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Coping behaviors of latency-aged children with pediatric migraine and their family members

Gilbert, Mary Carlean, D.S.W.

City University of New York, 1993

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COPING BEHAVIORS OF LATENCY-AGED CHILDREN WITH PEDIATRIC MIGRAINE AND THEIR FAMILY MEMBERS

by

MARY CARLEAN GILBERT

A dissertation submitted to the Graduate Faculty in Social Welfare in partial fulfillment of the requirements for the degree of Doctor of Social Welfare, The City University of New York

1993

This manuscript has been read and accepted for the Graduate Faculty in Social Welfare in satisfaction of the dissertation requirement for the degree of Doctor of Social Welfare.

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Abstract

COPING BEHAVIORS OF LATENCY-AGED CHILDREN WITH PEDIATRIC MIGRAINE AND THEIR FAMILY MEMBERS

by

Mary Carlean Gilbert

Adviser: Professor Mildred D. Mailick

Eight latency-aged children with pediatric migraine and their family members participated in an exploratory study of coping. Using scores from The Child Behavior Checklist (Achenbach & Edelbrock, 1983) and rates of school absenteeism, children were grouped as copers and non-copers. Using an ethnographic approach, the researcher conducted 24 individual and conjoint family interviews. These in-depth interviews were tape recorded, transcribed verbatim, coded, and analyzed.

Using categories that emerged from the data and adapting from other researchers (Carver, Scheier, and Weintraub, 1989; Lazarus & Folkman, 1984; Pearlin & Schooler, 1978), the researcher identified three broad areas of coping: affective, cognitive, and problem-solving coping. Two areas of coping were further conceptualized in discrete categories. Included in cognitive coping were five sub-types: (a) spiritual coping, (b) cognitive-behavioral coping, (c) perspective coping, (d) resignation coping, and (e) "I'll-never-surrender" coping. Types of problem-solving coping were categorized as follows: (a) active coping, (b) prevention coping, (c) anticipatory coping, and (d) extender coping.

The findings indicated that copers and their family members developed a wider repertoire of coping thoughts and behaviors than did the non-copers and their family members. In general copers utilized all three broad types of coping and two or more sub-types of affective, cognitive, and problem-solving. In contrast to the non-copers, the copers and their family members used cognitive coping, prevention coping, and anticipatory coping frequently. There was a significant difference between copers and non-copers in regard to resignation coping; all copers and their family members utilized resignation coping but few of the non-copers did. Copers tended to have more autonomy in managing their headache disorder than non-copers. This study also found that family members were influential in the development and maintenance of children's coping efforts both through modelling of pain-coping behaviors and reinforcing or punishing children's coping.

Acknowledgements

Formal support and sanction for this project were provided by the Department of Neurology. Pediatric neurologists Robert Greenwood, M.D., and Michael Tennison, M.D., faculty of the University of North Carolina at Chapel Hill School of Medicine, were co-principal investigators, and James Hayward, M.D., Chairman of the Department of Neurology, approved the project as a minimal risk study. The amended research proposal was approved by the UNC-CH Committee on the Protection of the Rights of Human Subjects on March 10, 1989.

Informal sanction for the research project was provided by Wallace Hill, A.C.S.W., Director, Juanita Todd, A.C.S.W., Chief of Pediatric Social Work, and Marie Lauria, A.C.S.W., Supervisor, the North Carolina Memorial Hospital Department of Social Work.

The Department of Neurology, through the efforts of Susan Benoit, B.S., research assistant, provided mailing of The Child Behavior Checklist and its cover letter as well as computerized scoring of completed CBC's. The Department also financed computerized literature searches and photocopying. The investigator received consultation at the weekly meeting of the Pediatric Neurology research team, an interdisciplinary study group. The expertise of the physicians, pharmacologist, and research assistant facilitated the understanding of the etiology, treatment, and prognosis of pediatric migraine.

The generous resources of the UNC-CH Institute for Research in Social Science (IRSS), especially Jose Miguel Sandoval, M.S., were utilized. Through both formal seminars and individual consultation, Mr. Sandoval assisted the researcher in the use of text analysis software. Some transcription services were provided, and all data ultimately were managed, processed, and printed through the UNC-CH computer network. The researcher also participated in the Qualitative Research Study group of IRSS, a monthly interdisciplinary meeting of UNC-CH social work, sociology, education, anthropology, medicine, nursing, and business faculty who discussed methodological issues related to qualitative research.

I would especially like to thank Ms. Connie Culbreth, A.C.S.W., C.C.S.W., Chief of Psychiatric Social Work, University of North Carolina Hospitals, for providing clinical insights and increasing the researcher's self-awareness by serving as a peer debriefer regarding case analyses.

The production of this manuscript could not have been done in its present form without the assistance of Ms. Beth Sauer, who provided meticulous word processing and created all figures and tables.

I also was encouraged by several special friends. Anne-Linda Furstenberg, Ph.D., School of Social Work at the University of North Carolina at Chapel Hill, provided both social and instrumental support as well as humorous yet

pithy adages about the research process. I received similar support from Maeda J. Galinsky, Ph.D., also of the School of Social Work, and I am grateful to David Galinsky, Ph.D., Chairman, Department of Psychology, for enabling me to take doctoral courses in that program. Victoria Shea, Ph.D., designed a behavioral program to struture a daily writing schedule.

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Throughout this process the researcher was supported and guided by the doctoral committee of the Hunter College School of Social Work in a style which facilitated professional growth. Professor Florence Vigilante provided understanding of the functioning of vulnerable children and their families. Professor Michael Smith, as always, was detailed, thoughtful, and pragmatic in his comments regarding research design and methodology, and I benefited continually from his unique ability to transform complex issues into simple ones. I was especially assisted, however, by the guidance of Professor Mildred Mailick, whose gentle humor, keen insights, clarity of thought, and conceptualization of issues were invaluable. In both direct

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Lastly, I appreciated the generous donation of time, effort, and thoughts of the children with pediatric migraines and their families who participated in this study. They helped me to understand, as only they could, that pediatric migraines were "not little pinchers" but a significant neurologic disorder that had major impact on their daily lives. I ended the study with great respect for their courage and creativity in coping with pediatric migraine.

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Introduction and Purpose of Research Inquiry

"I've got a headache" is a common expression that invokes a wide range of responses varying from sympathy to suspicion. Although headaches often are attributed to a stressful modern society, evidence of their biological roots can be traced to 3000 BC, when a Sumerian poet bemoaned his "sick" and "blinding" headache (Friedman, 1982). According to Friedman and Frazier, Sumerian records also provide the first known prescription for headache therapy, which was a ceremony requiring (a) a wise woman, (b) the hair of a virgin kid, and (c) sanctified water that was believed to send the headache to heaven (Adler, Adler, & Friedman, 1987). As this historical description attests, the understanding and treatment of headaches have been culture-bound phenomena throughout time.

Headaches are among the most recurrent chronic pain syndromes, and they are a frequent reason why children are referred to physicians. Generally headaches are symptomatic of a common illness, such as the flu, but occasionally they can be harbingers of a grave central nervous system abnormality due to meningitis, encephalitis, subdural hemotoma, or brain tumor (Shinnar & D'Souza, 1981). Headaches also can present as the physical symptomatology involved in psychiatric disorders of children and adolescents such as Hypochondrias, Major Depression, Psychological Factors Affecting Physical Condition, Separation Anxiety Disorder, or Overanxious Disorder (American Psychiatric Association, 1987).

On a societal level the chronic pain of adults, e.g., headache pain, is a common management problem to physicians, a major cause of absenteeism to employers, and a source of decreased productivity to the nation. On an individual level pain is associated with physical suffering, depression, disability, and impairment of function (Elton, Stanley, & Burrows, 1983) as well as loss of personal income and increased medical expenditures. Furthermore, patients ineffectively subject themselves to possibly harmful pharmacological treatments, psychotherapies, and sometimes unnecessary surgeries in an effort to find relief from their suffering.

Many latency-aged children with migraine headaches continue to experience them as a life-long condition; according to Bille (1981) approximately 50% of children with pediatric migraine continue to have headaches into adulthood. Hockaday (1978) indicated that only 25% of patients diagnosed with migraine before the age of 20 were without migraine at the time of reassessment, which occurred between 8 and 25 years after diagnosis. Sillanpaa (1983) found that 41% of children who suffered from migraine at the age of 7 continued to have migraine at the age of 14. Thus, the development of adequate pain coping behaviors during childhood has significant, long-term implications. Because many children with chronic headaches continue to have headaches into adulthood, it is important to prevent the fostering of drug abuse and/or drug dependence, especially among adolescents. Weaning adult headache patients from their long-term use of patent drugs can be a major treatment issue for physicians (Shinnar & D'Souza, 1981). Furthermore, Mindell and Andrasik (1987) stated that headaches of children can be viewed as more "pure" than headaches of adults because children have experienced their headaches for fewer years and are less affected by broader environmental influences such as employment and friends. Thus, it is apparent that early intervention is optimal because children have less entrenched coping behaviors and experience fewer environmental contingencies than adults, who most likely have well-established, complicated pain coping repertoires that are more resistant to change.

One reason for patients and families to develop adequate headache pain coping behaviors is because they may be utilized for many years. Unlike acute pain, which does not require patients or family members to make long-term changes in their behaviors, chronic pain, even of an episodic nature such as headaches, often compels patients and families to develop and to institutionalize pain-related behaviors. Also, they may also have to alter or to terminate activities in which they had engaged prior to the chronic pain disorder (Fordyce, 1978).

Regardless of whether the coping behaviors are adaptive or maladaptive, the longer the pain disorder exists, the greater the reinforcement of pain-related repertoires and, conversely, the less the reinforcement of pre-onset, non-pain behaviors. Headache pain coping behaviors, like any other behaviors, are subject to the influences of learning and conditioning effects. The existence of chronic headache pain provides two of three required elements for conditioning of headache pain coping behaviors; a symptom behavior is emitted, and a symptom behavior continues to occur. The third required element is provided if the environment of the headache patient is conducive to conditioning and thus maintains the pain behavior (Fordyce, 1978).

A review of the literature indicates a need for increased knowledge regarding pain coping behaviors of children with pediatric migraine and their families. This lack of knowledge stems partially from two research biases. First, most studies of chronic pain patients have involved adult populations; there is a lack of systematic research of childhood pain (Dunn-Geier, 1986; McGrath, 1986). More specifically, there is greater lack of research inquiry regarding pediatric migraine pain. Second, despite the obvious assumption that the majority of chronic pain behaviors occur and are maintained within the context of the family, this author finds and Roy (1986) note that the relationship between pain behaviors and family variables has received little research attention. Completing a review of the literature, this author found no research inquiries involving the families of children with pediatric migraine.

Purposes of Research Inquiry

Because of the prevalence of pediatric migraine and the life-long implications for coping with this chronic pain disorder, there is a need for these children to develop adequate pain-coping behaviors. Due to the limitations of current research, however, a number of questions arise. How do children cope with pediatric migraine? What are the effects of their coping behaviors on the headache disorder, e.g., frequency, duration, and severity? What are the effects of their coping behaviors on psychological functioning? What are the effects of migraine coping behaviors on their social functioning? How do family members cope with the children's migraines? What are the effects of their coping behaviors on the patients' headache disorder, psychological development, and social functioning? How do coping behaviors of family members affect the children's attempts to cope?

Literature Review

The Importance of the Biopsychosocial Perspective on Pain Disorders

Most traditional attempts to understand and to control pain have been based upon the dualistic perspective formally taught by Descartes. Aristotle and his followers believed that pain was an emotion. Because pain was located within the mind, they believed that it should be treated through logic rather than physical interventions. In contrast to the philosophers, the physicians believed that the pain had an organic etiology, and thus they recommended physical therapies (Turk & Holzman, 1986). Importantly, most contemporary medically oriented professionals concur that psychological factors inform the assessment and treatment of pain (Melzack & Dennis, 1978). However, it is equally important for the psychosocially oriented professionals who treat pain disorders to have a fundamental appreciation for the underlying physiological and biochemical mechanisms of a specific pain disorder in order to help patients.

Because the author assumes that most pain has an underlying organic component, the contributions of several major theories of the neurophysiological basis of pain are summarized briefly. Described as early as 1644 by Descartes and modified in 1842 by Johannes Muller, a physiologist, the "specificity theory" implies that the pain center of the brain receives coded data about the quality of a sensory experience through specific nerves. This theory assumes a one-to-one, fixed relationship between the intensity of the stimulus and the perception of pain (Elton, Stanley, & Burrows, 1983; Melzack, 1973).

