literature (Pilowsky et al., 1977; Sternbach & Rusk, 1973) indicates that pain patients typically view their pain in physical rather than psychological terms, and they are more likely than medical patients to "deny life problems not directly related to disease" (Pilowsky et al., 1977, p. 180). Therefore, it is likely these pain patients and their spouses would be resistant to viewing couples' psychotherapy as relevant to the resolution of the pain problem.

This project proposes to investigate empirically whether in fact pain couples' view their marriages differently from experienced family therapists. In addition, this study will also explore the various
perceptions of the patients and spouses of their individual marital relationships. The study will attempt to establish guidelines for the dental community for identifying patients and spouses who could perhaps benefit from couples psychotherapy; and it will also analyze data concerning the patients' and spouses' cohesion, adaptability, and marital satisfaction related to the patients' self-reported pain levels.

Facial Pain and Individuals

Temporomandibular joint (TMJ) dysfunction is usually considered to be an organic problem which Rugh and Solberg (1976) define as having three common symptoms: 1) sounds during condylar movements (i.e., popping, clicking, or crepitus of the jaw); 2) pain and tenderness of the muscles of mastication and the temporomandibular joint; and, 3) limitations of mandibular movements. The diagnosis of TMJ dysfunction can be made when any one of these symptoms is present. Laskin (1969), originator of the psychophysiologic theory and the myofascial pain (MPD) syndrome, first used the term MPD to describe a subgroup of TMJ patients who reported pain and dysfunction of the masticatory system. Laskin views tension relieving oral habits such as clenching and bruxism as having been induced primarily by psychological stress. This stress can cause painful muscle spasms in the face with referred pain in the neck and
According to Moss, Garrett, and Chiodo (1982), the criteria for MPD includes the common TMJ and MPD diagnoses with the present classification system for both disorders requiring only one of the three basic symptoms common to both disorders. Caution must be taken when reviewing previous research in which the labels TMJ and MPD could be used interchangeably.

During the past 20 years, researchers in the treatment of MPD have developed an interest in studying the psychological factors in the maintenance, etiology, and treatment of the disorder (Scott, 1981). Scott states that recent evidence suggests that MPD is a stress-related pain with headache-like muscle contractions in the lower face. Although Scott's review of the literature includes claims of 77% of MPD patients being female, he suggests this figure "more closely reflects the women's willingness to seek treatment, rather than reflecting the actual prevalence of MPD" in women (p. 453). Scott divides the etiological hypotheses of MPD into three categories: 1) anatomical hypothesis; 2) occlusion-stress hypothesis; and, 3) stress hypothesis. With the stress hypothesis there is a strong pull toward Laskin's view that the "initiating factors for the syndrome are generally emotional, rather than physical" (Laskin, 1969, p. 152). Therefore, the tension which causes the pain causes more tension which in turn creates more
pain, and a merry-go-round effect comes into play. These symptoms are generally related to fatigue or spasm of the muscles of mastication.

Evaskus and Laskin (1972) offer biochemical evidence to support the notion that MPD patients are under greater emotional stress than normal individuals. This study clearly uses scientific methods to defend the belief in the psychophysiologic process of MPD. This process can then in turn produce functional changes which can lead to organic disease in the temporomandibular joint (Boll & Mercuri, 1988). Mercuri, Olson, and Laskin (1979) continued to search for a connection between stress and MPD through a study which examined the effect of experimental stress in MPD patients and controls. This study revealed greater masseter and frontalis muscle activity in the MPD group versus the control subjects, and the specificity of response to stress again supports the psychophysiologic theory of MPD syndrome.

Lupton (1966), in an early paper on the personality characteristics of the female TMJ patient, strongly suggests a marked similarity between TMJ patients and other patients with such psychosomatic disorders as hypertension, dermatitis, ulcers, and obesity. He observed the TMJ patients as having recalcitrant symptoms which were part of their denial of all psychological weakness or conflict. This appeared to present a major obstruction to efforts to
help the patients face the psychological dimensions of TMJ dysfunction through psychotherapy. In addition, Lupton found these women with a rigid consistency of personality characteristics which focused on strength and hypernormality, and he noted these patients as seeming "to play the whole melody of her life on the single string of dominance" (p. 213).

Personality characteristics of unresponsive MPD patients were compared with responsive MPD patients in a study by Schwartz, Greene, and Laskin (1979). This study used the Minnesota Multiphasic Personality Inventory (MMPI) to examine the similarities and differences in patients who responded to treatment and those who did not. The results provide evidence to suggest that the MPD population in general is more emotionally troubled than the general population and show a greater overall degree of emotional distress. Both groups varied from the norm by being generally inclined to hysterical characteristics marked by somatization and repression. This coincides with Lupton's (1966) notion that these patients avoid looking at psychological weaknesses in themselves.

Of concern over the past 35 years in the treatment of TMJ and MPD disorders has been the personality correlates for facial pain patients. These patients have been described in studies as perfectionistic (Lesse, 1956); hostile, insecure, and aggressive (Molin, Edman, &
Schalling, 1973); anxious (Schwartz, 1974; Shipman, 1973); narcissistic, autocratic, responsible, and overgenerous (Lupton, 1966); domineering (Lupton, 1969); and neurotic and emotional (Gross & Vacchino, 1973). Speculand and Goss (1985) believe that it is impossible to identify single personality factors for the TMJ patient, and divide what they see as multiple factors into two main groups: external social factors and the innate psychiatric state of the patient. They see a strong correlation between life events and the onset or maintenance of a pain problem.

Facial Pain and Couples/Families

To date the TMJ and MPD literature concerning the psychological factors of these patients is primarily focused on the individual characteristics of the patient population. Few articles in the literature (two are merely case reports) represent an effort to examine the characteristics of the family of the TMJ and MPD patient population (Boll, DuVall, & Mercuri, 1983; Boll & Mercuri, 1988; Malow & Olson, 1984). Some chronic pain literature suggests that chronic facial pain patients may live in dysfunctional families (Boll, DuVall, & Mercuri, 1983; Malow & Olson, 1984), and spouse involvement may be crucial to medical improvement in the patient (Boll & Mercuri, 1988). Whitney (1986) attempted to systematically explore family interactional patterns in TMJ (temporomandibular joint) and MPD (myofascial pain
dysfunction) patients using standardized, objective instruments. His study was designed using self-report measures to test the hypothesis that MPD syndrome is a psychophysiological disorder (Laskin, 1969) with dysfunctional family interactional patterns contributing to its etiology. The study attempted to differentiate TMJ (organic) and MPD (stress-related) patients and their spouses in terms of Minuchin's theory of the psychosomatic family (Minuchin et al., 1975). In general, the study found mixed support for the application of Minuchin's theory and suggested that both MPD and TMJ dysfunction syndrome families have psychosomatic components related to pain and chronicity, but MPD families have a greater degree of psychosomatic components than TMJ families.

Malow and Olson (1984), using the Family Concept Inventory (considered an objective measure), found that MPD patients perceive their families as more involved in each others' lives, more concerned with success, and more ambitious than a group of normals. They did not collect spouse data.

Both of the two previous studies by Whitney (1986) and Malow and Olson (1984) used purely self-report measures. Self-report instruments are subject to dissembling and lack the immediacy of behavioral observation data. This study proposes the comparison of self-report and behavioral observation evaluations. Whitney (1986) collected spouse
measures but did not use relational data to report his findings. "A major problem facing family clinicians and researchers is creating data that will reflect the family as a unit" (Fisher et al., 1985, p. 213). This study proposes not only to move from looking at the facial pain patient individually to within the family context, but also proposes the use of relational data to describe this pain population. Both patient and spouse data will be reported separately, and the pain couple will be reported additionally as a unit. This study will attempt to examine the marital and family characteristics of the pain patients and their spouses through both self-report and behavioral observation measures.

A Prior Attempt at Psychotherapy

Flor et al. (1987) suggested that researchers help to establish guidelines for family and/or spouse involvement in the treatment of chronic pain. This review will examine a first attempt by this author and others to invite facial pain patients to participate in family (or couples) psychotherapy. In a National Institute of Dental Research (NIDR) project at the Medical College of Virginia/Virginia Commonwealth University's (MCV/VCU) Temporomandibular Joint (TMJ) and Facial Pain Research Center, an attempt was made to offer family therapy to pain patients and families (or spouses). The failure of this project led the researchers to agree with Flor and colleagues in retrospect that
guidelines were needed prior to offering psychotherapy to pain patients and families in the future.

Boll, Smith, Laskin, and Silberg (1986), in a survey collected at the MCV/VCU TMJ & Facial Pain Research Center, 441 facial pain patients were questioned by mail to determine if they were interested in a new treatment for facial pain. Of the 203 respondents, 129 indicated they would be interested in a new pain treatment. When they were subsequently sent a letter that described a family therapy approach and emphasized the importance of family support in the resolution of their problem, only five patients expressed an interest in participating. These findings suggest that chronic facial pain patients perceive psychological intervention as unconventional for what they consider to be a dental problem and perhaps need to be approached in a different, less threatening manner.

This dissertation study attempted to approach the patient and spouse together and did not provide the patient and/or spouse with too much psychological information prior to or during face-to-face contact. In addition, the patient and the spouse were questioned as to their willingness to participate in psychotherapy (individual, group, couple/marital, and family). The couple was interviewed and videotaped prior to their being offered treatment in the TMJ & Facial Pain Research Center. The couples' willingness to participate in the study did not effect the patients'
medical treatment. The patient and spouse were asked to express their answers separately, and discrepancies between spouse and patient responses will be examined.

**Family Systems, Family Systems Medicine, and Psychosomatics**

Systems theory is no stranger to medicine. Doherty and Baird (1983) in their book on family therapy and family medicine state that the physician is familiar with the systems approach through his training in biology. As the physician acknowledges the interdependence of the parts of the body and the degree to which disease in one organ affects the rest of the system, so too does the illness of one family member affect the entire family system. Unfortunately, physicians are not accustomed to seeing patients within their larger context: their family. Doherty and Baird, in their effort to assist physicians comprehend the conceptualization of the patient as a part of their family system, established the following criteria:

"1. The family is more than a collection of individuals. . . 2. Families have repeating interaction patterns that regulate members' behavior. . . . 3. Individuals' symptoms may have a function within the family. . . . 4. The ability to adapt to change is the hallmark of health family functioning. . . . 5. There are no victims and victimizers in families: Family members share joint responsibility for their problems. Family members are both
actors and reactors, especially in maintaining chronic problems" (pp. 30-32).

"While the traditional medical account of illness focused exclusively on physical causation, in the past forty years researchers have been accumulating data linking psychological factors like stress with a range of somatic problems from strep infections to diabetes, asthma, hypertension, and cancer" (Dym & Berman, 1985, p. 26). The belief that families and marriages can affect the onset of a particular symptom and help maintain psychosomatic illnesses has been described in a series of papers by the following authors: Goldberg (1958), Grolnick (1972), Meissner (1974), Waring (1977), and Weakland (1977). These authors all note the relationship among family processes, psychosomatic factors, and psychosomatic illness.