Disbelieving the primary assumption of a one-to-one relationship between intensity of stimulus and perception of pain, Goldscheider in 1894 challenged specificity theory and presented his "pattern theory" of pain. The pattern theory assumes that pain is caused by a summation of skin sensory stimuli at the level of the dorsal horn cells of the spinal column. When either an overstimulation of receptors or a pathological condition exist, the total sensory output exceeds a critical level, and pain is experienced. This theory contributed to the knowledge about the temporal and spatial patterns of nerve impulses that serve as a basis for sensory perception (Elton, Stanley, & Burrows, 1983; Melzack, 1973).

Integrating "specificity" and "pattern" theories of pain, in 1965 Melzack and Wall proposed their comprehensive and influential "gate-control theory" of pain, which integrates the psychological and neurophysiological aspects of pain. This multi-disclipinary approach has expanded the assessment, research, and treatment of pain disorders. Their basic assumption is that there is a neural mechanism, which exists within the substantial gelatinosa of the dorsal horn cells of the spinal column, that acts like a gate. This gate can increase or decrease the flow of nerve impulses traveling from the peripheral fibres to the central nervous system. Somatic input is modulated by the amount of sensory transmission, which is regulated by the reciprocal activity of large-diameter (A-beta) and small-diameter (A-delta and C) fibres. Activity in the fast-conducting, large-diameter fibres depolarizes the intramedullary afferent terminals, closes the gate, inhibits the effectiveness of the excitatory synapses, and thus lessens the experience of pain. Activity in the slow-conducting, small-diameter fibres has the opposite consequence; it opens the gate and increases the experience of pain (Elton, Stanley, & Burrows, 1983; Melzack, 1973).

Importantly, after a pain stimulus activates the receptor system, it accesses a higher level of the central nervous system that processes information about past pain experiences, cultural learning, perceptions of pain, and motivations to escape. These cerebral processes are actively involved in the selection, abstraction, and synthesis of information regarding pain that is received from the afferent sensory input. Thus, the pain experience is not simply a result of linear transmission of sensory stimulus but rather a dynamic process that is characterized by continuous interactions among complicated systems (Melzack, 1973).

As the gate-control theory suggests, perceptions of pain can be influenced by an individual's psychological state. Generalized anxiety, attention to pain, the meaning of pain, and other variables may stimulate the small-diameter fibres and increase the pain experience. On the other hand, relaxation, focus on pleasant images, and freedom from anxiety stimulate the large-diameter fibres and decrease the pain experience. Psychological processes can act upon the gate-control system by facilitating all inputs from an area to evoke pain or, in contrast, restricting all inputs from a selected area to reduce pain, e.g., the total loss of sensation in a hand (Melzack, 1973).

Melzack (1973) also differs with the classical assumption that pain is simply a sensory experience which is characterized by responses to noxious stimuli and varies only in intensity. In The Puzzle of Pain he described pain as a category of complex experiences rather than a single reaction to a specific stimulus. Melzack believes that pain has a perceptual quality that is influenced by the past history of the individual, the meaning that the person ascribes to the painful situation, and the person's state of mind. He writes that the "...amount and quality of pain we feel are also determined by our previous experiences and how will we remember them, by our ability to understand the course of pain and to grasp its consequences. Even the culture in which we have been brought up plays an essential role in how we feel and respond to pain" (Melzack, 1973, p. 21).

Like Melzack, Sternbach (1968) acknowledges that pain is produced by stimulation of the sensory nerves and is followed by a feeling. He views the person who experiences pain as an organism whose responses to pain are interrelated and adaptational. In Pain: A Psychophysiological Analysis Sternbach identified three components of this complex and interactive experience of pain: (a) a personal, private sensation of hurt; (b) a signal of impending danger from tissue damage; and, (c) a pattern of responses that function to protect the organism from harm.

In addition to the neurophysiology of pain, the pain experience also is affected by biochemical factors, which are affected by psychological determinants. Individuals possess an inborn ability to regulate their pain experience in part through the endorphin or endorphin-like substances (Elton, Stanley, & Burrows, 1983).

From a biopsychosocial perspective, pain can be viewed as a complex phenomenon that results from the interactions among painful sensory phenomenon, the individual patient, the family context, and other environmental variables. Pain is not classified as either a purely somatic or psychogenic experience; on the contrary, it is viewed as a subjective experience composed of the interaction among the above-listed factors. Melzack (1973) and Sternbach (1974) have described the multi-causal nature of pain in a linear model, and other theorists have conceptualized pain in an open systems or circular model that emphasizes the continual feedback from a variety of interrelated systems (Elton, Stanley, & Burrows, 1983). These general assumptions regarding the open system model of the study of pain are assumed to be relevant to the examination of the complex biological, psychological, and environmental factors that continually affect patients with pediatric migraine.

Applying the biopsychosocial model to research with adults who suffer from chronic lower back pain, Flor, Turk, and Birbaumer (1985) presented the "diathesis-stress" model of pain. Their basic assumption has been that pain results from the interaction among one's environment, psychological conditioning history, and diathesis, which is one's constitutional predisposition to organic abnormality or disease. Citing the classic "fight-or-flight" conceptualization of Cannon, Turk and Holzman (1986) explained that when the individual is unable to cope with emotional and physical stressors, the automatically invoked fight-or-flight response to stress results in increased muscular tension, which is painful. A vicious cycle is perpetuated when the individual is not able to cope adequately with the increased pain from the increased muscular tension. Because tension headaches can precipitate migraine headaches, the need to avoid escalation of stressful emotional responses and the accompanying muscular tensions is important.

Several recent studies have cautioned against the traditional use of the rigid dichotomy between organic and psychogenic origins of childhood pain. Clear organic cause is determined in only 10% of children who seek attention for recurrent pain syndromes, such as headaches or abdominal pains, and thus the majority of the remaining children have been assumed to have psychological difficulties (Schechter, 1984). Authors of one review have suggested categorizing pain as either disease-related, e.g., juvenile rheumatoid arthritis, or recurrent pain syndromes, e.g., headaches (Elliott & Jay, 1987). They have emphasized that both the disease-related pains and the recurrent pain syndromes may or may not involve one or both aspects of the organic versus psychogenic question.

Although Crue delineated six types of pain, it can be classified broadly into two types, acute and chronic pain (Brena, Crue, & Stieg, 1984). Acute pain generally refers to pain which is associated with injured tissue from an identifiable cause, e.g., a burned finger, and has a temporal course that ceases when the tissue heals. The primary assumption of acute pain is that it is a relatively isolated event and will disappear when the peripheral pathologic condition disappears.

Chronic pain, on the other hand, may begin as an acute pain but persist after the tissue has healed and no longer warns against impending damage. Chronic pain is assumed to be the product of a central "memory of pain" that endures after the peripheral pathological condition has healed. Chronic pain appears to involve the slower conducting systems of the spinal cord and to utilize neural mechanisms that are more complex than those of acute pain. Chronic pain not only persists but can move to other areas of the body. Both Livingston and Melzack suggest that prolonged pain may produce a self-sustaining neural activity that has a memory-like mechanism associated with pain. This suggestion is a critical one because these memory-like processes may explain the presence of pain in the absence of a detectable lesion or any other peripheral stimuli. A patient in whom a memory-like mechanisms such as this is active may be misdiagnosed as a malingerer or a conversion hysteric when, in fact, a central neural mechanism is the major cause of the pain (Melzack & Dennis, 1978). Importantly, most studies of chronic pain have involved adults; little investigation of similar syndromes in children has been reported (McGrath et al., 1986).

Because headaches comprise qualities of both acute and chronic pain, the author finds the classification suggested by McGrath (1990) to be most useful. Based upon consideration of the temporal characteristics of pain, the presumed source of sensory stimulation for pain, the psychosocial factors associated with the type of pain, and the underlying physiological pathways, McGrath identified four pain categories. These pain categories are (a) acute, (b) recurrent, (c) chronic, and (d) cancer. Recurrent pain syndromes such as migraine headaches have attributes of both acute pain, e.g., episodes are of relatively brief duration, and chronic pain, e.g., the disorder may persist for years. As McGrath stated, the label recurrent pain syndrome sometimes is applied as a generic description of pain attributed to poorly defined causes.

It must be stressed that a diagnosis of psychogenic pain be based upon positive evidence of psychosocial stressors rather than failure to discover an organic cause for pain. Most recurrent pain syndromes in children cannot be definitively attributed to either organic or psychogenic origins because they often co-exist. Preoccupation with this diagnostic dilemma frequently confuses professionals and alienates children and their families (McGrath et al., 1986). A wholistic approach to diagnosis also has important treatment implications, for one's perception of the etiology of pain informs choice of treatment among alternatives such as pharmacologic agents to affect biological systems, cognitive therapies to alter perceptions of pain, behavioral strategies to regulate pain, or environmental modifications to alter pain stimuli.

Medical Factors Related to Pediatric Migraine

Demographic Variables

Although headaches traditionally were thought to be an adult disorder and children's complaints of headache often were suspect, epidemiological data substantiate a high incidence of headaches in children. In his classic study on the prevalence of childhood headache among approximately 9,000 Swedish students, Bille (1962) reported that by age 7 approximately 40% of children experienced headache. He found that there was an overall occurrence of migraine in 3.9% of school-aged children, frequent non-migrainous headaches in 6.8% of children, and infrequent non-migrainous headaches in 48% of the children. In a seven-year longitudinal study of approximately 3,000 Finnish students, Sillanpaa (1983) found that by seven years of age 2.7% of children had experienced migraine headache and 37% had experienced non-migrainous headaches. By fourteen years of age these percentages rose to 10.6% and 69%, respectively.

In 1955 Vahlquist studied almost 3,000 children, and he showed that 4.5% of children between the ages of 10 and 12 suffered from migraine, and 7.4% of adolescents between the ages of 16 and 19 experienced migraine (Vahlquist, 1955). Studying 504 eleven-year-old children, Del Bene (1982) reported that 3.6% of children had migraine, and 21.4% of children experienced non-migrainous headaches.

Gender distribution of childhood migraine appears to vary as a function of age. Bille (1962) reported that more than half of children between the ages of seven and nine who had migraine headaches were male. Prensky and Sommer (1979) found that under the age of 11 two-thirds of patients were male. Between the ages of 11 and 16, however, the numbers of males dropped to 40%. However, between 13 to 15 years of age 60% of migrainers were female; 67% to 75% of adult migrainers were women (Hoelscher & Lichstein, 1984).

The average age of onset of recurrent pediatric migraine headaches is 7.5 years. However, headaches were noted to begin as early as 1 1/2 years of age for some patients and prior to age six for 31% of children (Prensky & Sommer, 1979). Fenichel (1985) suggested that the prevalence of migraine in preschool children may be higher than data indicated because headache symptoms may be atypical and difficult to diagnose as migraine characteristics.

Classification of Childhood Migraine

The Ad Hoc Committee on the Classification of Headache described 15 categories of migraine headache which fell largely into two groups, classic and common (Ad Hoc Committee on the Classification of Headache, 1962). However, Prensky and Sommer (1979) question the application of these migraine criteria to children, for their study of 84 patients with pediatric migraine indicated that this youthful population included a greater number of males and a greater preponderance of bilateral frontal headaches. The pediatric patients also had fewer auras than adult patients.

Differential diagnosis of types of headache can be difficult and confusing, perhaps because the most frequent method of assessment and diagnosis is the headache history provided by the patient. Discrepancies may exist between the parent's report and the child's description of the headache experience (Deubner, 1977). Furthermore, young children may lack the cognitive and verbal skills to describe their symptoms. Diagnostic reliability may be further compromised for pediatric patients, for diagnosis typically is made by pediatricians rather than specialists such as pediatric neurologists. The agreement regarding reliability of diagnosis between pediatricians and experienced diagnosticians ranged from 59% (Turkat, 1981) to 86% (Blanchard, O'Keefe, Neff, Jurish, & Andrasik, 1981).

The prevailing, broad classifications of headache types identify migrainous and muscle contraction headaches as separate syndromes. However, there is controversy as to whether migraine and muscle contraction headaches are quantitatively but not qualitatively different from each other. Some have argued that similar symptoms, biochemical changes, and psychophysical factors have placed headaches on a continuum that differs only in terms of severity. Some have speculated that the variation in symptomalogy stems from variations secondary to the length of experience with the headache disorder; variables initially associated with the onset of headaches may be modified or replaced by others (Bakal & Kaganov, 1977).

Discussion of headaches in this research inquiry is limited to migraine headaches because they generally are the most disruptive to children's functioning. Migraine headaches have been defined as a paroxysmal disorder of cephalic arteries, which initially experience vasoconstriction that is followed by vasodilation.

The most chronic, recurrent migraine headaches in pre-adolescent children have been the common type of migraine. Malaise, dizziness, and/or nausea may have occurred prior to the onset of the actual headaches; pallor and vomiting also have occurred during the headaches. Common migraine headaches have tended to possess generalized, bifrontal, or bilateral locations (Gascon, 1984).

Classic migraine headaches, which occur more frequently in adolescents than pre-adolescents, have tended to be biphasic. The vasoconstrictive phases have been associated with aura, which frequently includes visual disturbances such as blurred vision, kaleidoscope patterns, flashing lights, and/or field loss. This sharply defined prodrome, which generally lasts 10 to 30 minutes, has been the distinguishing characteristic of the classic migraine. The following vasodilatory phases has been characterized by a throbbing, unilateral headache pain accompanied by nausea and vomiting (Gascon, 1984).

Migraine headaches can vary in intensity, frequency, duration, and symptoms. They are thought to be precipitated by stress, fatigue, exercise, weather, light, head trauma, menstrual cycle, and foods such as aged cheese, wine, monosodium glutamate, chocolate, or alcohol. Burker and Peters, Krupp and Friedman, and Lanzi et al. (cited in Lavigne, Schulein, & Hahn, 1986) reported that stressors such as excitement, school examinations, and family conflicts precede the onset of migraine; however, all of these studies have been noted to be subject to bias due to their retrospective nature and lack of control group. A positive family history of migraine has been reported in 20% to 90% of cases; these data have suggested that migraine may result from an autosomal dominant transmission process (Bille, 1962; Fenichel, 1985; Gascon, 1984; Golferini et al., 1988; Hoelscher & Lichstein, 1984; Mindell & Andrasik, 1987; Prensky & Sommer, 1979; Shinnar & D'Souza, 1981; Sutherland, 1983).

Studies that contrast adults' and children's' migraine headaches have indicated that children's' headaches tended to be more frequent, to have shorter duration, and to have more physiological involvement such as nausea, vomiting, and prodromal neurological symptoms (Barlow, 1978). Seventy percent of children claimed to have nausea, vomiting, or abdominal pain (Prensky & Sommer, 1979). Prensky and Sommer also supported other findings that epilepsy is more prevalent among children with pediatric migraine. They administered electroencephalogram (EEG) testing to 64 patients, and only 17 of those patients had normal readings. Seven of the 17 patients with paroxysmal EEG tracings had a history of seizures. Other researchers also identified statistically significant slowing of EEG background activity of children with migraine headaches during their symptom-free periods (Farkas, Benninger, Matthis, Scheffner, & Lindeisz, 1987).

Psychological Characteristics of Children with Pediatric Migraine

If one is to analyze the coping behaviors of children, it is important to review attempts to associate personality traits and cognitive function with pediatric migraine.

Several authors have cited Harold Wolff, one of the first researchers to study systematically these characteristics. Wolff based his conclusions on retrospective data gained from self-descriptions of his adult migraine patients. The majority of these adults were described as delicate, shy, withdrawn, polite, well-mannered, fastidious, conscientious, thoughtful, and extremely compliant children. Their trustworthiness and energetic behaviors often resulted in their receiving privileges and responsibilities at relatively young ages. In concert with these qualities, however, these children also were remembered as being unusually obstinate, stubborn, rigid, argumentative, "exceptionally" attached to their mothers, and very concerned with moral, sexual, and ethical issues. Unfortunately, Wolff's view was methodologically flawed due to incomplete selection criteria of the adult headache patient, an unstructured clinical interview, reliance on retrospective information, and lack of a control group (Andrasik et al., 1988; Cunningham et al., 1987).

Concluding from psychiatric interviews and psychological testing of 50 children with migraine between the ages of 3 and 15, Krupp and Friedman were cited for finding that children with migraine exhibited traits of sensitivity, seriousness, need for approval, orderliness, and reliability. These traits were accompanied by feelings of inadequacy, excessive guilt, and inhibited aggression. The absence of a control group, reliability ratings for psychiatric interviews, and description of psychological tests administered limit the confidence that one can have in these conclusions (Lavigne, Schulein, & Hahn, 1986).

Bille's (1962) classic study included comparison of a carefully selected group of children between 7 and 15 years of age with migraine and a control group without migraine that was matched by age, sex, and socioeconomic status. The children took a comprehensive battery of tests, the results of which revealed no significant variation in cognitive ability or function. However, discrepancies in tests of motion perception and sensory performance led to speculation that children with migraine headaches, especially females, were more cautious, restrained, and deliberate. Both parent reports and children's self-descriptions indicated that the children with migraine were more anxious, fearful, nervous, and lower in physical endurance than children without migraine. In contrast to the control group, a subgroup with pronounced migraine exhibited more sleep disturbances, night terrors, head banging, gastrointestinal complaints including recurrent abdominal pain, and severe temper tantrums. Similarly, parents of children with migraine rated their offspring as more anxious, sensitive, and vulnerable to frustration than their counterparts. Although Bille's study avoided some of the methodological problems of earlier research, the use of unstandardized, invalid, and unnormed rating scales combined with failure to describe exactly how control subjects were matched compromise the acceptance of his results (Andrasik et al., 1988; Cunningham et al., 1987; Lavigne, Schulein, & Hahn, 1986).

Using the Personality Inventory for Children (PIC), Guidetti et al. (1987) established personality profiles of 43 Italian children, ages 8 to 14, with common migraine and of 43 children without migraine headaches. The experimental and control groups of children were matched for age, sex, and socioeconomic status. Results indicated that the children with common migraine did not differ significantly from the mean PIC profile, which reflected overall behavior, achievement, adjustment, and truthfulness. However, in contrast to the control group, children with headaches did demonstrate significant increases in three subscales: somatic concern ($p<.01$), depression ($p<0.01$), and anxiety ($p<.05$). Although the authors cautioned that PIC scores should not be interpreted as indicating that there is an established neurotic structure in children, the results do suggest that the experience of a chronic headache disorder can interfere with personality development by contributing to increased somatic focus, diminished self-esteem, and decreased control of anxiety. Like the "chicken or the egg" controversy, however, these personality traits may be either a precursor or a result of the onset of common migraine.

A statistically significant increase in somatic complaints, anxiety, depression, and internalizing behaviors in children with migraine has been confirmed by others. Using nine standardized scales of psychological functioning, researchers evaluated 32 children with migraine headaches, who had been grouped as younger (ages 8 to 12) or older (ages 13 to 17). They also evaluated 32 children without migraines, using the same groupings, who had been matched on age, sex, and some demographic variables. Although mean scores for all groups, except adolescent males, fell within the normal range, headache sufferers had significantly higher scores on depression and somatic complaints. Results from one instrument, the Children's Social Readjustment Rating Questionnaire (CSRRQ), led to speculation that failure to find significant differences among scores indicated that psychological distress was unrelated to headache severity or chronicity. In general, the adolescents with headaches tended to be more anxious than teenagers without headaches. One hypothesis has been that the increased anxious and depressive tendencies of the adolescents is secondary to the frequent, unexplainable, and unpredictable headaches that disrupt age-appropriate involvement in social and extra-curricular activities and thus interfere with their movement towards autonomy. Adolescent males exhibited the poorest overall adjustment scores on the PIC; their mean scores did not fall within the normal range and thus were clinically significant. Adolescent males with headaches may have experienced greater adjustment difficulties because cultural norms for masculine role behavior do not encourage outward expression of suffering, e.g., crying or admitting to pain. Thus, they may have chosen alternative pain behaviors such as aggression, withdrawal, or moodiness, which are variables in the PIC Adjustment Scale (Andrasik et al., 1988).

Correcting for some methodological flaws in earlier studies, Cunningham et al. (1987) designed a comparison study using three groups: (a) 20 children with migraine headaches, (b) 20 children with musculoskeletal pain, and (c) 20 control children with no pain. Four standardized tests were used to measure the personality and behavioral characteristics of each child, and the two groups of children with pain also kept pain diaries that yielded a weekly pain index. The test results indicated that the children in the pain groups had been less socially competent, had developed more maladaptive internalizing behaviors, had been less happy at school, and had been more anxious than children in the control group. In contrast to the control group, the group with musculoskeletal pain had reported more somatic complaints and internalizing behaviors on the Child Behavior Checklist (CBC), but their mean scores were not as extreme as the group with headaches. Comparing the CBC profiles, the authors found that the only variable to fall into the clinical range for the two pain groups was somatic complaints. Importantly, the results have suggested that the personality and behavior characteristics traditionally attributed to a chronic headache disorder may instead stem from the experience of chronic pain. Furthermore, when the researchers statistically controlled for the amount of pain when analyzing covariance among groups, the group differences disappeared except for those factors related to somatic complaints. These results have suggested that associated personality traits, e.g., anxiety, depression, social withdrawal, diminished social skills, lack of popularity, and maladaptive coping, are related to the severity of pain rather than to migraine headaches specifically. In contrast to musculoskeletal pain, migraine headaches have been associated with a larger array of symptoms, e.g., head pain, nausea, vomiting, visual disturbance, and dizziness. Thus, the behavioral and personality characteristics associated with migraine headaches may be a consequence of the significant interference with age-appropriate activities rather than an antecedent of migraine headaches.

There is some speculation that specific learning disabilities and migraine headaches in children may cluster. Based on self-report data, 5 of 84 pediatric migraine patients had learning problems associated with reading and/or spelling (Prensky & Sommer, 1979). Twenty percent of children in an English learning disability classroom complained of headaches (Margalit & Raviv, 1984) whereas 40% of elementary school children in a Boston headache clinic had been identified as learning disabled prior to the onset or the increase in symptomatology of headaches (Leviton, 1986). Headache classification in these two studies is not defined. These findings have remained questionable because of unverified self-report data, sampling problems, and possible effects of other variables such as school-related stress. However, these results do suggest an association between learning disabilities and migraine headaches, and they indicate the need for more systematic inquiry of a possible interrelationship between these two disorders.

Family Characteristics of Children with Pediatric Migraine

To the author's knowledge, there have been no systematic studies of families of children with pediatric migraine. In fact, regarding the broad area of pain management, Flor and Turk have written that "it is interesting to consider how little attention is typically given to families when the treatment of chronic pain is discussed" (Holzman & Turk, 1986, p. 263). Holzman and Turk have emphasized that the impact of chronic pain on family members is also a neglected area. Roy (1986) also has stated that the role of the family in treatment of chronic pain disorders is thus far a poorly researched area.

Using an open family systems model, Minuchin et al. (1975) described three conditions necessary for the formation and maintenance of psychosomatic symptoms in children. The three interactive conditions were: (a) the physiological vulnerability of the child; (b) family transactional patterns that were characterized by enmeshment, overprotectiveness, rigidity, and lack of conflict resolution; and (c) reinforcement of the child's sick role because it enabled family members to avoid conflict. Minuchin's multiple feedback model emphasized that a variety of mechanisms were involved in the maintenance of illness. The child's headaches, therefore, can be an unintentional physiological response to stressful family interactions and can serve to maintain family homeostasis.

Developmental Theories Applied to the Study of Pediatric Migraine

The impact of pediatric migraine on children's development is viewed from several theoretical frameworks, the pertinent aspects of which are summarized below. The psychodynamic, psychosocial, cognitive, family systems, and learning theories are the primary approaches to the descriptions and analyses of patient and family functioning. They have been selected because they capture the continuity of individual growth through the mastery of age-related developmental tasks with an emphasis on the family context.

Psychodynamic Theory

Psychodynamic theory is an approach that includes both theories of personality development and an approach to treatment of psychological disturbances. Originally derived from the theories of Sigmund Freud, psychodynamic theory has been based on assumptions that all behaviors are motivated. Freud (1900/1961) presented a topographical model of the mind, which controlled behavior, in which the mind was envisioned spatially to have three levels or layers of mental activity: conscious, preconscious, and unconscious. Freud (1923/1961) reformulated his topographical model to include his structural approach to the major systems of the mind. These structures were grouped according to their roles in the development and resolution of intrapsychic conflict, and in this anatomical approach Freud isolated the provinces of the mind into three categories: (a) id, (b) ego, and (c) superego. Unresolved conflicts among these three structures have been thought to produce a state of psychic distress called anxiety.