"The same illness varies greatly not only in its physical characteristics, but in the way patients experience it, and in the way families and professionals organize themselves around it. One family may experience a major illness as an assault on their sense of mastery and competence, while another may see it as an opportunity to mobilize those qualities (Dym & Berman, 1985, pp. 28-29).

Psychosomatic Medicine and the Family

The specialty area of psychosomatic medicine is an area where "psyche and soma, mind and body, are one"
(Richardson, 1945, p. xv). In his book, *Patients Have Families*, Richardson was among the first medical practitioners to include the family in the investigation of the health of the patient. Richardson explored in depth the histories of patients to determine if the family contributed in any way to the onset and continuation of disease. In these medical histories of families, Richardson looked for patterns in how family members became ill, noted similarities, and found that certain families developed disease or illness particular to one part of the body. Some families exhibited only diseases of the digestive system while other families developed diseases of the respiratory system. Richardson saw that "each individual in the family is profoundly affected by the others in the family and by the family as a whole (p. 79).

Huygen (1982), a physician and scholar from the Netherlands in his book, *Family Medicine: The Medical Life History of Families*, traces the medical histories of families for over a 20-year period. This book marks the first long-term categorizing of specific disorders which afflict families. As with Richardson, Huygen emphasizes that some families are predisposed to digestive disorders while others are plagued by nervous disorders, skin disorders, respiratory disorders, and so on. This book not only describes families and family members by illnesses over a 20-year period but also lists critical events in families'
lives (births, deaths, marriages, pregnancies and confinements, admissions to families, and departures from families) which were present prior to the onset of the illness. Medical consultations, emergency consultations, referrals to specialists, and admissions to hospitals are also listed for each family and family member. Huygen notes the coincidence of illness and family events such as those listed above and speculates on the connection among life events, onset of illness, and maintenance of disease.

The pioneering work of Salvador Minuchin and colleagues at the Philadelphia Child Guidance Clinic explored psychosomatic illness and families in depth (Liebman, Minuchin, & Baker, 1975). Their major contributions to the field of family research with psychosomatic illnesses began by changing the prevailing conceptual model of psychosomatic illness (Minuchin et al., 1975). Minuchin and colleagues saw the model as being linear which in turn "links the individual's life situation to his emotions to bodily illness in a causal chain. But the illness is seen as contained within the individual" (p. 1031). In this revolutionary article, Minuchin et al. challenge the individual personality factors as well as the individual treatment for psychosomatic illnesses and propose that steps be taken away from placing "the burden of change on the patient alone" (p. 1032).

The research at the Philadelphia Child Guidance Clinic
began "to look beyond the individual to the individual in
his social contexts and to the feedback process between
individual and context" (Minuchin et al., 1975, p. 1032).
Through their work a new conceptual model, an "open systems
model," evolved, and research using this model and
structural family therapy began to look at illnesses where
the child was the "symptom bearer." Examples in the
literature include works on intractable asthma, anorexia
nervosa, juvenile diabetes mellitus with frequent episodes
of ketoacidosis, and abdominal pain (Aponte & Hoffman, 1973;
Baker, Minuchin, Milman, Liebman, & Todd, 1975; Berger,
Honig, & Liebman, 1977; Liebman, Honig, & Berger, 1976;
Liebman, Minuchin, & Baker, 1974a; Liebman, Minuchin, &
Baker, 1974b; Liebman, Minuchin, & Baker, 1975; Minuchin,
1974; Minuchin et al., 1975; Minuchin & Fishman, 1981;
Minuchin et al., 1978; Rosman, Minuchin, Baker, & Liebman,
1977; Rosman, Minuchin, & Liebman, 1975; and White, 1979).

Minuchin et al. (1975) describe their work with
children who develop psychosomatic illness and note that a
child must first have a physiological vulnerability; exhibit
particular family interactions which include enmeshment,
rigidity, lack of conflict resolution, and
overprotectiveness; and the sick child typically plays a
vital role in maintaining the avoidance of conflict within
the family. These characteristics "provide the context for
using illness as a mode of communications" (p. 1033). The
treatment of the psychosomatically ill child includes a multidisciplinary approach where medical personnel and family therapists join together with the family to heal the child. "The therapist's attention is directed toward the context in which the psychosomatic event was initiated and is maintained" (pp. 1034-1035).

It is essential to understand Minuchin and colleagues' (1978) definition of "primary" and "secondary" psychosomatic symptomatology:

In primary psychosomatic symptomatology, a physiological disorder is already present . . . . The psychosomatic element lies in the emotional exacerbation of the already available symptom. In the "secondary" psychosomatic disorder, no such predisposing physical disorder can be demonstrated. The psychosomatic element is apparent in the transformation of emotional conflicts into somatic symptoms. These symptoms may crystallize into a severe and debilitating illness like anorexia nervosa. (pp. 1032-1033).

Within that context biological, environmental, and psychological factors are examined. Minuchin states that a precipitating event for a psychosomatic episode often occurs during normal developmental crises for individuals within
the family or with the family as a whole. The difference between psychosomatic families and normal families appears to be with how the families "make life decisions about issues that threaten the stability of the family unit" (p. 1035). In the psychosomatic family, everyone mobilizes around the system to protect the family from change or to "coerce the member whose distress or need to change is threatening accustomed transactional patterns" (p. 1036). Therapy with these families then focuses around changing the family organization. When the organization changes, the child with the psychosomatic symptom greatly improves.

Gurman and Kniskern (1981) in the Handbook of Family Therapy note: "structural family therapy should be considered the family therapy treatment of choice for these childhood psychosomatic conditions, and to our knowledge, it is the most empirically supported psychotherapy approach of any sort for these conditions" (p. 750). However, there is little research, if any, suggesting such an approach with families where an adult exhibits the symptom in the family. Several groups have described their population using the concepts of the "psychosomatic family."

describe the use of structural family therapy in two single case studies where the patient exhibited chronic facial pain. They ascribe the "fit" of the "psychosomatic family" onto these patients and hypothesize the greater applicability within the chronic facial pain population. The family characteristics of the myofascial pain dysfunction (MPD) syndrome patients are described by Malow and Olson (1984). This includes the family characteristics of enmeshment, rigidity, overprotectiveness, and lack of conflict resolution as conceptualized by Minuchin as adequately describing the MPD patients in their study.

Perhaps it does not matter whether Minuchin's concepts of the "psychosomatic family" are used with adults or with children, but the vital element is that the individual patient is examined and treated within the context of his/her family. Dr. Donald Bloch of the Ackerman Institute sums this up best: "I see the family--our familiars--that intimate network into which the individual is born, as a unit of healing for physical and emotional difficulties" (Hochman, 1984, p. 76).

Diagnostic Assessment of Couples/Families

"A diagnostic assessment of a couple or family is an essential first step in the treatment process" (Olson, 1989, p. 42). Olson (1989) suggests that the assessment process can be effective in engaging families into therapy, provide
a more "comprehensive picture of the couple and/or family system" (p. 42), and can help families understand more about their differences and similarities. According to Olson, assessment and therapy are often opposite sides of the same coin. He believes the interplay between diagnosis and intervention a constant one where effective interventions are required to produce change, and where interventions are [developed] through the assessment process. System change, notes Olson, comes about through effective interventions.

Olson (1989) acknowledges the gap between specificity of family/couple type and effectiveness of treatment strategies. He reports that projects are underway currently which will attempt to be more systematic in determining which treatment will be most effective with which types of families/couples. "Increasing the specificity between therapeutic techniques and family type increases the importance of accurate and useful diagnostic assessment both at the beginning and throughout the process of therapy" (p. 44). This study attempts to begin this process by examining pain couples as to their family types prior to intervention.

Lewis, Beavers, Gossett, and Phillips (1976) consider assessment and intervention at the level of the marital system as having potentially the "greatest impact upon the individual and the total family" (p. 223). In their book on family functioning, *No Single Thread: Psychological Health in Family Systems*, they suggest that in less than optimal
families the wife/mother is the first person in the family to suffer from the system's inadequacies. The wife/mother is therefore the first person to become symptomatic, dissatisfied, or distressed. This concept may help determine if family/couple functioning in facial pain patients is crucial in assessment and treatment, since the majority of facial pain patients are females.

Behavioral Observation/Clinical Rating

At Yale University Steidel et al. (1980) examined family functioning and interactions in patients receiving long-term dialysis treatment using both self-report, behavioral observation (scored by the Beavers-Timberlawn Family Evaluation Scale), and various medical assessment instruments. The patients and families were videotaped completing family assessment tasks originally designed by Minuchin and colleagues and were rated in areas of family structure and interaction. This study utilized the concept of multi-methods of data collection and provided this author with the concept of updating the family assessment tasks to focus primarily on couple/family conflict. Dr. Bernice Rosman (personal communication, September 1987) of the Philadelphia Child Guidance Clinic insisted that the author avoid the use of the original videotape evaluation scale.

Behavioral Observation/Clinical Rating and Pain

To date little research has been attempted using behavioral observation with chronic pain patients and their
spouses. Dr. Joan Romano (1986) at the American Pain Society Sixth General Meeting called for research using behavioral observation with chronic pain couples and families. Perhaps the best-known work in this area has been published by Andrew Block. Block, Kremer, and Gaylor (1980) videotaped 20 married chronic pain patients from a pain management program to elicit the responses of the patients to determine their spouses responses to pain behaviors. The results indicated that patients who reported their spouses as relatively non-solicitous in responding to pain behaviors had significantly lower pain levels when in the spouse-observer condition than in the neutral-observer condition; and the patient whose spouse was more solicitous reported higher levels of pain. This behavioral observation study suggests than an empathetic response may serve to reinforce pain behavior.

In another study, Block (1981) had spouses of chronic pain patients watch painful and neutral expressions of their spouses, other chronic pain patients, and performers to assess the responses of spouses to chronic pain behavior. Both studies by Block included the spouse but neither assessed the pain patient and spouse as a couple; rather they observed the responses of the spouses for reinforcement of pain behaviors. Block (1981) presents evidence that spouses of chronic pain patients were susceptible to developing psychophysiological disorders. The greater the
degree of marital satisfaction reported by the spouses, the greater the risk for developing illness. In addition, Block (1981) notes that spouses of chronic pain patients reported a higher level of marital satisfaction and were more solicitous than spouses who rated their marriages less satisfactorily.

**Self-report and Pain**

Flor, Turk, and Rudy (1987) in their seminal article on the assessment of pain and families noted that a major problem gathering data on this population is the lack of instruments which are "psychometrically sound and that are specifically developed for use with families of chronic pain patients" (p. 34). Since there are no self-report instruments which examine family variables which are specifically related to pain, Flor et al. suggest using several instruments including the FACES--II, developed by Olson and Portner. According to Flor et al., the FACES--II has been used with some success with a pain patient population, and their concern as to the ability of this instrument to discriminate non-copers from copers does not appear to be critical in the current study.

**Insider's and Outsider's Points of View (Self-report and Behavioral Observation/Clinical Rating)**

**Multi-Method Assessment**

Olson (1977) states that we must gain two perspectives
when attempting to ascertain information on interpersonal relationships. When studying dyadic (couple) relationships, Olson suggests the collection of data via both self-report (insider's viewpoint) and behavioral observation (outsider's viewpoint). He states that these two perspectives are in actuality two different domains. If we are to gain a comprehensive picture of interpersonal relationships, then we need both perspectives. "These are two mutually exclusive frames of reference, and neither is sufficient alone, but together they can provide a more comprehensive understanding of interpersonal dynamics" (Olson, 1977, p. 117).

Filsinger (1983) advises the use of multi-method assessment and considers the self-report as an insider's subjective frame of reference. He also recognizes the use of observer subjective reports as an outsider's subjective view. Olson (1977) supports using observer subjective reports particularly when making clinical assessments. This is where behavior is observed and "subjective evaluations and descriptions are made" (p. 119). The importance of selecting methods which will yield the most useful and valid data is crucial to the researcher. Both insider and outsider points of view are incorporated into this study to help the author "develop theoretical formulations" (p. 128) and clarify "conflictual findings in the same field" (p. 129) as Olson recommends.
Methodological Problems

A methodological problem in comparing "insider" vs. "outsider" perspectives of families is that there is consistently a lack of agreement across these two methods (Olson, 1977; Olson et al., 1985). Both perspectives are collected to enhance the complexity of the picture of the pain couple. Although the previous literature denotes a disparity between self-report and behavioral observation, this population may not fit that norm of disparity. Initially, both patient and spouse have volunteered, and both patient and spouse are in agreement concerning attending the initial medical evaluation as a couple. This could perhaps cause the results to be different from what the literature reports.

According to Olson et al. (1985), a consistent problem with family therapy research is the lack of agreement between individual family members on self-report instruments. This lack of congruence among family members has been found in all self-report scales when examining family systems (Olson, 1985); and the lack of agreement is clearly demonstrated on numerous reports with an average correlation being in the .40's (Olson, 1977; Olson et al., 1983). Therefore the importance of collecting data from as many family members as possible is necessary in order to ascertain the diversity of opinions in a complex situation (Olson et al., 1985). Looking at the patient and the spouse
as a unit, as well as individually, provides us with information on couple functioning; furthermore this creates relational data as called for from within the ranks of family therapy researchers (Fisher, Kokes, Ransom, Phillips, & Rudd, 1985).

Scores related to couples are best understood when reported using discrepancy scores (Olson et al., 1985). This enables the reader to comprehend the degree of difference between spouses or among family members. Using a discrepancy score relieves the researcher of the disadvantage of concealing the individual differences among family members and in actuality highlights these differences.

Although family therapy research literature reports a lack of agreement among family members on self-report instruments, additional data are available which indicate that agreement among spouses is significantly related to marital happiness (Ross, Clifford, & Eisenman, 1987). Headache couples who completed couples therapy versus those who dropped out of treatment were the couples who were more stable in their relationship (Roy, 1989). And Broderick and O'Leary (1986) report "higher levels of positive feelings, commitment, and positive behavior were associated with higher levels of marital satisfaction" (p. 516).

The Circumplex Model

Olson and Portner (1983) describe the Circumplex Model
which they developed to assess cohesion and adaptability (see Definition of Terms section) in family and marital relationships. These two concepts create the Family Adaptability and Cohesion Evaluation Scales (FACES—II) which is derived from family therapy literature and family theory and describes two primary dimensions of behavior in families. The Circumplex Model of family systems "can be used to provide a systematic assessment of a marital and family system and for planning treatment intervention" (Olson, 1989, p. 7). "Another way to consider the Circumplex Model is as a map of 16 types of couple and family relationships..." (Olson, 1989, p. 13). Both a self-report and a behavioral observation instrument were developed. The results from each vantage point can then be charted on the Circumplex Model to determine their family/couple type.

"As hypothesized by the Circumplex Model, significantly more non-problem families were balanced while significantly more problem families were extreme types" (Olson et al., 1985, p. 1). A central hypothesis is that extreme families on both dimensions will function less adequately than balanced families, will have difficulties coping with developmental and situational stress, and will have less positive communication skills. "This assumes a curvilinear relationship on the dimensions of cohesion and adaptability. This means that too little or too much
cohesion or adaptability is seen as dysfunctional to the family system" (p. 6).

Both a self-report and a behavioral observation/clinical rating instrument were developed. The FACES--III self-report instrument (Olson et al., 1985) consistently discriminates between problem and non-problem families and can predict in a particular direction. FACES--III was created to enable the clinician or researcher to place families or individuals within a family on the Circumplex Model. The results from each method can then be charted on the Circumplex Model to determine their family/couple type. The Family Adaptability and Cohesion Evaluation Scales--III, Couples Version (FACES--III) will be used as the self-report instrument (Olson et al., 1985). In this study the behavioral observation instrument will be the Clinical Rating Scale (CRS) (Olson & Killorin, 1985). The CRS was developed primarily for clinical assessment of families and couples on Cohesion, change [Adaptability], and Communication (Olson & Killorin, 1984).

Determining a family satisfaction score for individuals and couples is possible with the FACES--II and FACES--III instrument (Olson & Portner, 1983; Olson et al., 1985). This is derived by administering the instrument twice; once to determine the "perceived" and once to determine the "ideal" descriptions of the family. The perceived-ideal discrepancies on each dimension is then determined for each
person and labeled as the family satisfaction score. In this study this will be called Marital Satisfaction, since the assessment will be on the marital rather than the family situation.
CHAPTER III: Methods and Procedures

This chapter describes the design and methodology for implementing the present research study. It includes a description of the population and selection of the sample, a discussion of the data gathering procedures, methodology, a review of instrumentation, research design and statistical procedures, and a statement of research hypotheses.

Population and Selection of the Sample

Patients who presented to the Medical College of Virginia/Virginia Commonwealth University (MCV/VCU) Temporomandibular Joint (TMJ) and Facial Pain Research Center and the Department of Oral and Maxillofacial Surgery were screened for inclusion in the Behavioral Observation Couples Study. Patients who were married or living with someone for a year or longer were considered for the study (or who had a long-term relationship as a couple). All patients who were scheduled on two particular clinic days from June, 1986, through July, 1987, were asked by a staff member to bring their spouse to the first medical evaluation. Those patients who agreed to bring their spouse were included in this study. The patient was told they would meet with a pain researcher (the author) from the pain center prior to their visit with the doctor, if possible, or after their initial medical evaluation for one hour.
The patients were seen by a medical staff member of the TMJ and Facial Pain Research Center or the Department of Oral and Maxillofacial Surgery (doctors often work in both). Participation in the study did not effect the doctor's choice of medical treatment nor the patients' medical diagnosis. The doctors were not privy to the couples' data prior to the medical evaluation. Other data collected on the individual patients as part of the normal protocol of the pain center were given to the doctor prior to the medical evaluation.

The pain symptoms were diagnosed and fell into the following categories listed below:

A. Temporomandibular Disorders
   1. TMJ: arthritis (degenerative joint disease—DJD, tumors, ...)
   2. MPD
B. OTHER (vascular pain, headache, neuralgia, ...).

Current Sample Characteristics

<table>
<thead>
<tr>
<th>PAIN PATIENTS</th>
<th>SPOUSES/SIGNIFICANT OTHERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Patients: 24</td>
<td>Total Spouses: 23</td>
</tr>
<tr>
<td>22 female patients:</td>
<td>22 male, 2 female</td>
</tr>
<tr>
<td>AGE mean female: 39</td>
<td>AGE mean male: 44</td>
</tr>
<tr>
<td>AGE range female: 19 to 62</td>
<td>AGE range male: 24 to 65</td>
</tr>
</tbody>
</table>
2 male patients: 2 female spouses/sig. other
AGE mean male: 38 AGE mean female: 38
AGE range male: AGE range female:
27 to 49 27 to 49
TIME MARRIED/TOGETHER: 23 couples married, 1 unmarried
Time married/together mean: 14.5 years
Time married/together range: 3 to 35 years
LENGTH OF TIME IN PAIN:
Mean: 4.85 S.D.: 5.49
Range: 3 months to 25 years
27 to 49
A. Temporomandibular Disorders: 22 patients
1. TMJ: arthritis (degenerative joint disease-DJD, tumors, . . .): 9 patients
2. MPD: 13 patients
B. OTHER (vascular pain, headache, neuralgia, . . .): 2 patients.

Data Gathering Procedures
Data were collected in two ways.
1. Those patients and spouses who agreed to participate in the study prior to their initial visit were forwarded self-report instruments by the secretary (see Instrumentation in this chapter). They were asked to complete these instruments prior to the initial medical evaluation.
2. Those patients and spouses who agreed to participate in
the study the day of the initial medical evaluation were asked to complete the self-report instruments prior to meeting with the pain researcher.

Data Collection -- Phase I. The patients and spouses were asked to complete separately the Family Adaptability and Cohesion Evaluation Scales (FACES--III, Couples Version). These were completed either prior to or following the initial medical evaluation.

Data Collection -- Phase II. During Phase II the pain couples met with the pain researcher where the basic concepts of the study were explained to the couples. The patients were asked to complete the Visual Analogue Scale (VAS) to assess the sensory and affective dimensions of pain. A brief interview (see author for Couples Interview) was then conducted to determine how the pain affected the couples' lives and ascertain their willingness to participate in psychotherapy -- individual, couple/marital, and/or group [not part of the dissertation].

The couples were videotaped answering six questions dealing with decisions-making and working together answering questions related to conflict (see APPENDIX -- Questions for Couples). Prior to videotaping, the pain couples were asked to read and sign a video release form (see APPENDIX -- Video Release Form) which was witnessed, dated, and signed by the pain researcher. The pain couples were then instructed to read aloud the questions, to answer them verbally between
each other within a maximum of 30 minutes, and to stop the videotaping when the questions were answered.

Methodology

Olson (1977) states that we must gain two perspectives when attempting to ascertain information on interpersonal relationships. When studying dyadic (couple) relationships, Olson suggests the collection of data via both self-report (insider's viewpoint) and behavioral observation (outsider's viewpoint). He states that these two perspectives are in actuality two different domains. If we are to gain a comprehensive picture of interpersonal relationships, then we need both perspectives. "These are two mutually exclusive frames of reference, and neither is sufficient alone, but together they can provide a more comprehensive understanding of interpersonal dynamics" (Olson, 1977, p. 117).