The ego attempts to protect itself from being overwhelmed by anxieties by reducing them through the use of various defense mechanisms. Although defense mechanisms vary in their mental processes and manifestations, they share two fundamental attributes: (a) they represent a distortion or denial of reality, and (b) they generally operate unconsciously. Examples of such defenses, which have been more fully delineated by Anna Freud (1937), include somatization, repression, regression, fixation, projection, introjection, rationalization, reaction formation, sublimation, and displacement, isolation. Particularly salient to this study, the ego's use of defense mechanisms does not automatically result in maladaptive coping behavior, for defense mechanisms often manifest themselves through highly adaptive coping behaviors.

Psychosocial Theory

Erikson's (1963) overarching psychosocial theory of development is most useful because it integrates the acquisition of ego function, achievement of age-specific developmental tasks, issues associated with psychosexual development, and the importance of the social environment. Erikson posited that concomitant with Freud's psychosexual states were psychosocial stages of development. In contrast to Freud's emphasis on the early years of life, Erikson asserted that personality development continues throughout one's entire life cycle. Particularly relevant to this study, at each stage of ego development the individual is confronted with challenges that require him or her to develop new skills and to integrate concepts of the personhood with the social demands of the individual's culture. Importantly, Erikson believed that each stage of development can have a positive or negative resolution. These eight life stages and their associated psychosocial crises were identified: (a) infancy (trust vs. mistrust), (b) toddlerhood (autonomy vs. doubt), (c) early school age (initiative vs. guilt), (d) middle school age (industry vs. inferiority), (e) adolescence (identity vs. role confusion), (f) young adulthood (intimacy vs. isolation), (g) middle adulthood (generativity vs. self-absorption), and (h) later adulthood (integrity vs. despair).

Cognitive Theory

Regarding cognitive development, Piaget has been noted for his profound contributions to the understanding of children's implicit philosophies and constructions of reality. These perceptions of reality can be integrated with the individual's personal and social development. Assuming that there are qualitative differences in thinking at different ages, Piaget described stages of intellectual development as follows: (a) sensorimotor intelligence, ages

0 to 2; (b) preoperational thought, ages 2 to 7; (c) concrete operational thought, ages 7 to 12; and (d) formal operational thought, ages 12 to 15 years (Elkind, 1973). Awareness of cognitive development is necessary for understanding of a child's age-appropriate perceptions of headache disorder and ways to cope with it.

Family Systems Theory

Although various schools of family treatment have emerged since the 1950's, all have been based on the basic assumption of the interrelatedness of the individual and family. Thus, when an individual's problems, e.g., chronic pain syndrome, affect the functions of family members and vice versa, they must be assessed and treated within the context of the family.

Psychodynamic family therapy has been utilized by a number of authors, perhaps most notably Ackerman (1966). While considering the emotional health of both the individual and family unit at various stages of the life cycle, Ackerman focused primarily on three variables: (a) family organization, (b) family role adaptation, and (c) individual personality. He theorized that emotional conflicts within the family were analogous to those of the individual, and he suggested that "Significant elements of the family unconscious may be reflected in a disguised form in the carry-over of components of conflicted, projected, interjected images of the families of origin" (p. 109).

Based on the concept of differentiation of self from one's family of origin, Bowen (1978) developed the idea of using psychotherapy to modify one's poorly differentiated relationship patterns. Bowen identified interlocking concepts such as family projection processes, multiple generation transmission processes, triangles, and emotional cutoffs that impair one's cognitive and emotional function.

Minuchin's (1974) structural family therapy was designed to change the organizational context of the family. The basic assumption has been that an individual's symptomatology was a reflection of imbalance in the family organizational structure. When the family organization was transformed, e.g., malfunctioning parental hierarchy was strengthened, change had been effected in individual family members. Minuchin emphasized the concepts of: (a) boundaries, e.g., disengaged, clear, and enmeshed; and (b) subsystems, e.g., spousal, parental, and sibling.

Learning Theory

Skinner (1953) published Science and Human Behavior, a landmark publication that explained much of human behavior in terms of operant conditioning. He distinguished between two types of behavior: respondent and operant. Respondent behaviors have been identified as those that occurred in response to antecedent stimuli, and operant behaviors traditionally were actions of the person that involved voluntary musculature. Operant behaviors can be elicited by either antecedents or reinforcing consequences.

Later research modified Skinner's conceptualizations by demonstrating that the autonomic responses also were sensitive to the conditioning effects of contingent reinforcement. Many "respondents" also could function as conditioned "operants," e.g., pain behaviors (Fordyce, 1978). Examples of reinforcing consequences that have maintained pain behavior included: (a) when contingent reinforcers such as sympathy, concern, massage, or other recommendations for pain relief occurred after a pain behavior occurred; (b) when pain medication was administered only on an "as needed" basis; (c) when rest for pain was associated with an activity; and (d) when changes in the behavior of others, e.g., keeping the house quiet, was contingent on pain behavior. Pain behavior also resulted in one's avoiding aversive consequences. Examples of this negative reinforcement occurred: (a) when pain behavior prior to departure for school resulted in absenteeism; (b) when pain behavior prior to an activity or situation resulted in being excused from participation from it; (c) when pain behavior terminated an unpleasant interpersonal interaction; and (d) when pain behavior prevented disclosure of lack of competence or masked fear of failure (Masek, Russo, & Varni, 1984).

Some family researchers examined family interactions from the perspective of social learning theory (Becker, 1971; Patterson, 1971; Patterson & Guillion, 1968). This approach has been based on the belief that parents and children reinforced each other's adaptive or maladaptive behaviors by either punishing or rewarding them.

Because migraine tends to be a familial disorder, the influences of other's social modeling on children was considered. Bandura (1969) asserted that learning occurred not only through direct experiences but also through observations of other persons' behaviors and their consequences. Family member's symptoms of headache pain, ways of coping, and impacts on other family members' behaviors all were observed by children with pediatric migraine and thus were assumed to be powerful influences on children's coping behaviors (Craig, 1978).

Treatment Approaches to Children with Migraine Headaches

In general, treatment of childhood migraine has emphasized avoidance of known preceptors, use of common analgesics, and sleep. However, the more frequent, intensely painful, and long-lasting migraine headaches of some children have required more aggressive therapeutic interventions. There are various therapies available to children with pediatric migraine, and they are described below. Often, because of the mixed nature of headaches, a child can receive multiple therapeutic approaches to treat the various types of headaches.

Pharmacologic treatments.

The most common approach to management of pediatric migraine has been pharmacologic, of which there are two types of treatment: (a) acute, and (b) prophylactic.

When headaches have occurred, many children experienced symptom relief through the use of mild analgesics such as acetaminophen (Tylenol) or aspirin. When these non-narcotic analgesics have failed to provide relief during the acute phase of the attack, the most commonly prescribed antimigraine agents were ergotamine (Bellergal-S) and isometheptene (Midrin). Ergotamines, if taken at the onset of symptoms, were effective, but because young children often have difficulty recognizing the prodromal aura and remembering to have the medicine with them at all times, it generally is not recommended to children under the age of 10. Isometheptene also has been effective in providing headache relief and superior to ergotamine in reducing the nausea and vomiting that can accompany migraine (Fenichel, 1985; Sutherland, 1983).

Although prophylactic therapy often has been neither necessary nor desirable, for children whose migraine headaches were severe and frequent, physicians may have prescribed one of several agents: (a) propranolol (Inderal), (b) phenobarbital and phenytoin, (c) amitriptyline (Elavil), and (d) clonidine (Catapres). Some of these drugs, however, do have side effects. Propranolol can cause fatigue, nausea, hypertension, and occasionally hypoglycemia; however, its incidence of side effects in children has been low. Amitriptyline can cause dry mouth, dizziness, blurred vision, and urinary retention (Fenichel, 1985; Prensky & Sommer, 1979; Shinnar & D'Souza, 1981; Sutherland, 1983).

Contrasting acute with prophylactic drug therapy, Prensky and Sommer (1979) found little difference in the frequency of headaches after six months of treatment. They found that medications, e.g., aspirin, acetaminophen, Fiorinal, administered at the onset of the headache resulted in greater than a 50% reduction in headache frequency for 11 of 26 patients whereas 9 were unimproved. Prophylactic use of anticonvulsants and antidepressants reduced the frequency of headaches in fewer than 50% of patients. Prensky and Sommer found that the remission rate in children with migraine headaches is relatively high. After several years two-thirds of their patients had no or few headaches and used little or no medication; only a small group required long-term prophylactic treatment. Supporting the clinical impression that for most children this disorder improved, Fenichel (1985) suggested that migraines tend to decrease in frequency and intensity over a 10- to 20-year period.

Behavioral and cognitive treatments. A number of single-subject designs, cases studies, and research designs have increasingly demonstrated the efficacy of cognitive and behavioral therapies.

The behavioral approach to the evaluation and treatment of pediatric migraine has been utilized by a number of researchers. One type of behavior therapy is relaxation training, which is based on the assumption that muscle relaxation is a physiological state that is incompatible with anxiety. There are two approaches to relaxation therapy: (a) active, e.g., progressive deep muscle relaxation; and (b) passive, e.g., autogenic training. Progressive relaxation has been used to decrease the frequency of pediatric migraine (Masek, Russo, & Varni, 1984; Richter et al., 1986).

Combining electromyographic (EMG) biofeedback, meditative relaxation training, and operant pain behavior management, researchers demonstrated a 90% decrease in headache activity, defined as intensity and duration, among 17 subjects (Mehegan, Masek, Harrison, Russo, & Leviton, 1986). Unfortunately, the study design did not permit analysis of specific effects of the different therapies. Ten of 12 children showed significant decreases in headache symptoms using a combination of pain behavior management, EMG biofeedback or progressive muscle relaxation, and meditative treatments (Masek, Russo, & Varni, 1984). If the child with migraine can learn to identify headache precursors, the child can initiate coping responses which abort the migraine headache. If muscular tension precipitates the headache, biofeedback or muscle relaxant training may be most appropriate ("Hints on," 1980).

Cognitive approaches attempt to alter maladaptive thought processes that mediate undesirable emotional responses and the concomitant biochemical changes that may precipitate migraine activity. Identifying the cognitions and environmental stimuli that affect children's perceptions of pain have been especially relevant to treatment of intermittent pain disorders (Masek, Russo, & Varni, 1984), of which pediatric migraine is one. Cognitive therapy has been shown to reduce the frequency of migraine headaches (Richter et al., 1986).

Psychodynamic treatments. Case reports of individual, group, and family therapy have demonstrated the usefulness of psychotherapy in treating headache disorders in children. In persons with severe and recurrent headaches there often are prevalent and relevant psychological factors that are amenable to the "talking cure." Citing their own research with adults, Adler and Adler (1987) stated that they had greater treatment success with chronic headache patients whose treatment regime included psychotherapy than those patients who did not. Adler and Adler identified "the three C's" of psychological problems that predispose, precipitate, or both predispose and precipitate headaches. They were: (a) character, which predisposed one to headaches due to the interaction between genetic and environmental forces; (b) crisis, which precipitated one's headache because external pressures threatened to overwhelm; and, (c) conflict, which both predisposed and precipitated one's headaches when a person had competing motivations, some of which were unconscious. On the other hand, one is cautioned to remember that psychological factors may be as much an effect of chronic headaches as a cause.

Family therapies. This literature review yielded one case report of family treatment for pediatric migraine. Using concepts of strategic family therapy and knowledge of pre-operational logic, the therapist used a transitional object to eliminate psychogenic head pain in a 10-year-old child who also had pediatric migraine (O'Connor, 1984).

Coping

Coping is an ambiguous term that is used both in everyday language and in professional terminology. There are increasing efforts by various disciplines to clarify the concept of coping by describing the origins of coping behaviors, defining coping variables, and assessing the efficacy of different coping responses in a multitude of situations. Many of the research studies draw samples from the adult population and thus one must speculate if findings apply to children.