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Olson and Portner (1983) describe the Circumplex Model which they developed to assess cohesion and adaptability (see Definition of Terms section) in family and marital relationships. These two concepts create the Family Adaptability and Cohesion Evaluation Scales (FACES--II) which is derived from family therapy literature and family theory and describes two primary dimensions of behavior in families. The Circumplex Model of family systems "can be used to provide a systematic assessment of a marital and
family system and for planning treatment intervention" (Olson, 1989, p. 7). "Another way to consider the Circumplex Model is as a map of 16 types of couple and family relationships..." (Olson, 1989, p. 13). Both a self-report and a behavioral observation instrument were developed. The results from each vantage point can then be charted on the Circumplex Model to determine their family/couple type.

In this study the behavioral observation instrument will be the Clinical Rating Scale (CRS) (Olson & Killorin, 1985) and the Family Adaptability and Cohesion Evaluation Scales--III, Couples Version (FACES--III) will be used as the self-report instrument (Olson et al., 1985).

Instrumentation

**Family Adaptability and Cohesion Evaluation Scale (FACES) (self-report)**

The Family Adaptability Cohesion Evaluation Scales self-report instrument (Olson et al., 1985) consistently discriminates between problem and non-problem families and can predict in a particular direction. FACES--III was created to enable the clinician or researcher to place families or individuals within a family on the Circumplex Model. "As hypothesized by the Circumplex Model, significantly more non-problem families were balanced while significantly more problem families were extreme types" (p.
1). A central hypothesis is that extreme families on both
dimensions will function less adequately than balanced
families, will have difficulties coping with developmental
and situational stress, and will have less positive
communication skills. "This assumes a curvilinear
relationship on the dimensions of cohesion and
adaptability. This means that too little or too much
cohesion or adaptability is seen as dysfunctional to the
family system" (p. 6).

Each patient and spouse in the current study will
acquire an score on each dimension of Cohesion and
Adaptability, and a mean score for each couple will be the
score used to place the couple on the Circumplex Model
(Olson et al., 1985). If the mean score on either dimension
is .5, the score will be rounded off to the next number.
The scores are as follows:

<table>
<thead>
<tr>
<th>Cohesion</th>
<th>Adaptability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disengaged</td>
<td>Rigid: 10-19</td>
</tr>
<tr>
<td>Separated</td>
<td>Structured: 20-24</td>
</tr>
<tr>
<td>Connected</td>
<td>Flexible: 25-28</td>
</tr>
<tr>
<td>Enmeshed</td>
<td>Chaotic: 29-50</td>
</tr>
</tbody>
</table>

Incongruence among family members has been found in all
self-report scales when examining family systems (Olson,
1985). This lack of agreement between individual family
members on self-report instruments is a consistent problem
with family therapy research according to Olson and
colleagues. The lack of congruence is demonstrated on numerous reports with an average correlation being in the .40's (Olson, 1977; Olson et al., 1983). However, one would expect differences, and collecting data from as many family members as possible is important when attempting to ascertain the diversity of opinions from various family members (Olson et al., 1985). Clearly this difference between individuals' viewpoints is important to examine.

The FACES III (Olson et al., 1985) was designed to offer an ideal and a perceived score on family functioning. The perceived-ideal discrepancy score on the FACES-III provides an inverse measure of family satisfaction. The FACES-III, Couples Version, was selected for this study because the instrument could be used when children were not involved in the assessment process.

Olson et al. (1985) in relating the construct validity of FACES-III report that a major goal in developing FACES-III was to reduce the correlation between Cohesion and Adaptability. "Theoretically, putting variables into a Circumplex Model assumes that the dimensions are independent (orthogonal)" (p. 20). With the development of FACES-III, Olson and his colleagues were able to reduce the correlation between Cohesion and Adaptability to almost zero ($r=0.03$). FACES--II correlation was $r=0.65$. FACES--III gives us two independent dimensions and gives us a strong indication of construct validity. In addition, there is a "high
correlation of the items within each scale with the total scale" (p. 23); and the "correlation between adaptability and social desirability was reduced to zero. Because high cohesion is a characteristic that is more embedded into our culture as an ideal for families, it was not desirable to reduce the correlation between cohesion and social desirability to zero (r=.35)" (p. 23). Self-report instruments are often affected by social desirability when a person might tend to present him/herself favorably. Measuring social desirability helps the researcher determine whether there is distortion in how the person presents him/herself.

The internal consistency reliability for FACES--III is noted by Olson et al. (1985) as adequate for both dimensions (Adaptability and Cohesion). The total sample for FACES--III was 2,412 individuals, and using Cronbach Alpha, the results were .77 for Cohesion, .62 for Adaptability, and .68 for the total scale.

In addition, family therapy researchers (Fisher, Kokes, Ransom, Phillips, & Rudd, 1985) are calling for the creation of relational data. This would include the examination of the patient and the spouse as a unit, as well as individually. This would provide us with information on couple functioning as well as individual differences and similarities. This study proposes the use of discrepancy scores for couples as well as reporting individual scores
for patients and spouses. Scores related to couples are best understood when reported using discrepancy scores (Olson et al., 1985). This enables the reader to comprehend the degree of difference between spouses or among family members. Using a discrepancy score relieves the researcher of the disadvantage of concealing the individual differences among family members and in actuality highlights these differences.

Although family therapy research literature notes incongruence among family members on self-report instruments, some literature indicates that agreement among spouses is significantly related to marital happiness (Ross, Clifford, & Eisenman, 1987). Headache couples who completed couples therapy versus those who dropped out of treatment were the couples who were more stable in their relationship (Roy, 1989).

Determining a family satisfaction score (to be referred to primarily as Marital Satisfaction) for individuals and couples is possible with the FACES--II and FACES--III instrument (Olson & Portner, 1983; Olson et al., 1985). The family satisfaction score is derived by administering the FACES--III instrument to each member of the family twice. The "perceived" cohesion and adaptability scores and the "ideal" cohesion and adaptability scores of each family member are established using an absolute score. The perceived/ideal discrepancy score for both dimensions added
together and labeled as the family satisfaction score for each person.

**Visual Analogue Scale (VAS) (self-report)**

And finally, a study utilizing a pain patient population would be incomplete without assessing the pain patient's pain. The Visual Analogue Scale (VAS) developed by Price, Barrell, and Gracely (1980) measures sensory and affective pain [see Definition of Terms section] and is considered a highly reliable self-report instrument for measuring pain.

The Visual Analogue Scale was developed by Price, Barrell, and Gracely (1980) as a measure of sensory and affective pain. This form was designed to allow patients to rate on a 100 mm visual analogue scale two dimensions of pain: the sensory intensity (from no sensation to the most intense sensation imaginable) and the affective magnitude (from not unpleasant/bothersome to the most unpleasant/bothersome imaginable). The utility, reliability, and validity of the VAS pain measures are discussed by Price, McGrath, Rafii, and Buckingham (1983). For the purpose of this study, a total score for each dimension, sensory and affective, will be utilized in the statistical portion of the study.

**Clinical Rating Scale for the Circumplex Model of Marital and Family Systems (CRS) (behavioral observation/clinical rating)**
The Clinical Rating Scale for the Circumplex Model of Marital and Family Systems (CRS) was developed primarily for clinical assessment of families and couples on Cohesion, change [Adaptability], and Communication (Olson & Killorin, 1984, 1985). This study will examine the first two dimensions: Cohesion and Adaptability. [After the initial development of the CRS, the authors reworded the "change" dimension to the "Adaptability" dimension.] Olson and Killorin (1985) suggest a semi-structured clinical interview to elicit the information needed to rate the family or couple on these two dimensions. They suggest an interview where the family or couple dialogues with each other about how they handle general issues such as discipline, space, time, decision-making, etc.

There are no norms for the Clinical Rating Scale (F. G. DeRubeis, personal communication, October 31, 1989). DeRubeis, the Project Coordinator for the Family Interaction Project under Olson's direction at the University of Minnesota, noted that work is currently being done to validate the CRS in the Family Interaction Project. "The inter-rater reliability with this scale [CRS] has been assessed at rather high levels (r=.75-.85) in a study [not available to the public according to DeRubeis] by Olson and Logacz (1985)" (Olson, 1989, p. 35).

According to DeRubeis (personal communication, October 31, 1989), couples whose individual scores on each dimension
(Cohesion and Adaptability) are in adjacent cells or one cell apart on the Circumplex Model are listed as congruent, and couples scoring outside of these guidelines are considered incongruent and are scored separately (D. H. Olson, personal communication, January 9, 1990).

The scores on the Circumplex Model (Olson & Killorin, 1985) are obtained by the raters completing "Table 1: Family Cohesion" and "Table 2: Family Change (Adaptability)" and obtaining a global score on each dimension. This instrument is organized into eight-point scales on the dimensions of Cohesion, Adaptability, and Communication (Olson, 1985; 1989). This is scored by the raters following the viewing of the videotaped clinical interview. The scores for each couple are then plotted on the "Circumplex Model: Sixteen Types of Marital and Family Systems" where they are categorized as Balanced, Mid-Range, or Extreme.

Rater Training

In No Single Thread: Psychological Health in Family Systems, experienced health care providers used as raters reached a higher interrater reliability and it was suggested that they be used for viewing family interviews (Lewis et al., 1976) in the Timberlawn Foundation pilot study researching "healthy" families. Interrater reliability ranged from $r=.90$ to $r=.65$ on their project. For this
study, an interrater reliability (between family therapists) will be \( r = .80 \) before rating the videotapes.

For this study two experienced family therapists (one female, 1 male), both Licenced Professional Counselors with health care and hospital experience, were chosen. Both therapists had experience and training in structural family therapy and had been working in the field of family therapy for 10 years. The raters were instructed to read the following prior to the two half-day rater training sessions:


The training of the raters (experienced family therapists with health care experience) was done prior to the raters viewing the current sample's videotaped question-answering period. At that time the raters viewed four videotaped sample couples answering the "Questions for Couples." The four couples were drawn from volunteers where one spouse had a chronic pain problem but had not been referred to a major medical research center for pain treatment.

The length of videotape viewed was no less than five
minutes, because in the Timberlawn Foundation study (Lewis et al., 1976) five minutes was the least amount of time required for a strong interrater reliability. The raters viewed the pain couples for the first two and the last four minutes of each videotape.

It is important to note that interrater reliability was high on all observational measures for the four sample couples that were studied prior to the actual rating of the videotaped pain couples. The correlations on three dimensions of the CRS and the clinical rating on Marital Satisfaction were as listed below:

A. Cohesion \( r=1.0 \)
B. Adaptability \( r=.93 \)
C. Communication \( r=1.0 \)
D. Marital Satisfaction \( r=.93 \)

**Additional Rater Question**

(Clinical Rating-CR)

Filsinger (1983) notes that we can use observer subjective reports as an outsider's subjective view. Because of an interest in obtaining the raters' (family therapists) view of the marriage in addition to Cohesion and Adaptability, a question related to this has been formulated as stated below.
1. Rate this pain couple's marital satisfaction when defined as the degree to which the couple is currently satisfied with the marriage. (CIRCLE ONE RESPONSE)

1    2    3    4    5

NOT AT ALL SOMewhat MODERATELY HIGHLY MUCH

SATISFIED SATISFIED SATISFIED SATISFIED SATISFIED

Research Design and Statistical Procedures

Research Design

There are three major concerns in the current research proposal: 1) to accurately describe the family dynamics of pain couples who have sought services from the MCV/VCU TMJ and Facial Pain Research Center; 2) to determine the relationship(s) between self-reports and behavioral observations/clinical ratings of pain couples' family interactional patterns; and, 3) to explore the relationship between self-reports of perceived pain and the family "type" of the pain couple as determined by the couples' self-report scores.

The descriptive portion of the study will be addressed by compiling and reporting self-report and behavioral observation/clinical rating scores from the FACES III -- Couples Version and the CRS. Scores will be reported for patients, spouses, and the couples. Scores for both perceived and ideal self-reports will be established for the
variables of family Cohesion and family Adaptability. Scores for the Marital Satisfaction variable will be derived from an analysis of the discrepancies between perceived and ideal scores for each patient and spouse. Behavioral observation/clinical ratings derived from the CRS will be obtained for the family Cohesion and family Adaptability variables. Behavioral observation/clinical ratings of Marital Satisfaction will be derived from behavioral observation/clinical assessments of Marital Satisfaction made using a five level likert type scale ranging from "not at all satisfied" to "very much satisfied." Additional descriptive information will be obtained on pain couples' marital status by combining Cohesion and Adaptability scores to obtain a marital "type" classification using the Circumplex Model.

The second emphasis of the current research (relationships between self-reports and behavioral observation/clinical ratings) will be addressed using a correlational research design. Correlational statistics will be used to assess the degree of agreement between self-reports and behavioral observation/clinical ratings on the variables: family Cohesion, family Adaptability, and Marital Satisfaction. Specific numeric scores can be obtained using the FACES III and the CRS. Correlational procedures will be used to determine the degree and significance of relationships between self-reports and
behavioral observation/clinical ratings.

The third thrust of the current research is primarily exploratory and is focused on possible relationships between perceived levels of pain and the family type of the pain couple. The presence or absence of such relationships will be assessed using a causal comparative research design. Dependent variables will be the self-report of perceived pain as measured by the VAS. Couples will be classified as either Balanced, Mid-Range, or Extreme in their family type (functioning) and analysis of variance will be used to determine if there is a statistically significant ($\alpha < .05$) difference in perceived pain among the groups.

**Statistical Procedures**

Question 1) Descriptive statistics including means standard deviations frequency counts.

Question 2) Correlational method used will be Pearson Product Moment Correlation Coefficients.

Question 3) One way analysis of variance (F ratio) ($\alpha < .05$).

It is expected that FACES profiles obtained on the present sample of pain patients will show poorer functioning in the areas of Cohesion, Adaptability, and Marital Satisfaction than the data previously obtained on non-patient samples. This is based on the findings of studies suggesting that often pain patients have poor interpersonal relationship skills (Crook & Tunks, 1985) and come from
dysfunctional families (Boll & Mercuri, 1983; Malow & Olson, 1984).

Based on the findings of previous research using the FACES with non-patient samples, it is expected that no significant relationships will be obtained between pain patients and their spouses' self-report of Cohesion, Adaptability, and Marital Satisfaction (as measured by the FACES) and external observers' evaluations of these variables. However, given that the present study is the first to use the FACES with a sample of pain patients, it is reasonable to expect a relationship between the sets of variables specifically, since pain patients are expected to be more dysfunctional than normals in terms of Cohesion, Adaptability, and Marital Satisfaction. There should be more cues for observers to view when evaluating the patients and their spouses on these variables. Therefore, a moderate relationship is expected between the FACES self-report means and the observers' mean ratings of Cohesion, Adaptability, and Marital Satisfaction.

'It is also expected that the patients and their spouses whose self-report scores on Cohesion and Adaptability place them on the Circumplex Model and are rated in the Extreme type will be more dysfunctional. Patients who seek treatment at a chronic pain clinic are usually considered to be atypical of the general population and are possibly less adaptive and lack positive coping skills (Crook & Tunks,
1985). It is expected that the more dysfunctional the family type the higher the patient pain ratings will be (as measured by the VAS).

**Hypotheses**

1. **FACES profiles** of pain patients and their spouses will show poorer functioning in the areas of Cohesion and Adaptability than the normative sample.

2. There will be a statistically significant positive relationship between the FACES self-report measures of pain patients, spouses, and pain couples and the behavioral observation measures (CRS and Clinical Rating (CR)) of Cohesion, Adaptability, and Marital Satisfaction.

3. There will be a statistically significant difference (as measured by the FACES on the Circumplex Model) between groups (Balanced, Mid-Range, Extreme) in perceived pain as measured by the VAS. (The higher the pain the less functional the family group.)
Data will be presented in the following fashion. First, data obtained on the FACES from patients and spouses will be presented. These data will first be compared to normative data obtained on non-patient samples, and then the relationship between FACES scores obtained by patients and spouses in the present sample will be assessed (Hypothesis 1). Next, data evaluating the relationship between FACES scores and CRS/CR (Clinical Rating) observational ratings are considered (Hypothesis 2). Finally, the relationship between FACES and CRS/CR scores and patient self-reports of pain intensity (as measured by the VAS) are examined (Hypothesis 3).

**FACES**

Hypothesis 1. FACES profiles of pain patients and their spouses will show poorer functioning in the areas of Cohesion and Adaptability than the normative sample.

Mean FACES scores for patients and their spouses in the present sample, and a mean couple score, are presented in Table 1 along with published normative data on adults from the general population (Olson et al., 1985). It may be

Insert Table 1 About Here

76
# Table 1
Mean FACES Scores for Patients, Spouses, and Combined Patient/Spouse Mean Compared to Normative Data

<table>
<thead>
<tr>
<th>FACES Scales</th>
<th>Pain Patient (Current Sample)</th>
<th>Spouse (Current Sample)</th>
<th>Couple Mean (Current Sample)</th>
<th>Adult Normative Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Cohesion</td>
<td>39.9</td>
<td>8.0</td>
<td>40.8</td>
<td>7.6</td>
</tr>
<tr>
<td>Adaptability</td>
<td>30.7</td>
<td>6.7</td>
<td>30.8</td>
<td>6.0</td>
</tr>
<tr>
<td>Marital Satisfaction</td>
<td>13.9</td>
<td>11.3</td>
<td>10.7</td>
<td>8.3</td>
</tr>
</tbody>
</table>
noted that patients and spouses' mean Cohesion scores were similar to each other and fell within the normative range. However, on Adaptability, though patients and spouses again were closely matched, their mean score was significantly (1.5 SD's) above that of the normative sample. Comparison of patient and spouse mean scores thus indicated that, as groups, patients and spouses gave similar overall evaluations of the degree of Cohesion and Adaptability in their marital relationship. They fell into the normative range on the Cohesion dimension of FACES, but they were less adaptable than the normative sample population with a mean couple Adaptability score 1.5 standard deviations above the mean. All couples were considered congruent according to D. H. Olson's (personal communication, January 9, 1990) description of couples placement into cells on the Circumplex Model.

A Marital Satisfaction score was obtained from the FACES by finding the absolute value of the Perceived/Ideal discrepancy for each patient and spouse on Cohesion and Adaptability, and the sum was designated as the score for Marital Satisfaction. Pain patients in the current sample overall tended to rate their marriages as less satisfying than their spouses did, but this difference was nonsignificant ($t(23)=1.00$).

In order to evaluate the degree to which individual couples tended to rate their marriages in relatively the
same way on these variables, Pearson Product-Moment correlation coefficients were calculated between spouses' and patients' scores on each of the FACES variables. It was found that on each of these variables (Cohesion, $r=.78$; Adaptability, $r=.54$; Marital Satisfaction, $r=.61$; df=21, all $p$'s <.01) patients' and spouses' ratings of their marriage were consistent with each other.

In order to further evaluate the relationship between FACES variables in the present study, couples were divided into three groups based on the discrepancy between their mean FACES Cohesion and Adaptability scores (see Methods section for exact procedure used to divide subjects into groups). Using this procedure, five couples fell into the Balanced group, 12 fell into the Mid-Range group, and the remaining seven fell into the Extreme group. The mean discrepancy score (20.8) for groups was highest for pain patients in the Balanced group (the higher the score, the lower the satisfaction with the marriage). They were followed by the Mid-Range group (mean=14.6) and the Extreme group (mean=7.9). This indicates that for the present sample, patients in the Extreme group rated their marriages as more satisfying than those in the Balanced group.

The mean spouse Marital Satisfaction scores in the current study were as follows: Balanced, 12.4; Mid-Range, 12.3; Extreme, 6.7. Thus, as with the pain patients, spouses in the Balanced group rated their marriages as less
satisfying than those in the Extreme group.

The percentage of patients and spouses in the present sample whose scores place them on particular spots on the Circumplex Model (as established by Olson, et al., 1985) are listed in Table 2 along with the normative data.

Insert Table 2 About Here

It may be noted that on the four Cohesion categories, the distribution of pain patients and their spouses within these categories is between four and 12 relative percentage points away from each other. The relative proportion of pain patients in each of the four Cohesion categories is three to 13 percentage points discrepant from the relative distribution of the normative data. The relative proportion of spouses in the current study in each of the Cohesion categories is from one to 23 relative percentage points from the relative distribution of the normative data for adults; and the relative proportion of pain couples is from one to 11 percentage points from the relative distribution of the normative data. The most obvious difference is for spouses where 37% of the pain spouses fell into the Enmeshed category in contrast to 14% of adults in the normative sample.

For Adaptability, pain patients and their spouses within these categories are between four and 17 percentage
Table 2

Precentages of Pain Patients and Spouses in the Present Study Falling into Each of Four Categories of Cohesion and Adaptability Compared to Precentages of Adults in the Normative Sample

<table>
<thead>
<tr>
<th>FACES Scales</th>
<th>Pain Patient (Current Sample)</th>
<th>Spouse (Current Sample)</th>
<th>Couple Mean (Current Sample)</th>
<th>Adult Normative Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cohesion</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disengaged:</td>
<td>21%</td>
<td>17%</td>
<td>17%</td>
<td>16%</td>
</tr>
<tr>
<td>Separated:</td>
<td>21%</td>
<td>25%</td>
<td>25%</td>
<td>34%</td>
</tr>
<tr>
<td>Connected:</td>
<td>33%</td>
<td>21%</td>
<td>33%</td>
<td>36%</td>
</tr>
<tr>
<td>Enmeshed:</td>
<td>25%</td>
<td>37%</td>
<td>25%</td>
<td>14%</td>
</tr>
<tr>
<td>Adaptability</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rigid:</td>
<td>4%</td>
<td>0%</td>
<td>0%</td>
<td>16%</td>
</tr>
<tr>
<td>Structured:</td>
<td>25%</td>
<td>8%</td>
<td>8%</td>
<td>38%</td>
</tr>
<tr>
<td>Flexible:</td>
<td>13%</td>
<td>29%</td>
<td>21%</td>
<td>29%</td>
</tr>
<tr>
<td>Chaotic:</td>
<td>58%</td>
<td>63%</td>
<td>62%</td>
<td>16%</td>
</tr>
</tbody>
</table>
points away from each other in terms of relative distribution across the four levels. The relative proportion of pain patients in each of the four Adaptability categories is 12 to 42 percentage points discrepant from the relative distribution of the normative data. The spouses in the current study are from zero to 47 relative percentage points away from the relative distribution of the normative data for adults; and the pain couples are from eight to 46 relative percentage points from the relative distribution of the normative data.