Viewing coping as inseparable from the situational context and the emotional impact of identified problems, early researchers Pearlin and Schooler (1978) defined coping as "any response to external life-strains that serves to prevent, avoid, or control emotional distress" (p. 3). Information regarding strains associated with social roles as spouse, parent, household economist, and employee was gathered from 2300 adults. Pearlin and Schooler examined coping within the broader context of: (a) social resources, e.g., interpersonal network; (b) psychological resources, e.g, personality characteristics such as self-esteem, selfdenigration, and mastery; and (c) specific coping responses, e.g., behaviors, cognitions, and perceptions. Three protective functions of coping were identified: (a) responses that eliminated or modified the strainful experience, (b) responses that controlled the meaning of the strainful experience prior to the arousal of stress, and (c) responses that controlled the stress once it emerged. Because Pearlin and Schooler attempted to develop measures of coping, their research did not examine the relationship between coping and consequences.

Folkman and Lazarus (1980) defined coping as "the cognitive and behavioral efforts made to master, tolerate, or reduce external and internal demands and conflict among them" (p. 223). Perceiving the person and the environment in a reciprocal relationship, Folkman and Lazarus serially interviewed 100 adults regarding their efforts to cope within the contexts of health, work, family, and other. Participants also completed the Ways of Coping, a 68-item checklist that describes a broad range of behavioral and cognitive coping behaviors. These researchers found that coping could be divided according to function into two types of coping, problem-focused or emotion-focused. The purpose of problem-focused coping was to manage the person-environment situation that was the source of the stressful problem whereas the purpose of emotion-focused coping was to regulate the emotional impact of the stress.

Coping efforts are continually influenced by cognitive appraisal, which is the evaluative process through which an event is categorized in terms of its significance to one's well being. Three distinct types of appraisal were identified: (a) primary appraisal; (b) secondary appraisal; and, (c) reappraisal (Lazarus & Folkman, 1984).

Primary appraisals were used to judge an event as irrelevant, benign-positive, or stressful. Stressful appraisals occurred when the evaluated event elicited feelings of: (a) harm or loss, which referred to an injury that had occurred, e.g., physical or psychological damage incurred as a result of pediatric migraine; (b) threat, which described impending harm or loss, e.g., damage anticipated as a result of a migraine; and (c) challenge, which was opportunity for mastery of the event. Appraisal of the degree to which an event possessed the potential for harm, threat, or challenge also was shaped by properties of the stressful events themselves. Three qualities of the event were identified: (a) novelty, (b) predictability, and (c) event uncertainty. Especially relevant to this study is event uncertainty, which incorporates the concept of probability. Not knowing if a stressful event, e.g., pediatric migraine, would recur led to appraisals and to reappraisals that heightened anxieties and interfered with cognitive functions (Lazarus & Folkman, 1984).

Crucial secondary appraisals were used to evaluate what might and could be done about the stressful event. These appraisals involved a complex assessment process regarding what coping options were available, what those options might accomplish, and how efficacious the person believed he or she could be in exercising those options.

Reappraisals were appraisals that were altered on the basis of new information about the environment or person; reappraisal differed from the above-mentioned appraisals in that they followed earlier appraisals.

Importantly, cognitive appraisals were found to be strongly influenced by an individual's commitments and beliefs (Lazarus & Folkman, 1984). Commitments are reflections of what people value. Commitments, e.g., to special children, are important to understand because they include a motivational quality that guides the choices that individuals make. The term "belief" describes the information that an individual has about other people, objects, and issues, and this information can be based upon fact or inference (Petty & Cacioppo, 1981). The commitment that family members have to each other and to the family unit, in addition to their beliefs about the etiology of pediatric migraine, the health care system, types of treatment, locus of control (Rotter, 1966), and social roles undergird cognitive appraisals.

Lazarus and Folkman (1984) also examined how appraisal of the stressful event was influenced by three temporal factors: (a) imminence, (b) duration, and (c) uncertainty. Imminence describes the anticipatory time before an event occurs. The greater the immediacy of the event, the more intense and urgent the appraisal became whereas the lesser the imminence of the event, the more complex the appraisal became. In contrast to imminence, which is the time period before an event, duration is the length of time that the stressful event actually lasts. Temporal uncertainty describes the lack of knowledge regarding when an expected event will actually occur.

The impact of the above-mentioned properties of the event as well as temporal factors inform one's appraisal and reappraisal. It follows, therefore, that the choice of coping behaviors as well as their sequential usage is influenced by these intrinsic and temporal characteristics.

A number of instruments have been used to measure coping. Many researchers continue to use Lazarus and Folkman's Ways of Coping, but the following limitations have been identified: (a) inability to sample all domains assumed to have been of theoretical importance, (b) lack of item clarity regarding what has been measured due either to inability to discern why a coping behavior is used or to ambiguity when a single item contains two or more conceptually different qualities, and (c) empirical development of scales that have been loosely linked to theoretical principles (Carver, Scheier, & Weintraub, 1989).

Expanding the dichotomy of problem-focused and emotion-focused coping, Carver, Scheier, and Weintraub (1989) developed the Coping Orientations to Problems Experienced

(COPE) from a theoretically-based approach to functional properties of coping. Their instrument included 13 conceptually different scales. Problem-focused items were: (a) active coping, (b) planning, (c) suppression of competing activities, (d) restraint coping, and (e) seeking social support for instrumental reasons. Scales that measured emotion-focused coping included: (a) positive reinterpretation and growth, (b) acceptance, (c) turning to religion, (d) denial, and (e) seeking social support for emotional reasons. Authors also deemed the following responses as potentially maladaptive: (a) focus on and venting of emotions, (b) behavioral disengagement, and (c) mental disengagement. Their expanded list of coping behaviors informed both the development of the code lists as well as data analysis for this study.

There have been a few studies that specifically evaluated the pain coping behaviors of children with migraine headaches. One group of researchers examined pain coping behaviors of adolescents, and of the 20 subjects who were matched on age, sex, and location of pain, 30% suffered from headaches (Dunn-Geier, McGrath, Rourke, Latter, & D'Astous, 1986). "Copers" were adolescents who had not experienced school absence problems, and "non-copers" were teenagers who had missed three or more days of school per month for the past two months due to pain. The mean school absence due to pain for the non-copers had been 14.7 days for a two-month period whereas the mean school absence for the copers had been .40 days for the same amount of time. According to the children's pain diaries, there was no statistical difference in pain intensity, peak pain intensity, and number of pain-free days between the two groups. However, the mean intensity of pain reported by non-copers had been higher, although non-significantly so, than the mean intensity for the copers. Thus, one wonders if intensity, which is a subjective experience, is related to appraisal.

Dunn-Geier, McGrath, Rourke, Latter, & D'Astous (1986) analyzed mother-child interactions that occurred while the adolescent performed physical exercises, e.g., sit ups, arm curls. They reported a statistically significant difference in the behaviors of copers and non-copers, who engaged in more negative behaviors, e.g., verbalized anger, refused requests. There was a non-significant trend for non-copers to express pain, e.g., verbalized "ouch" or "it hurts," when required to do physical exercise. Significantly more frequently than mothers of copers, mothers of the non-copers discouraged children's coping by saying things such as "don't overdo it," doesn't it hurt?" and "I think you're getting tired, don't do too many more." Another non-significant trend was that mothers of non-copers encouraged off-task behaviors and encouraged negative behavior, e.g., "yes, I think this a pretty stupid." Conflicting results of two tests of significance rendered differences between the two groups on child antecedent-parent consequence behaviors inconclusive. There was no difference between the two groups on the Family Adaptability and Cohesion Evaluation Scale (FACES). The authors suggested that mothers of non-copers may be overinvolved when their adolescent had been in a pain-related situation; however, the adolescents did not perceive overinvolvement to be a general family characteristic. Although a causal relationship between mother-child interaction and coping could not be demonstrated, the study suggested that parental behavior may affect the child's coping.

Conclusions from Literature Review

The review of literature revealed a number of studies that point to the efficacy of pharmacological treatment for pediatric migraine. The review of literature also revealed that there are some studies on psychophysiological treatment of pediatric migraine. Most of these studies have examined the efficacy of specific cognitive-behavioral treatments such as progressive muscle relaxation, biofeedback, and behavior management in controlled experimental designs. However, there were no studies that have identified a complete repertoire of coping behaviors generated by pediatric patients. Consequently, there are no studies that have identified the physiological, psychological, and social consequences of children's various coping behaviors in a systematic manner. And, it remains inconclusive as to why some children appear to cope more effectively than others despite similar symptoms. Most importantly, there are no studies that systematically and naturalistically examine the coping behaviors of children with pediatric migraine from a family systems perspective.

Goals of Research Study

Because there is little known about the coping behaviors of children with pediatric migraine, there are three major purposes of this study:

1. The first purpose is to identify various pain coping thoughts and behaviors used by children who suffer from pediatric migraine.
2. The second purpose is to identify pain coping thoughts and behaviors used by family members of children with pediatric migraine.
3. The third purpose is to identify the physiological, psychological, and social consequences of these pain coping thoughts and behaviors both for the pediatric patient and members of his or her family. However, the evaluating outcomes of coping functions is secondary to the purpose of identifying coping efforts.

These research findings hopefully will possess implications for social work practice, research, and policy. Findings may inform social work practice in several ways. First, findings may contribute to the development of models of biopsychosocial assessment and intervention for children who suffer from pediatric migraine. Second, they strengthen the conceptualization of the domain of social work practice with families whose members experience illness or disability (Caroff & Mailick, 1985). Third, findings of this research inquiry will contribute to the development of a researchable hypotheses. Lastly, findings hopefully will facilitate development of policies that will guide health care professionals in their selections among various pharmacological and psychosocial models of treatment for children who suffer from migraine headaches.

CHAPTER 2: CONCEPTUAL FRAMEWORK

As stated in the previous chapter, the goals of this research inquiry are to identify pain coping behaviors utilized by children with pediatric migraine and their family members and to describe the physiological, psychological, and social consequences of these behaviors for both children and families. To guide the process by which these goals were pursued, it was necessary to define nominally certain concepts and to discuss their interrelationships.

Most health care professionals agree that the conceptualization of pain has moved from the dualistic mind and body perspective to a biopsychosocial view, which acknowledges the interaction of many factors. However, it seems that the biopsychosocial approach is utilized more in the diagnosis rather than treatment of headache pain. Furthermore, there is limited delineation of adaptive skills, for many have tended to assess and children and families from a psychoanalytic perspective that describes coping behaviors in terms of mechanisms of defense. Defining the coping behaviors in terms often, though inaccurately, associated with pathology can effect the type of treatment offered (Mailick, 1979).

Drawing from general systems theory and the ecological approach (Germain, 1977, 1984), the researcher conceptualized the following framework based on these assumptions: (a) problems were defined in terms of transactions between the person and environment; (b) individuals were perceived as active, purposeful, and goal-oriented human beings whose development and function are consequences of their genetic potential, environment, and degrees of freedom from the influences of either; and (c) interventions can be designed to promote growth, adaptation, and environmental improvement (Germain, 1983).

Three major conceptual categories--physiological, psychological, and social--were included in the frame of reference for this study. Viewed from this biopsychosocial perspective, the child with migraines, with his or her unique physical, psychological, and social characteristics, was conceptualized as an open system that was imbedded in a larger system. The child with migraine headaches is highly interactive with many elements in the environment, all of which both give and receive stimuli and reinforcers. The purpose of these exchanges is for participants to retain homeostasis.

As illustrated in Figure 1, the child and family members' copings were conceptualized in a complex circular feedback loop rather than a linear cause-and-effect framework. The child with pediatric migraine is affected by his or her physiological predispositions, psychological characteristics, and the larger social environment. This expanded environment generally includes the nuclear family, extended family, health care system, school, and community. These three interactive variables impact on the child's headache coping behaviors, which have consequences for the physiological, psychological, and social functioning of the child and family. These consequences, in turn, become antecedents for future migrainous or non-migrainous conditions in the child.

Insert Figure 1 about here

Although all parts of the child's social environment are interrelated, this research inquiry emphasized the nuclear family. Prior to adolescence the family remains the major source of environmental influence even though the child is increasingly affected by external factors such as school and peers. Because the children who participated in the study were latency age, it was assumed that they continued to be dependent primarily upon their nuclear families. Thus, the study focus was narrowed to examine with increased scrutiny the interactions among the child with pediatric migraine and his or her family members, as illustrated in Figure 2.

Insert Figure 2 about here

In contrast to other family studies, which in reality often were done with one parent, one time, in a hospital clinic or laboratory, this project was based upon two assumptions. First, in order to understand the dynamics of a family, the entire family must be involved in the inquiry. Second, in order to appreciate the specific context, the family must be studied in its own social and environmental setting rather than the artificial space of an office or hospital.