The most obvious differences in the Adaptability dimension is the much greater proportion of patients and spouses in the present sample (versus the normative sample) who are in the Chaotic level. Significant discrepancies may also be observed at the other three levels.

FACES and CRS/CR

Hypothesis 2. There will be a statistically significant positive relationship between the FACES self-report measures of pain patients, spouses, and pain couples and the behavioral observation measures (CRS and Clinical Rating (CR)) of Cohesion, Adaptability, and Marital Satisfaction.

CRS ratings were obtained for Cohesion, Adaptability, and Communication. In addition, observer clinical ratings (CR) of Marital Satisfaction were also obtained. The
following interrater reliability coefficients were obtained for these scales: Cohesion, $r = .40$; Adaptability, $r = .30$; Communication, $r = .60$; Marital Satisfaction, $r = .78$. The interrater reliability coefficients for the clinical observation measures were unacceptably low for Cohesion and Adaptability, and marginal for Communication. This suggests that these CRS variables are not reliably measurable via videotape observation, or that the raters did not have sufficient training experience prior to the actual ratings of the videotapes. However, these ratings will be utilized in this study.

Correlations between these scores and scores obtained on the FACES Cohesion, Adaptability, and Marital Satisfaction scores are presented in Table 3.

<table>
<thead>
<tr>
<th>Insert Table 3 About Here</th>
</tr>
</thead>
</table>

It may be noted that CRS Cohesion correlated significantly ($p < .01$) with both CRS Communication ($r = .73$) and CR Marital Satisfaction ($r = .66$). CR Marital Satisfaction scores correlated significantly ($p < .01$) with CRS Communication ($r = .80$). No significant correlations were obtained between the CRS and FACES Adaptability measures. The low interrater reliability for CRS Adaptability may account for the lack of significant correlations with this scale.
Table 3
Pearson Product Correlations of FACES Cohesion and Adaptability Scales with CRS Cohesion, Adaptability, and Clinical Ratings (CR) of Marital Satisfaction

<table>
<thead>
<tr>
<th>CRS</th>
<th>CO</th>
<th>AD</th>
<th>CM</th>
<th>CR</th>
<th>FACES</th>
<th>PCO</th>
<th>SCO</th>
<th>PSCO</th>
<th>PAD</th>
<th>SAD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CRS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AD</td>
<td>.19</td>
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<tr>
<td>CM</td>
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<td></td>
</tr>
<tr>
<td>CR</td>
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<td>.01</td>
<td>.80+</td>
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<td>.66+</td>
<td>.01</td>
<td></td>
<td></td>
<td>.80+</td>
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<td></td>
</tr>
<tr>
<td>FACES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CRS</td>
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<td>PCO</td>
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<td>.08</td>
<td>.31</td>
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<td>.62+</td>
<td>.54+</td>
<td>.61+</td>
<td>.89+</td>
<td>.86+</td>
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<td>PMS</td>
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<td>-.48*</td>
<td>-.72+</td>
<td>-.59+</td>
<td>-.69+</td>
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<td>-.44*</td>
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<tr>
<td>SMS</td>
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<td>-.43*</td>
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<tr>
<td>PSMS</td>
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<td>.09</td>
<td>-.45*</td>
<td>-.53+</td>
<td>-.66+</td>
<td>-.65+</td>
<td>-.69+</td>
<td>-.66+</td>
<td>-.60+</td>
<td></td>
</tr>
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<td></td>
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<td></td>
<td></td>
<td>FACES</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>PSAD</td>
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<td></td>
<td></td>
<td></td>
<td>PMS</td>
<td>.68+</td>
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<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>SMS</td>
<td>.65+</td>
<td>.61+</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<td>PSMS</td>
<td>-.72+</td>
<td>.93+</td>
<td>.86+</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

KEY:

- **CLINICAL RATING SCALE**
  - CO: Cohesion
  - AD: Adaptability
  - CM: Communication
  - MS: Marital Satisfaction

- **FACES**
  - PCO: Patient Cohesion
  - SCO: Spouse Cohesion
  - PSCO: Patient Spouse Cohesion
  - PAD: Patient Adaptability
  - SAD: Spouse Adaptability
  - PSAD: Patient Spouse Adaptability
  - PMS: Patient Marital Satisfaction
  - SMS: Spouse Marital Satisfaction
  - PSMS: Patient Spouse Marital Satisfaction

- *p < .05 (r = .404)
- +p < .01 (r = .515)
- df = 22
Positive correlations were obtained between the CRS Cohesion measure and FACES spouse Cohesion ($r = .45, p < .05$) and patient Adaptability ($r = .44, p < .05$); and inverse correlations with patient Marital Satisfaction ($r = -.40, p < .05$), spouse Marital Satisfaction ($r = -.45, p < .05$), and patient spouse Marital Satisfaction ($r = -.47, p < .05$). (Patient spouse is used to denote the mean score of the patient and spouse on that variable.)

There were no statistically significant correlations between CRS Adaptability ratings and FACES variables. CRS Communication was inversely correlated with FACES patient, spouse, and patient spouse Marital Satisfaction. CR Marital Satisfaction was significantly correlated with all FACES variables (all were positively correlated except the patient, spouse, and patient spouse Marital Satisfaction which was inversely related).

**Relationship of FACES and CRS/CR Relationship Variables to VAS Pain Scores**

Hypothesis 3. There will be a statistically significant difference (as measured by the FACES on the Circumplex Model) between groups (Balanced, Mid-Range, Extreme) in perceived pain as measured by the VAS. (The higher the pain the less functional the family group.)

The intercorrelations of each of the FACES variables and each of the CRS variables and the Clinical Rating (CR)
of Marital Satisfaction with the VAS-Sensory pain scores and the VAS-Affective pain scores obtained from patients are presented in Table 4. It may be noted that no FACES or CRS/CR variables were significantly associated with patient self-report of sensory pain. The only FACES or CRS/CR variable significantly associated with affective pain was the CRS rating of couple Communication. For couples rated as relatively low on Communication, the pain patient tended to report relatively high levels of affective pain.

In order to further evaluate the relationship between FACES variables, couples were divided into three groups based on their mean FACES Cohesion and Adaptability scores. In the present study, five couples fell into the Balanced group, 12 fell into the Mid-Range group, and the remaining seven fell into the Extreme group. Mean VAS-Sensory scores obtained for couples in the three groups were: Balanced=109.8; Mid-Range=135.7; Extreme=176.6. A one-way ANOVA indicated that these scores were significantly different from each other, \( F (1, 22)=4.19, p < .05 \). Thus, as expected, the greatest amount of sensory pain was reported by patients in the Extreme group, whereas the lowest level of sensory pain was reported by patients in the Balanced group.
Table 4

Intercorrelations Between CRS and CR Scores, FACES Scores, and VAS-Sensory and VAS-Affective Pain Scores

<table>
<thead>
<tr>
<th>VAS-SENSORY</th>
<th>VAS-AFFECTIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRS</td>
<td></td>
</tr>
<tr>
<td>CO</td>
<td>-.10</td>
</tr>
<tr>
<td>AD</td>
<td>-.20</td>
</tr>
<tr>
<td>CM</td>
<td>-.25</td>
</tr>
<tr>
<td>CR</td>
<td></td>
</tr>
<tr>
<td>MS</td>
<td>-.15</td>
</tr>
<tr>
<td>FACES</td>
<td></td>
</tr>
<tr>
<td>PCO</td>
<td>.19</td>
</tr>
<tr>
<td>SCO</td>
<td>.06</td>
</tr>
<tr>
<td>PAD</td>
<td>.12</td>
</tr>
<tr>
<td>SAD</td>
<td>-.01</td>
</tr>
<tr>
<td>PMS</td>
<td>.06</td>
</tr>
<tr>
<td>SMS</td>
<td>.14</td>
</tr>
</tbody>
</table>

KEY:

CLINICAL RATING SCALE  FACES
CO: Cohesion            PCO: Patient Cohesion
AD: Adaptability        SCO: Spouse Cohesion
CM: Communication       PAD: Patient Adaptability
CLINICAL RATING         SAD: Spouse Adaptability
MS: Marital Satisfaction PMS: Patient Marital Satisfaction

PMS: Spouse Marital Satisfaction

*p < .05, (r=.404)
Mean VAS-Affective scores obtained for couples in the three groups were: Balanced=112.2; Mid-Range=123.4; Extreme=165.6. Though these scores were also in the expected direction, a one-way ANOVA indicated that they were not significantly different from each other, $F (1, 22)=2.11, p <.16$.

Summary of Findings

In summarizing the findings in this current study, it appears as though there are some significant results.

Hypothesis 1. Pain patients and spouses fell within the normative range of the non-patient sample population on Cohesion, but they were 1.5 standard deviations above the normative mean on Adaptability. Thus, these results indicate that the pain patients and their spouses in this study were as cohesive as the normative sample but reported difficulty in the area of Adaptability. Patients' and spouses' scores on each of the FACES variables were found to be highly correlated and consistent with each other; therefore they did not indicate the usual differences between spouses on family self-report measures.

Hypothesis 2. CRS Cohesion ratings were significantly correlated with FACES spouse Cohesion and patient Adaptability variables; and CRS Cohesion was inversely correlated with patient, spouse, and patient spouse Marital Satisfaction. There were no statistically significant
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Hypothesis 3. No FACES or CRS/CR variable was significantly associated with patient self-report of sensory pain (measured by the VAS). The only FACES or CRS/CR variable significantly associated with affective pain was the CRS rating of couple Communication. Low couple Communication correlated with high affective pain. After couples were divided into groups by their mean Cohesion and Adaptability scores, as expected, the greatest amount of sensory pain (measured by the VAS) was reported by the patients in the Extreme group. A one-way ANOVA indicated these scores were statistically significantly different from each other: F (1, 22)=4.19, p <.05. The patients were not significantly different by groups in the affective pain dimension (measured by the VAS). As expected, higher pain scores were associated with the Extreme group.
Of particular interest concerning groups are the higher discrepancy scores reported by pain patients in the Balanced group, indicating low Marital Satisfaction. The Extreme group of pain patients reported low discrepancy scores, indicating higher Marital Satisfaction than either the Balanced or the Mid-Range groups.

In addition, 62% of the pain couples in the current study were noted as Chaotic in the Adaptability dimension of the FACES self-report measure as compared to the 16% listed as the normative data for the national sample of adults.
Chapter V:
Summary, Discussion, Conclusions, and Recommendations

Summary

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In addition, 62% of the pain couples in the current study were noted as Chaotic in the Adaptability dimension of the FACES self-report measure as compared to the 16% listed as the normative data for the national sample of adults.

Discussion

For three years the team at MCV/VCU's TMJ and Facial Pain Research Center offered patients and their families free psychotherapy and was unsuccessful in getting participation in the family therapy research project. Few individuals (let alone couples) at the TMJ and Facial Pain Research Center were interested in getting assistance for interpersonal problems, and they appeared to view psychotherapy as unconventional for what they perceived to be primarily a dental problem (Boll et al., 1986). Several patients and spouses did participate in couples therapy; however, the researchers were unable to complete the research of family therapy treatment for chronic facial pain patients and their families. Investigation was in order to examine what the team had done incorrectly and to look more closely at the interactional patterns of facial pain patients and their spouses.

Patients arriving at a university research center for pain treatment often feel as though their referring dentist
or physician was frustrated with them personally and referred them for "psychological reasons." If the patient felt "gotten rid of" or rejected by their referring dentist or physician, then the patient and family might immediately reject counseling if it were to be offered too quickly in the pain treatment. For this reason, it is important that the treatment manager at the university (usually the dentist or physician) and other treatment team members (family therapist, psychologist, social worker, nurse, physical therapist, etc.) develop a relationship with the patient and significant others prior to suggesting psychotherapy for help in the resolution of the pain problems. Meichenbaum and Turk (1987) describe in detail the problems inherent in this process and provide suggestions for improving referrals, patient and family adherence to treatment recommendations, and for developing relationships with patients and their families in their book, Facilitating Treatment Adherence.

This current study supports the belief that describing the family unit (here the spousal unit) will aid the treatment team in individualizing care and treatment for patients and families in the resolution of complex pain problems. This study examined the marriages of facial pain patients from both an "insider" (patient and spouse) and "outsider" (family therapists trained in medical intervention) point of view. The study was designed to more
objectively support the clinical impressions of the treatment team's (MCV/VCU TMJ and Facial Pain Research Center's team) view of the facial pain patients' marital situation and interactional characteristics. In the current study, clinical impressions of the pain couple's relationship variables (Cohesion, Adaptability, Communication, and Marital Satisfaction measured by the CRS/CR) were rated by trained family therapists and compared to the self-report ratings by the patients and spouses. The patients and their spouses reported on their relationship using the FACES III a self-report instrument.

For collaboration to be successful in the multidisciplinary pain clinic, the myriad of professionals involved need to respect each other's expertise, believe in the benefits of the collaborative team, and believe as well that the patient and family should be members of the treatment team (Boll & Mercuri, 1988). Major problems face professionals collaborating in the treatment of chronic pain. Areas to be addressed are as follows: "How?" will the patient be treated; What?" is the justification for the treatment; "What?" is the team diagnosis; "Who?" will determine the type of treatment; and, "Will?" the pain patients and their families follow through with treatment recommendations.

Procedural limitations

There were some difficult problems with the current
study particularly related to low interrater reliability on the actual pain couple videotapes. The two raters reached high interrater reliability during the training using four sample couples (one member suffered from chronic pain). When the raters moved from the sample videotapes to the actual rating of the pain couples, they noted difficulty in rating the pain tapes. Some of the pain couples turned their backs to the camera and others spoke so softly that they were nearly inaudible. The pain couples were perhaps intimidated by the videotaping process (they were not informed of the taping prior to the actual time of the taping), whereas the sample pain couples appeared more comfortable with the videotaping task.

There were no significant correlations with the CRS on the Adaptability dimension. The question therefore arises as to the observability of this dimension via videotape using one two-minute and one four-minute segment for evaluation. The highest interrater reliability was found on marital satisfaction. This question was developed by the author and asked the raters to rate the couple's appearance of being satisfied with their marriage on a five-point likert type scale. Perhaps this simple rating scale was less complicated than the CRS and was easier for the raters to determine a "clinical" impression on that particular variable. In addition, there are no published reliability or validity data on the CRS; currently that
research is in progress at the University of Minnesota under the direction of David Olson. Finally, the CRS is typically used as a clinical measure of family Cohesion, Adaptability, and Communication, thus implying a personal rather than videotaped interview.

A difficulty in using the FACES arose when trying to determine what meaning could be gleaned from the Marital Satisfaction score. This score was created from the Cohesion and Adaptability mean discrepancies for each person on each dimension where the absolute sum is the Marital Satisfaction score. This Marital Satisfaction score was inversely correlated with other FACES variables, and in reality, it is difficult to determine if this score measures Marital Satisfaction. However, discrepancy scores are useful in this case, because they give the researcher an opportunity to see what each individual would change in the marital relationship. In spite of the question of measurability with the Marital Satisfaction scores, they will be considered in this current study to examine at face value the discrepancy between what the patient notes is his current (Perceived) marital situation and how he would like to see it change (Ideal).

Conclusions

The Perceived/Ideal discrepancy scores (measured by the FACES) for the current sample population indicates that pain
patients in the Balanced group on the Circumplex Model (the group noted to function more adequately than either the Mid-Range or Extreme group) (Olson et al., 1985) report higher discrepancy scores. Thus, implying that the Balanced patients could be more aware of relationship problems than the Extreme group who report low discrepancy scores and indicate higher Marital Satisfaction than the Balanced group. This perhaps supports the literature that notes that pain patients are typically in denial of their interpersonal problems and see their pain in physical rather than psychological terms (Bouckoms et al., 1985; Pilowsky et al., 1977; Sternbach & Rusk, 1973). These patients often have difficulty expressing their thoughts and feelings which are typically characteristics of families with tradition psychosomatic disorders (Waring, 1977).

The patients who reported the highest sensory pain (as measured by the VAS) fell into the Extreme group on the Circumplex Model (Olson et al., 1985) and a one-way ANOVA indicated that the scores among the three groups (Balanced, Mid-Range, and Extreme) were significantly different from each other. This supports the literature suggesting that pain patients adapt less well to problems relating to social and work roles and have higher emotional distress (Crook & Tunks, 1985). These patients fit Olson and colleagues' (1985) description of Extreme families and suggest they have difficulty adapting to environmental and situational
problems and have fewer positive communication skills. The families in the Extreme group are thought to have increased conflict and increased stress both of which are thought to contribute to increased pain (Feuerstein et al., 1985). In addition, patients who reported high affective pain were rated low in Communication by the family therapists on the CRS. Again, this indicates that pain interferes with communication and marital functioning.

The literature on self-report measures in family assessment notes there is little agreement between individual family members (Olson, 1977; Olson et al., 1983), however the current population of pain patients and their spouses were highly correlated with each other on both the dimensions of Cohesion and Adaptability. This suggests that the current population of pain patients and spouses are atypical of the general population in the area of agreement. However, the current couple sample mean is similar to the normative sample in regards to Cohesion but is 1.5 standard deviations above the normative mean on Adaptability. This indicates that the current couple sample mean is significantly higher than the normative adult sample on the adaptability dimension.

The Chaotic level in the adaptability dimension in the current sample comprises 62 relative percentage points of the couples as opposed to 16 relative percentage points of the relative distribution of the normative sample. This
suggests that the current population of pain patients and their spouses are atypical of the normative adult population and again suggest agreement with the pain literature that notes that pain patients are perhaps less adaptive (Crooks & Tunks, 1985) than the typical population.

Recommendations

Because the current sample population was skewed, patients whose spouses would not come into the medical setting were not interviewed or tested. These spouses should be contacted. There is a need to have this study replicated using a larger sample of facial pain patients and their spouses, creating perhaps a more random sample population by contacting, interviewing, and testing the families in their homes. This would give the researchers an opportunity to examine the patients and their families in their home environment rather in the medical setting; perhaps giving the families more of a chance to be themselves. A personal rather than videotaped interview of the family would suffice for a clinical/behavioral assessment of family interactional characteristics. The beginning of educating the patient and family could begin in the home, and patients would still need to be seen for a medical evaluation in the medical setting where diagnosis, education, and treatment recommendations could be explored.

Pain patients and their families should be educated as
to the relationship between illness, disease, stress, environmental, familial, and relationship variables that effect the onset and the continuance of pain. The pain patient and the family are often in need of education related to the physiological and psychological components of the multifaceted pain problem. Since some researchers (Pilowsky et al., 1977) have presented data suggesting that pain patients are more reluctant to consider their health problems in psychological terms than other medical patients, and they are more likely to deny life problems not directly related to disease, it is important to educate pain patients and their families about these relationship variables.

And finally, it is important to talk with patients and their families and to listen to what they say is their problem. The team interventions and treatment recommendations must be in coordination with the beliefs and values of the patients and their families. If they do not understand a treatment recommendation, like psychotherapy, it is vital that education be provided to alleviate suspicions that team members consider the pain "all in their head." Developing caring relationships with patients and their families is key to their understanding the relationship of chronic pain to interactional variables; and this may possibly lead to them accepting and following through with a recommendation for couples psychotherapy.
Appendix A: Video Release Form
The Temporomandibular Joint and Facial Pain Research Center and the Department of Oral and Maxillofacial Surgery has my permission to videotape clinical sessions which will involve me and my spouse. I understand that this material will be used only by the Temporomandibular Joint and Facial Pain Research Center staff and only for purposes of professional training, professional consultation, or psychological/medical research. I will not be identified in any way. No taping may be done without my prior knowledge and consent. I further understand that these recordings will be treated as strictly private and confidential material. I hereby expressly waive any possible claim on my part for remuneration or damages in any form in connection therewith.

Signature-Patient

Date

Signature-Spouse or Significant-Other

Date

Witness-Researcher

Date
Appendix B: Questions for Couples
Questions for Couples

Following are six questions which we would like you and your spouse to answer together. You may take up to thirty minutes to answer the questions, however you do not need to use all of the time allotted. When you have finished answering the questions, please press the STOP button on the video deck and inform the researcher that you have completed the task. We greatly appreciate your helping us by answering these questions as honestly as possible.

1. Let's make believe that somebody gave you $200.00 to spend. Decide together on how it should be spent and what you will do with it so you are both satisfied. Please be as detailed as possible and discuss how receiving $200.00 could make you happy or sad.

2. Suppose the two of you had to work out a menu for dinner tonight. How would you decide what to have and what would it be. Pick one meat, two vegetables, one drink, and one dessert. Decide who would cook the meal and who would clean up.