The physiological, psychological, and environmental factors that were considered for this study were further delineated. The researcher assumed that all of the children in the study had an underlying physiological disorder even though the diagnosis of pediatric migraine was largely dependent upon patient and parental report. The researcher also assumed that the variability of the frequency, duration, and severity of the migraine headaches would impact on headache consequences.

The psychological characteristics of the child and family members that were assessed included cognitive abilities, personality development including mechanisms of defense, and social skills. Psychological characteristics were evaluated in terms of the child's achievement of developmental milestones, which were adapted from Newman and Newman (1975). Two categories of development were considered: (a) social cooperation, which included acceptance into the peer group and intimate relationship with a same sex peer; and (b) skill learning, which included academic, athletic, and artistic achievements. Significantly, the degree of success in reaching these developmental milestones has been believed to affect the child's self-perception and resolution of the psychosocial crisis of the latency-age child, industry versus inferiority (Erikson, 1963).

Social functioning was conceptualized from the perspective of social role theory. The patient with pediatric migraine was considered in terms of his or her multiple roles as child, sibling, family worker, student, and citizen. Likewise, family members' roles as couples, parents, siblings, employees, students, and citizens were analyzed.

Concepts that were especially pertinent to this study are <u>stress</u>, <u>appraisal</u>, and <u>coping</u>. Following more than 20 years of research, Lazarus and Folkman (1984) have integrated these concepts by stating that "psychological stress is a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (p. 19). Their definition of stress has emphasized the interrelatedness among characteristics of the person and environment. Importantly, their definition of stress parallels the current concept of illness, which is no longer viewed simply as result of an external organism but rather the individual's susceptibility to it. Clearly pediatric migraine can be classified as a condition that is stressful because it causes extreme pain, emotional distress, and temporary loss of function.

The condition of pediatric migraine alone, however, is inadequate to precipitate stress. The definition of stress is a mismatch between the person and environment. Therefore, one must also consider environmental demands, environmental opportunities, individual or family resources, and individual and family needs, preferences, and goals that impact on individual coping behaviors (Menaghan, 1983). The question that follows is why the same physiological event of pediatric migraine is more stressful for some children and their families than for others. Comprehensive evaluation of stress must include examination of the two critical factors that mediate individual response to situations: cognitive appraisal and coping (Lazarus and Folkman, 1984).

As discussed in Chapter 1, cognitive appraisal is an evaluative process that assesses the significance of an event such as pediatric migraine in relation to one's well being. According to Lazarus and Folkman (1984) there are two types of appraisal, primary and secondary. Primary appraisal can be (a) irrelevant, (b) benign-positive, and (c) stressful. Stressful appraisals occur when the event: (a) resulted in previous harm or loss, e.g., a pediatric migraine occurred; (b) threatens harm or loss, e.g., a pediatric migraine is anticipated; or (c) presents a challenge, e.g., there is potential for mastery. Secondary appraisal is an assessment of the internal and external resources available to cope with the particular stressful event. Following the bi-directional flow of information which may or may not result from coping efforts, an individual may reappraise an earlier appraisal.

Although much effort has been invested in defining stress, appraisal, and coping behaviors, the question most often asked by both lay persons and professionals is "What are the consequences of coping behaviors?" It is thus important to look at the impact of the child's coping behaviors on the child's physiological, psychological, and social functioning. For this inquiry, physiological consequences are conceptualized in terms of the frequency, duration, and severity of pediatric migraine.

Because these consequences of headache coping behaviors are being examined from within the context of the family, it is also important to examine their impacts on family members who, in a bi-directional flow of antecedents and consequences, then impact on the child. Although the focus of this study is coping behaviors of children, pediatric migraine is conceptualized not only an individual stress but also a family stress. "Family stress is defined as pressure or tension in the family system. It is disturbance in the steady state of the family" (Boss, 1988, p. 12). Boss has drawn her assumptions about family stress from the perspective of symbolic interaction, which focuses on interactions within the family and their symbols of interaction. Family members create a symbolic reality based on shared meanings and role expectations. Unified families, therefore, are assumed to have a "family perception" (Boss,

p. 19) or cognitive appraisal. However, she has acknowledged that individual and family assumptions may differ, and that an understanding of both are necessary to understand what is stressful to the family.

If individual family members vary significantly in their perceptions of a stressful event, how does this variation affect their combined ability to cope? When the family has been conceptualized as a unit, family coping has been defined as:

> the management of a stressful event or situation by the family as a unit with no detrimental effects on any individual in that family. Family coping is the cognitive, affective, and behavioral process by which individuals and their family system as a whole manage rather than eradicate stressful events or situations (Boss, pp. 60-61).

Boss (1988) suggested that families mediate stressful events through two different contexts: (a) external context, and (b) internal context. The family's external environment, over which members have no control, was composed of five contexts: (a) historical, e.g., historical climate in which stressful events occurred; (b) developmental, e.g., family life stage; (c) economic, e.g., societal state of economics; (d) hereditary, e.g., genetics; and (e) cultural, e.g., beliefs and values of larger society. Family members were assumed to have control over the three dimensions of the internal context: (a) structural, e.g., boundaries, role assignments, and rules; (b) psychological, e.g., appraisal of stressful event, and (c) philosophical, e.g., values and beliefs at family level. It is the dimensions of the internal context that are the subject of limited foci in this examination of how children cope with pediatric migraine.

In summary, the conceptual framework for this study is a synergistic one in which coping behaviors of children with pediatric migraine will be examined within the context of the family. Primarily from the perspective of the child but also from that of the family, the variables of stress, appraisal, and coping will be described as they are associated with physiological, psychological, and social functioning outcomes.

CHAPTER 3: METHOD OF EVALUATION

Research Design

A review of the literature on coping revealed a paucity of empirical research on the identification or evaluation of coping behaviors utilized by children with pediatric migraine. More importantly, this review found no systematic evaluations of the psychosocial consequences of patients' headache coping behaviors for either the patient or his/her family in the naturalistic environment. As stated in Chapter 1, the limitations of current research raise a number of questions. How do children cope with pediatric migraine, and what are the effects of their coping behaviors on their physical, psychological, and social functioning? And, conversely, how do family members cope with children's migraine headaches? What are the consequences of family members' coping on the patient and his or her family members?

From the above general questions it follows that the knowledge objectives of this research inquiry are to clarify concepts, to formulate specific research questions, and to develop testable hypotheses (Epstein, 1985; Tripodi, 1985). This research is applied and seeks to contribute to knowledge through the delineation of coping behaviors of children and their family members. The value of such applied research will be determined by its usefulness in promoting effective actions and interventions (Patton, 1990). The findings of this project have been primarily intended to facilitate development of assessment and intervention methods that can be used clinically by social workers, physicians, and other health care professionals to help pediatric patients and their families cope with migraine pain. Hopefully these findings also will inform decision making of program developers and policy makers regarding management not only of headache pain but also other painful conditions.

Human behaviors and experiences are difficult to quantify because of their nuances, idiosyncrasies, interdependencies, and context-specific settings (Patton, 1990). Because the research inquiry emphasizes thoroughly describing and comprehending the subjective meanings of complex psychosocial situations--the structural conditions, processes, deviances, norms, patterns, and systems (Epstein, 1985; Glaser & Strauss, 1967), a qualitative methods approach was selected for this study.

A qualitative methods approach to this inquiry has both strengths and limitations. It permits in-depth, detailed study of the chosen issues. Furthermore, the restricted use of predetermined perceptions and categories of analysis promotes openness. A disadvantage is that although a wealth of information is gained from a small number of cases, generalizability is reduced.

The term "qualitative research" actually is an imprecise one, however, because it is becoming an umbrella term that describes divergent research methods such as naturalistic inquiry, case studies, ethnography, ethnomethodology, phenomenology, hueristics, interactionism, systems theory, grounded theory, and feminist methods to name a few (Ammon-Gaberson & Piantanida, 1988; Lincoln & Guba, 1984; Lofland & Lofland, 1984; Patton, 1990; Sandelowski, 1986). Despite their individual differences, however, these qualitative methods share several important underlying paradigms of inquiry that underpinned this study.

Three significant characteristics of qualitative inquiry applicable to this inquiry are that it employs holistic, context-specific, and inductive approaches. First, the holistic approach is based on the assumption that the whole is not only complex but also greater than the sum of its parts. Realities cannot be understood in isolation from their contexts or in fragmentation from the whole.

Second, the fullest understanding occurs in the natural context. Lincoln and Guba (1985) emphasize that "...inquiry must be carried out in a 'natural' setting because the phenomena of study, whatever they may be--physical, chemical, biological, social, psychosocial--take their meaning as much from their contexts as they do from themselves" (p. 189). In fact, "the 'naturalist' begins with the assumption that the context is critical" (p. 200). This situation-oriented approach is particularly applicable when coping strategies are conceptualized as functional responses to a specific situation, e.g., pediatric migraine, rather than of defensive/ego processes or personality traits

(Folkman & Lazarus, 1980). Furthermore, contextual knowledge is crucial to knowing if the findings generalize to other situations, and sampling strategies include formation of subunits that are contextually similar. Importantly, the "discovery-oriented" researcher does not attempt to manipulate the environment (Lincoln & Guba, 1985).

Third, inductive reasoning is the basis for data analysis, which begins with specific units of information and builds toward general patterns. The strength of this approach is that the identification of multiple realities and patterns emerge from the data. Theories are grounded in first-hand experiences and observations rather than imposed by the researcher through a priori suppositions, hypotheses, and deductive constructs (Lincoln & Guba, 1985; Patton, 1990). Furthermore, in contrast to logically deduced theories based on ungrounded assumptions, "theory based on data can usually not be completely refuted by more data or replaced by another theory" (Glaser & Strauss, 1967, p. 4).

Case Analysis

The specific mode of qualitative inquiry used in this project is case analysis. This mode is particularly applicable for describing the multiple realities of a given site (Lincoln & Guba, 1985). Patton (1990) writes:

> Case studies...become particularly useful where one needs to understand some special people, particular problem, or unique situation in great depth, and where

> one can identify cases rich in information--rich in the sense that a great deal can be learned from a few exemplars of the phenomenon in question....Case studies are particularly valuable when the evaluation aims to capture individual differences or unique variations from one program setting [case] to another, or from one program experience [case] to another....A qualitative case study seeks to describe that unit in depth and detail, in context, and holistically. (p. 54).

There are numerous advantages to using the case analysis mode. Whether the case is an individual, family, group, or program, detailed examination of successful and unsuccessful cases generated particularly useful information. These descriptions often are more trustworthy than quantitative data (Patton, 1990). Lincoln and Guba (1985) suggest three reasons to use the case report mode: (a) It is an excellent way to present "thick descriptions" that are assumed necessary for transferability; (b) it is responsive to the axioms of the naturalistic paradigm, for it permits description of the multiple realities, interactions, contexts, and values of informants and researchers; and (c) it is an excellent way to communicate thick descriptions and tacit knowledge that are too difficult to state in propositions. Case studies are also more manageable than large-scale, probabilistic, and generalizable samples whose validity and reliability are suspect because of data-management problems (Patton, 1990).

On the other hand, the case report mode has significant disadvantages. Developing a writing style that fulfills the three purposes identified above is problematic. Traditional axiomatic representations require formal, logically organized approaches. In contrast, thick descriptions must be informal, psychosocially oriented, and detailed in order for the reader to experience vicariously the phenomenon. Furthermore, the case must be written such that an external auditor could verify that the cited data originated from informants, documents, observations, or other sources. Another difficulty is protection of the anonymity of informants because descriptive material is highly detailed (Lincoln & Guba, 1985) and difficult to disguise without altering the data.

Ethnography

The approach to case analysis used in this study also is informed by ethnography. Ethnography is a method of qualitative research that attempts to describe and to discover the knowledge that individuals use to interpret their cultural norms. The aim of ethnography is to understand the meanings of events and actions, both verbal and non-verbal, in persons' lives and to understand the manner in which these systems of meanings are used to organize the behaviors of individuals and society. In other words, ethnography is a theory of culture, which Spradley (1979) defines as "the acquired knowledge that people use to interpret experience and generate social behavior" (p. 5).

As used in this project, culture refers to the enculturation of the pediatric migraine patient.