3. For this one, both of you tell about the things everyone does in the family: the things that please you the most and make you feel good, how you like to spend time together, and what you like most about the other person. Also discuss the things each of you does that makes the other unhappy or mad. Give your own ideas about this. You
may also include your children if any one of them lives with you.

4. Also in every family things happen that create happy feelings. Discuss the last time something really positive happened in your family at home, what went on, and how you expressed your happy feelings.

5. Now, in every family things happen that cause a fuss now and then. Discuss and talk about an argument or fight you had at home that you can remember. Talk about it together like what started it, who was in on it, what went on, and also how it turned out in the end. See if you can remember what it was all about. Take your time on this one.

6. Here is something else for you to figure out together. In every family different people have different ways about them. How about in your family: Who is the most affectionate, the most understanding, the most cooperative, and who complains the least? Who's the most bossy, the biggest troublemaker, the one who gets away with murder, the one who fights the most, and the biggest crybaby? Just talk about as many of these as you can. And you may included your children if any one of them is currently living with you.
Appendix C: Family Adaptability and Cohesion Evaluation Scales—III, Couple Version and Couple Ideal Version
PLEASE NOTE:

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These consist of pages:

108–109, Appendix C

111, Appendix D
Appendix D: Clinical Rating Scale

Table 1: Family Cohesion
Appendix E: Clinical Rating Scale

Table 2: Family Change (Adaptability)
## Table 2: Family Change (ADAPT)

<table>
<thead>
<tr>
<th>Couple or Family Score</th>
<th>Rigid (Very Low)</th>
<th>Structured (Low to Moderate)</th>
<th>Flexible (Moderate)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Leadership</strong> (Control)</td>
<td>Authoritarian leadership. Parent(s) highly controlling.</td>
<td>Primarily authoritarian but some equalitarian leadership.</td>
<td>Equalitarian leadership. Fluid changes.</td>
</tr>
<tr>
<td><strong>Roles</strong></td>
<td>Limited repertoire; strictly defined roles.</td>
<td>Roles stable, but may be shared.</td>
<td>Role sharing and Fluid changes of roles</td>
</tr>
<tr>
<td><strong>Global Adaptability Rating (1-8)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### FAMILY CHANGE (ADAPTABILITY)

<table>
<thead>
<tr>
<th></th>
<th>RIGID</th>
<th>STRUCTURED</th>
<th>FLEXIBLE</th>
<th>CHAOTIC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Very Low)</td>
<td>(Low to Moderate)</td>
<td>(Moderate to High)</td>
<td>(Very High)</td>
</tr>
<tr>
<td>1.</td>
<td>horitarian leadership.</td>
<td>Primarily authoritarian but some equalitarian leadership.</td>
<td>Equalitarian leadership with fluid changes.</td>
<td>Limited and/or erratic leadership. Parental control unsuccessful, rebuffed.</td>
</tr>
<tr>
<td>5.</td>
<td>Roles stable, but may be shared.</td>
<td>Few rule changes.</td>
<td>Some rule changes.</td>
<td>Frequent rule changes.</td>
</tr>
</tbody>
</table>

- **Horitarian leadership:** Parental control unsuccessful, rebuffed.
- **Primarily authoritarian:** Somewhat democratic, predictable consequences, seldom lenient.
- **Structured negotiations:** Structured negotiations, decisions mainly made by parents.
- **Roles stable, but may be shared:** Few rule changes, rules firmly enforced.
- **Flexible negotiations:** Flexible negotiations, agreed upon decisions.
- **Role sharing and making:** Some rule changes, rules flexibly enforced.
- **Laissez-faire and ineffective:** Endless negotiations, impulsive decisions.
- **Limited and/or erratic leadership:** Lack of role clarity, role shifts and role reversals.
- **Variable leadership:** Frequently lenient, frequent rule changes.
Appendix F: Clinical Rating Scale

Table 3: Communication
<table>
<thead>
<tr>
<th>TABLE 3: FAMILY COMMUNICATION</th>
<th>COUPLE OR FAMILY SCORE</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CONTINUITY TRACKING</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Little continuity of content;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irrelevant/distracting non-verbals and asides frequently occur;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequent/inappropriate topic changes;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some continuity but not consistent across time or across all members;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some irrelevant/distracting non-verbals and asides;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Topic changes not consistently appropriate;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>RESPECT &amp; REGARD</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of respect for feelings or message of other(s); possibly overtly disrespectful or belittling attitude;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Somewhat respectful of others but not consistent across time or across all members;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CLARITY</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inconsistent and/or unclear verbal messages;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequent incongruencies between verbal and non-verbal messages;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some degree of clarity; but not consistent across time or across all members;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some incongruent messages;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>FREEDOM OF EXPRESSION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infrequent discussion of self, feelings and relationships;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some discussion of self, feelings and relationships;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>COMMUNICATION SKILL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Listeners' Skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Empathy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seldom evident</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attentive Listening</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seldom evident</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speakers' Skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speaking for Self</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seldom evident</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speaking for Others</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Often evident</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intrusions/Interruptions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Premature Closure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Often evident</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>GLOBAL FAMILY COMMUNICATION RATING (1-6)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 3: Family Communication

<table>
<thead>
<tr>
<th>Score</th>
<th>Low</th>
<th>Facilitating</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Little continuity of content;</td>
<td>Some continuity but not consistent across time or across all members;</td>
<td>Members consistently tracking;</td>
</tr>
<tr>
<td></td>
<td>Irrelevant/distracting non-verbs and asides frequently occur;</td>
<td>Some irrelevant/distracting non-verbs and asides;</td>
<td>Few irrelevant/distracting non-verbs and asides; facilitative non-verbs;</td>
</tr>
<tr>
<td></td>
<td>Frequent/inappropriate topic changes;</td>
<td>Topic changes not consistently appropriate;</td>
<td>Appropriate topic changes;</td>
</tr>
<tr>
<td></td>
<td>Lack of respect for feelings or message of other(s); possibly overtly disrespectful or belittling attitude;</td>
<td>Somewhat respectful of others but not consistent across time or across all members;</td>
<td>Consistently appears respectful of others’ feelings and message;</td>
</tr>
<tr>
<td></td>
<td>Inconsistent and/or unclear verbal messages;</td>
<td>Some degree of clarity; but not consistent across time or across all members;</td>
<td>Verbal messages very clear.</td>
</tr>
<tr>
<td></td>
<td>Frequent incongruencies between verbal and non-verbal messages;</td>
<td>Some incongruent messages;</td>
<td>Generally congruent messages;</td>
</tr>
<tr>
<td></td>
<td>Infrequent discussion of self, feelings and relationships;</td>
<td>Some discussion of self, feelings and relationships;</td>
<td>Open discussion of self, feelings and relationships;</td>
</tr>
<tr>
<td>2</td>
<td>Seldom evident</td>
<td>Sometimes evident</td>
<td>Often evident</td>
</tr>
<tr>
<td></td>
<td>Seldom evident</td>
<td>Sometimes evident</td>
<td>Often evident</td>
</tr>
<tr>
<td>3</td>
<td>Sometimes evident</td>
<td>Sometimes evident</td>
<td>Often evident</td>
</tr>
<tr>
<td>4</td>
<td>Seldom evident</td>
<td>Sometimes evident</td>
<td>Seldom evident</td>
</tr>
<tr>
<td>5</td>
<td>Sometimes evident</td>
<td>Sometimes evident</td>
<td>Seldom evident</td>
</tr>
<tr>
<td>6</td>
<td>Often evident</td>
<td>Sometimes evident</td>
<td>Seldom evident</td>
</tr>
</tbody>
</table>
Appendix G: Clinical Rating Scale

Figure 1: Circumplex Model
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These consist of pages:

117, Appendix G
Appendix G: Visual Analogue Scale
PAIN QUESTIONNAIRE

The Intensity of Painful Sensations

Indicate along the lines below (using an X) the Intensity of Painful Sensation (from no sensation to the most intense sensation imaginable) when your pain was at the following intensities during the past week or two:

<table>
<thead>
<tr>
<th>Lowest Intensity Pain</th>
<th>THE MOST INTENSE SENSATION IMAGINABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Usual Intensity Pain</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Highest Intensity Pain</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Unpleasantness of Pain

Indicate along the lines below (using an X) how Unpleasant or Bothersome (from not bothersome to the most bothersome feeling imaginable) your pain was when it was at the following intensities during the past week or two:

<table>
<thead>
<tr>
<th>Lowest Intensity Pain</th>
<th>THE MOST BOthersOME FEELING IMAGINABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Usual Intensity Pain</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Highest Intensity Pain</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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families. I. Etiology, maintenance, and psychosocial

and behavioral medicine: A cognitive-behavioral

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Commonwealth University, Richmond.
Vitae

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    1981-1985, Certificate of Advanced Graduate Study,
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    1977-1980, Masters in Education, Counseling
  Shippensburg State University, Shippensburg,
    Pennsylvania
    1967-1971, Bachelor of Education, English
INTERACTIONAL CHARACTERISTICS OF FACIAL PAIN PATIENTS AND THEIR SPOUSES: ASSESSMENT OF SELF-REPORT AND BEHAVIORAL OBSERVATION MEASURES OF COHESION, ADAPTABILITY, AND MARITAL SATISFACTION

Pamela Guyler Boll, Ed. D.

The College of William and Mary, Williamsburg, Virginia, April 1990

Chairman: Charles O. Matthews, Ph. D.

Twenty-four facial pain patients and their spouses were videotaped answering questions concerning their relationships. This study was designed to more objectively support the clinical impressions of the MCV/VCU TMJ and Facial Pain Research Center's treatment team's view of the interactional characteristics of these couples. Prior to the team offering brief couples psychotherapy for assistance in the resolution of the pain problem, the team needed to assess the pain couples' relationship variables. Adherence to health care providers' recommendations is typically minimal unless all participants agree that specific treatment is warranted. There appears to be a lack of understanding among patients, their families, and health care providers as to the contributing factors in the maintenance and continuation of pain. This study describes the spousal unit in an effort to individualize care and treatment for temporomandibular disorder (TMD) patients and their families.

The pain couples' were rated by two trained family therapists on the dimensions of Cohesion, Adaptability, Communication, and Marital Satisfaction (measured by the Clinical Rating Scale and a clinical rating (CR) of Marital Satisfaction) and compared to the self-report (SR) ratings of the pain patients and their spouses (measured by the FACES-III). The couples were placed by group (Balanced, Mid-Range, or Extreme) on the Circumplex Model, and the pain patients were examined as to their reported difference in perceived pain (sensory and affective pain measured by the Visual Analogue Scale (VAS)).

The results of the study indicate that pain patients and their spouses were highly correlated with each other on the FACES-III and were Congruent. They scored within the normative range on Cohesion and were 1.5 S.D.'s above the normative mean for adults on Adaptability. Five couples were Balanced, twelve Mid-Range, and seven Extreme as for family group on the Circumplex Model; and significant relationships were found (a.) between CRS/CR and SR and (b.) between groups in perceived pain.