Ethnography is based on a concept of culture as a complex system of meaningful symbols. This concept is founded on the assumptions that: (a) people act towards things on the basis of the meanings that these symbols have for them; (b) the meaning of behaviors is learned, maintained, and re-defined through social interactions; and (c) meanings are modified by the individual as he or she encounters life experiences. Thus, culture functions as a cognitive map for individuals (Spradley, 1979). In regard to pediatric migraine, one's cognitive map is the basis for developing perceptions of reality and learning ways to cope with the stress.

The essence of ethnography is to understand the meaning of events, actions, language, and artifacts from the point of view of the study subjects rather than of the researcher. "Rather than studying people, ethnography means learning from people" (Spradley, 1979, p. 3).

Because the study questions focus on the interactions among the physical, psychological, and social factors of both the child and family members, the unit of analysis is the family of the child with pediatric migraine. Each family, therefore, is described as a case. This study utilizes Boss' (1988) definition of family, which is "a continuing system of interacting personalities bound together by shared rituals and rules even more than biology." She adds that "the personalities must have a history and future together for shared rituals and rules" (p. 12). This study definition of "family" may run counter to some biological, legal, and traditional definitions, but it is pragmatic particularly with respect to the many children who live in divorced and single-parent households.

Because the researcher wanted to emphasize the expert status of study participants, Spradley's (1979) term "informant" was used to describe the children and family members who shared in this endeavor. Consciously distinguishing between the concepts of "subject" versus "informant" helped the researcher to avoid the culture-bound questions of the researcher and to elicit the informant's point of view. Informants were "native speakers" who spoke "in their own language or dialect" and were a "source of information" (p. 25). Informants helped to clarify issues by teaching the researcher what they knew about their headache-patient culture, how they defined concepts, what concepts they used to classify experiences, and how they translated their native language into another.

The population sample was limited to latency-aged children with pediatric migraine and their families. Latency-aged children were targeted because the average age of onset for pediatric migraine is 7.7 years (Prensky & Sommer, 1979). It seemed logical, therefore, to assess coping behaviors in order later to develop intervention strategies that could be used when the patient and family initially would be learning ways of coping. Presumably early intervention could facilitate the development of adequate coping behaviors and prevent the learning of inadequate coping behaviors. Furthermore, the study emphasis on the interactions among patient and family members was especially relevant because the influence of family members remained significant at this stage.

Comparison and contrast of data were enhanced because they were analyzed within the parameters of a discrete phase of psychosexual development, latency. As detailed earlier, the impact of children's coping on the resolution of their psychosocial conflict were evaluated in terms of the two major developmental tasks of latency, social cooperation and skill development (Newman & Newman, 1975). Children's beliefs and perceptions about pediatric migraine were examined within the framework of Piaget's theory of cognitive development. Using his stage of concrete operational thought, in which children begin to distinguish between the internal and external worlds, Bibace and Walsh (1980) identified two age-appropriate characteristics of illness perceptions. First, children in early latency generally explained illness as a result of contamination. The illness was something caused by an external person, object, or action that was harmful to their bodies, e.g., engaging in a physical activity that induced illness. Second, children in an advanced stage of latency explained illness in terms of internalization. While the cause of illness remained external, it was now linked to the internal effects of the illness even though there is often confusion about internal organs and their functioning. Informants who were eleven or older could manifest the ability to reason logically and hypothetically because they have reached the next cognitive phase, formal operational thought. At this stage, children had an increased understanding of the physiologic nature of illness, e.g., the malfunction of internal organs and processes, as well as psychophysiologic explanation, e.g., awareness that thoughts or feelings could affect physical health.

Presentation of study results follows a form of ethnographic writing called the "realist tale." The realist tale strives to convey the authenticity of the cultural representation through the text. The following four literary conventions identify the realistic tale: (a) experiential authors, which is presentation of the verbalizations, behaviors, and thoughts of the informants and restricted usage of researcher's views; (b) typical form, which is a documentary style focused on minute, mundane details of daily life; (c) native's point of view, which is the native's interpretation of verbalizations, behaviors, and thoughts; and (d) interpretive omnipotence, which is the establishment of researcher's interpretive credibility, e.g., linking ethnographic descriptions to established theory (Van Maanen, 1988).

Sampling

This inquiry focused in depth on eight cases that were selected on the basis of stratified purposeful sampling. This particular sampling approach allows the researcher to present a qualitative profile of above average, average, and below average cases in order to describe and to illustrate typical experiences that would be unfamiliar to those who are not engaged in the phenomenon under study (Patton, 1990); two subgroups of children, copers and non-copers, were specified. The reasoning behind purposeful sampling was that information-rich cases could provide much data that would facilitate understanding of coping behaviors of children with pediatric migraine. Some qualitative researchers advocate sampling to the point of informational redundancy (Lincoln & Guba, 1985) or theoretical saturation of a category (Glaser & Strauss, 1967). However, such an open-ended approach to sampling proved to be overly idealistic when time and financial constraints were considered. Thus, the sampling unit for this project was limited based on the assumption that the "validity, meaningfulness, and insights generated from qualitative inquiry have more to do with the information-richness of the cases selected and the observational/analytical capabilities of the researcher than with the sample size" (Patton, 1990, p. 185).

In qualitative inquiry the validity of the research depends upon the skill, competence, and rigor of the researcher in the field, for "the researcher is the instrument" (Patton, 1990, p. 14). The researcher is the principal data-gathering instrument because it is almost impossible to design beforehand a non-human instrument that can adapt to the changing realities (Lincoln & Guba, 1985).

Because the research objective was to understand the differences between adequate or "average" and inadequate or "deviant" cases, the stratified purposeful sample was used to identify characteristics of coping behaviors and outcomes between two subgroups of children: copers and non-copers. This sample size was large enough to divide the cases into two mutually exclusive categories that addressed research questions while remaining manageable according to financial and time constraints. Children with pediatric migraine were selected from the same life stage so that they shared common issues of psychosexual development and that the stage of their family life cycle was likely to be similar.

Disadvantages of this hand-picked sample, from a quantitative viewpoint, are that it can result in an unrepresentative and biased description of the issue (Tripodi & Epstein, 1980). Therefore, one cannot confidently generalize findings about informants' migraine experiences to a larger population. However, one can gain comprehensive information related to the study questions. The power of these qualitative data, therefore, depends not on a truly random sample but on the depth of information provided by informants.

Sampling involves not only decisions about informants but also physical settings (Miles & Huberman, 1984). Because the researcher sought the richest and most naturalistic psychosocial data about children with headaches and their families, the study setting was the child's home. The researcher believed that the likelihood of interviewing all family members was greatest in the home. As one who has done home visits knows, first-hand observations of family interactions, physical setting, and type of community provide extraordinary data for understanding what cannot be captured in office interviews. Furthermore, because families could not be reimbursed for the travel expenses or time, the researcher believed that study costs to the informants should be minimized.

Although documents and field observations were utilized, the main sources of information were unstructured research interviews. Unstructured interviews are particularly useful in discussing sensitive or unexplored issues in depth (Tripodi & Epstein, 1980). However, if the researcher were totally uniformed about the research topic and questions were overly generalized, the study would lack structure. Clearly conceptualized research questions are necessary to guide data collection and analysis (Ammon-Gaberson & Piantanida, 1988). Clarifying the focus of the inquiry by conceptualizing research questions creates boundaries and establishes inclusion-exclusion criteria for the retention of data (Lincoln & Guba, 1985). In this study, questions were directed at perceptions of pediatric migraine and accompanying behavioral responses.

Informants were asked three types of questions: (a) descriptive, (b) structural, and (c) contrast (Spradley, 1979). "Descriptive questions form the basis of all ethnographic interviewing" (p. 90). Descriptive questions, e.g., "tell me what it is like to have a headache," elicit personal and cultural information about the locale, space, time, events, people, activities, and objects involved in the phenomenon under study. These responses to descriptive questions were later categorized into units of analysis called domains, which are the larger units of cultural knowledge that indicate how the informant's knowledge is organized. Next, structural questions were then formulated by the researcher and presented to informants, who then confirmed or rejected hypothesized domains and offered more detailed information. For example, if the domain were behavior intended to prevent headaches, the researcher might say: "you told me six things that you do to avoid getting a headache; are there any more that you can remember?" Lastly, the researcher asked contrast questions to discover the similarities, differences, and dimensions of meanings of the informant's information. The researcher contrasted stages of coping, for example, by asking: "You mean that if you do biofeedback in the early stage of the headache, it might go away? But then, if the headache is full blown, the biofeedback doesn't help?"

There are problems with such an approach, such as "going native," when the researcher loses perspective and assimilates the perceptions of the informants, and "elite bias," when the researcher overweights data from articulate, often high-status informants and underrepresents data from inarticulate, lower status informants (Miles & Huberman, 1984, p. 230). Difficulties in maintaining objectivity can be offset by awareness of self and informant (Lincoln & Guba, 1985). Although the level of participation may change over time, the researcher must make a fundamental decision as to the degree of participation or total nonparticipation in the family system (Patton, 1990). Wanting to be neither a participant observer nor clinical social worker, the researcher attempted to present herself as an interested yet neutral observer.

There are several criteria for the trustworthiness of scientific rigor in qualitative research that apply to this study. Lincoln and Guba (1985) state that the fundamental question regarding trustworthiness is: "How can an inquirer persuade his or her audiences (including self) that the findings of an inquiry are worth paying attention to, worth taking account of?" (p. 290). They present the criteria of credibility, transferability, dependability, and confirmability. These criteria are the qualitative researcher's equivalents for the quantitative researcher's concepts of internal validity, external validity, reliability, and objectivity respectively. A qualitative study has credibility or truth value when it so faithfully describes or interprets human behavior that other persons immersed in the same phenomenon immediately recognize those findings and subsequent interpretations. The transferability of the findings generally refers to the data themselves rather than to the informants. It is the researcher's responsibility to provide a data base from which judgments about transferability to other contexts can be made by others. Dependability is assumed to exist if credibility exists. Citing Guba and Lincoln, Sandelowski (1986) states that like transferability, confirmability refers to the findings themselves rather than the objective or subjective stance of the researcher.

Research Methodology

Population Sample

Eight informants, ages six to twelve, with pediatric migraine were recruited from the Pediatric Neurology Clinic of North Carolina Memorial Hospital (now renamed The University of North Carolina Hospitals). Study children were evaluated by board-certified pediatric neurologists, who made their diagnoses of pediatric migraine according to the criteria developed by Prensky and Sommer (1979). According to Prensky and Sommer's definition, the occurrence of migraine headaches was separated by symptom-free intervals, and the patients admitted to at least three of the following conditions: (a) a headache accompanied by nausea, vomiting, or abdominal pain; (b) unilateral head pain; (c) a throbbing or pulsatile headache; (d) relief after a brief period of rest or sleep; (d) a prodrome experience of visual, sensory, or motor aura; and (e) a history of migraine headache in an immediate family member.

Using Spradley's (1979) five criteria of a good informant as a guideline for eligibility, the researcher operationally defined study informants as those children and family members who possessed the following characteristics:

1. The informants possessed in-depth experiences with migraine headaches and had them for a minimum of one year.
2. The informants had current involvement, a minimum of one event per month, with migraine headaches at the time of the study.
3. The informants' experiences with migraine headaches were different from the researcher's experiences with migraines so that their experiences added new dimensions to the researcher's knowledge.
4. The informants had adequate time to participate in a minimum of three interviews, which lasted between one to one and one-half hours.
5. Using a non-analytic approach, informants described the headache experience from their own perspectives rather than those of an outsider.

In addition to learning about commonly used coping behaviors and their consequences, the researcher wanted to increase understanding of major variations along these same dimensions. A stratified purposeful sample (Patton, 1990), in which each of two strata constituted a relatively homogeneous sample, was used to identify major variations.

To obtain a stratified purposeful sample, the researcher assigned the cases to one of two groups, each composed of four cases, based upon child's performance on The Child Behavior Checklist (Achenbach & Edelbrock, 1983) and/or rate of school absenteeism. The CBC was chosen because it is a screening instrument that is widely used by health care professionals, school personnel, and others. Reflecting behavioral variations among age and sex, separate CBC forms are standardized for ages 4 to 5, 6 to 11, and 12 to 16. The CBC has been used in a number of studies about the functioning of children with pediatric migraine (Andrasik et al., 1988; Cunningham et al., 1987) and other pain disorders (Walker & Greene, 1989; Wallander, Varni, Babani, Banis, & Wilcox, 1989). The second basis for assigning children to groups was the rate of absenteeism. Like the CBC, school absenteeism often has been cited as an indicator of psychosocial functioning (Dunn-Geier, McGrath, Rourke, Latter, & D'Astous, 1986). These two groups were categorized as "copers" and "non-copers."

Prior to the initial clinic visit the parents were mailed two age-appropriate two CBC forms and requested to return the completed forms in a stamped, self-addressed envelope. Cases were assigned to one of two study groups, copers and non-copers, based on the children's CBC scores in either the normal or clinical ranges respectively. The clinical range is comprised of high behavior problem scores, which are above the 98th percentile, and low social competence scores, which are below the second percentile. The CBC lists 113 behavior problem descriptors that the informants rate as not true, somewhat or sometimes true, or very true or often true. The CBC measures Social Competence (social activities, social functioning, school performance) and presents profiles of Withdrawn, Depressed, Schizoid, Somatic Complaint, Hyperactive, and Delinquent types. Composite measures of internalizing and externalizing behaviors are provided, and t scores for the internalizing-externalizing behavior problems are obtained. The test-retest and inter-rater reliability of these scales has been demonstrated (Achenbach & Edelbrock, 1983).

The researcher later concluded that the CBC was not a good basis for grouping study children, for it placed them in the clinical range based on such factors as somatic complaints and withdrawn behavior. Although these factors would likely represent pathology in the normal population, the researcher felt that such behaviors of children with pediatric migraine often were reality based. Supporting this conclusion, Achenbach does not recommend the use of the CBC in functional assessment of children with chronic illnesses such as headaches because there are too many other variables, including characteristics of the headaches themselves, that can affect coping behaviors (T. M. Achenbach, personal communication, March 3, 1992).

Using school attendance data as a measure was difficult because there is no agreed upon standard definition of absenteeism, e.g., partial or whole day, nor rate of absenteeism. According to the New York Times, for example, problem school absence is 16 or more days per semester (Klerman, Weitzman, Alpert, & Lamb, 1984).

For this study, non-coping children were defined as those who experienced more than the average number of whole days absent from school compared to other children with chronic illness. The average number of days absent was based on a comparison with means of absenteeism of chronically ill children at The North Carolina Memorial Hospital (Fowler, Johnson, & Atkinson, 1985). Since this study was done at the same hospital, it was believed that cultural and demographic variations that affect school attendance would be minimized. These researchers presented the rates of absenteeism for 270 children from specialty clinics for chronic pediatric illnesses. During the academic years of both 1980-1981 and 1981-1982, children with chronic health conditions averaged 16 days of absence from the 164 days of school. The state average for absenteeism during this same period was less than seven days per academic year. Thus, children who were absent more than 16 days per year were classified as non-copers; attendance data for the study of children with pediatric migraine was based upon parental report.

The researcher also concluded that rate of absenteeism was not necessarily a valid measure of coping with headaches. As one would expect, informants indicated that school attendance was associated with the frequency, severity, and pattern of headache occurrence and their abilities to minimize these factors. However, absenteeism also was an indicator of parental attitudes about education, interactions among the child, family, and school personnel, academic performance, peer relations, and psychosocial stressors within the family.

In summary, although two indicators of coping which are commonly used by researchers and clinicians were utilized for this study, the researcher later concluded that they are imperfect measures of this concept. However, these measures appeared to be the best available measures at the time of the study.

Data Sources

The primary source of data was interviews by the researcher with children and their families in their homes. Three interviews, each of which lasted one and one-half hours, were planned with each participating family. Based upon clinical experience, the researcher believed that three interviews would be adequate to establish a positive relationship with informants, a consequence of which would be the reduction of anxiety and revelation of information.

The repeated contacts with families in their natural and presumably safe environment, in the researcher's opinion, enhanced the development of a positive, relaxed, respectful, and trusting relationship. Such a relationship was necessary for communication, which by definition is interactive and interrelational (Kadushin, 1972).

Interviewing in the homes increased the probability that all family members would be present, reduced informants' pressures to leave the hospital in order to begin a long trip home, and minimized time and financial costs to the families. The home setting also decreased the anxieties for both informants and researcher that typically stem from a hospital examining room that is uncomfortable, lacks adequate seating, receives accidental intrusions by other personnel, and is in demand for other patients.

The total number of interviews was 24. The first and third interviews were conjoint family interviews whereas the second interview session consisted of a fifteen-minute conjoint interview followed by separate interviews with each family member. The conjoint family interviews were intended to facilitate understanding of family dynamics and shared perceptions of the child's coping behaviors and their consequences. The separate interviews were intended to provide both children and parents opportunities to share individual perceptions of the headache experience in confidence. All interviews were audio recorded and later transcribed in their entirety and verbatim.

As recommended by Lofland & Lofland (1984) and Patton (1990), an interview guide was used to ensure that the same issues were discussed in a format that permitted the informants to be spontaneous and the researcher to be responsive to individual differences. Inquiries were generated from researcher's questions prior to the study, pilot interviews, and new puzzlements that occurred as a result of ongoing analysis of interviews as noted below. The interview guide, which was adapted for either children with pediatric migraine or individual family members, was as follows:

1. Tell me, in your own words, what it is like to have migraine headaches (e.g., descriptions of pain, metaphors, physical symptoms, etc.)?
2. What are your headaches like (frequency, severity, duration, patterns)?
3. What do you think causes headaches (beliefs and perceptions about causality, e.g., brain tumor, aneurysm, stress, foods, activities, specific situations, etc.)?
4. What do you do to prevent headaches (e.g., avoid sun, foods, activities or take medications, practice biofeedback)? What would you like to do? What are the physical, psychological, and social consequences of these coping behaviors for yourself or others?

5. What do you do when you get a headache? How and to whom is pain communicated? Where, with whom, and how long are pain coping behaviors emitted? What are the physical, psychological, and social consequences of these coping behaviors for yourself or others?
6. How do you feel about your coping efforts (efficacy issues)?
7. What are the physical, psychological, and social consequences of the headache?
8. What is your previous experience in coping with illnesses or significant losses?
9. What things do you want doctors, social workers, and other health professionals to know about pediatric migraine?

Secondary sources of information which aided triangulation of data included: (a) field notes describing the physical setting, non-verbal communications, and other observations made during the home visits; (b) medical notes, medical correspondence, clinic headache questionnaires completed by parents, and, when available, psychological testing results, all of which were filed in the Department of Neurology; (c) completed CBC's; and (d) researcher's notations from telephone and clinic contacts.

Establishment of Data Trustworthiness

As noted above, the degree to which the study findings are to be trusted, is the fundamental question. Several researchers discuss four alternative factors to evaluate scientific rigor in naturalistic inquiry: truth value, applicability, consistency, and neutrality (Guba & Lincoln, 1985; Marshall & Rossman, 1989; Sandelowski, 1986).

To demonstrate truth value, the researcher achieved credibility by accurately representing multiple constructions of reality. An earlier-mentioned technique for enhancing credibility is prolonged engagement with the informants, which required a sufficient investment of time to learn the cultural context, to develop trust, and to test for misinformation and distortion. Accuracy was further achieved by establishing clear parameters regarding the population, setting, and theoretical framework (Marshall & Rossman, 1989).

Credibility also was enhanced by triangulation, which has protected the study results from charges that findings were artifacts of single data-collection methods or sources (Lincoln & Guba, 1985; Patton, 1990; Stainback & Stainback, 1988). Whenever possible, triangulation of methods was used to compare content of interviews with the informants' responses on quantitative measures such as CBC items, clinic questionnaires, and psychological testing. Triangulation of data sources also was used to cross-check information for consistency. Techniques for validation included examining perspectives of family members on the same headache event, comparing what informants said in individual versus family interviews, checking for consistency what informants said about the same topics at different times, and comparing informants' recollections against medical reports.

An external check for credibility was sought through the use of a peer debriefer (Lincoln & Guba, 1985). Like an analyst, this neutral peer examined the inquiry process, listened to some audio tapes, and discussed cases in order to evaluate researcher's bias as reflected in types of questions, meanings of responses, and interpretation of data. The debriefer, a clinical social worker with special expertise in family therapy with chronically ill children, not only monitored the researcher regarding substantive clinical issues but also underlying values and ethical considerations.

According to Lincoln and Guba (1985), the most important technique for establishing credibility is member checking, whereby data, analytic categories, interpretations, and conclusions are evaluated by original informants. Informal member checking was used during interviews, e.g., by "playing back" summaries of an informant's descriptions or checking one anonymous informant's comments against another's perceptions. For example, "Some children have told me that it is difficult to think after a migraine; is thinking difficult for you after a migraine?"

To establish trustworthiness, study findings must also meet the criteria of transferability. The goal of transferability is to demonstrate that the qualitative research findings from one context can "fit" or apply to another context or population outside the research setting. The transferability of findings to second populations was determined by the data base itself, which consisted of indepth descriptions of the headache experience. Analyzing the typicality or atypicality of the descriptions and explanations of the data, checking against the defined parameters of data collection, triangulating data-collection methods and sources, validating findings with informants, and trying to debunk conclusions drawn from the data were methods used to assess the applicability of these findings to other contexts (Lincoln & Guba, 1985; Marshall & Rossman, 1989; Miles & Huberman, 1984; Patton, 1990; Sandelowski, 1986).

To meet the criteria of dependability, the researcher must account for the unique and changing conditions of the phenomenon being studied (Lincoln & Guba, 1985; Sandelowski, 1986; Marshall & Rossman, 1989). Citing Halpern, Lincoln and Guba (1985) detail the materials and processes necessary to construct an audit trail in order to establish the confirmability or objectivity of a study. Although this technique was not used in the pediatric migraine study, all of the raw data, e.g., audio tapes, field notes, and secondary data are available for audit. Hard copies of transcribed, coded, and categorized data as well as case and group matrixes also are available. Existing process notes document rationale used in making methodological and analytical decisions.

Lastly, the research project must meet the criteria of confirmability. In other words, others must be able to establish the credibility, transferability, and dependability of the findings of the study by examining the process and the data (Lincoln & Guba, 1985; Sandelowski, 1986; Marshall & Rossman, 1989). Various methods, such as triangulation and audit trails, have been identified.

Ethical Considerations

When children are the informants in research studies, the issue of informed consent becomes problematic. The question arises of who should consent, parent or child.

The professional ethical principle of confidentiality was important in this study. When the individual informants were promised confidentiality, it was imperative that the researcher neither intentionally nor inadvertently disclosed the content of their interviews to other family members. Particularly regarding the children's interviews, parents expressed curiosity about what the child had said in private.

Especially because the interviews were open-ended ones, it became apparent that the information shared could have resulted in the researcher having to violate the principle of confidentiality because of legal requirements, e.g., to intervene if an informant were potentially harmful to himself/herself or to others. In this study, inquiries about where and with whom the patient coped with pediatric migraine led quite naturally to sleep patterns. When a female informant occasionally slept with a male adult, a consideration of child sexual abuse was made. Although there was lack of evidence to support any reports to child protective services, the researcher was aware of the "risk" and obligations associated with gaining such information. These examples suggest instances when the researcher's legal obligation to protect the patient and/or family member would supersede the ethical promise of confidentiality.

Research Implementation

Institutional Support

This research inquiry took place at the North Carolina Memorial Hospital (NCMH), a tertiary care institution affiliated with the University of North Carolina at Chapel Hill (UNC-CH); the hospital has since been renamed The University of North Carolina Hospitals. The hospital is a non-sectarian, state hospital with more than 700 beds.

Access to the study population was facilitated by the researcher's eleven-year collaborative history with the physicians, whose positive endorsement of the project likely contributed to participation by eight of the ten families who were solicited. Furthermore, because the implementation of the study coincided with the initiation of a specialty clinic for pediatric headache, the project was institutionalized from the onset of the clinic.

Recruitment of Informants

Eight informants, ages six to twelve, were recruited from the Pediatric Neurology Clinic over a five-month period. Two girls and six boys agreed to participate in the study, which did not accurately reflect the average gender distribution of approximately one-half of 6 to 12 year old (Bille, 1962) or two-thirds of 6 to 11 year old (Prensky & Sommer, 1979) males with pediatric migraines. Informants expressed motivations to help with their own headaches and to help physicians and health care professionals know more about pediatric migraine. Parents of one female non-participating patient declined involvement in the study because they "didn't want to make a big deal of it (migraine headache)." Paradoxically, this mother withdrew from college and quit her job because she felt her absence may have stressed her seven-year-old daughter. Parents of another patient refused to participate because they believed that the study would call further attention to the child's headaches and thus increase either headache symptomatology or secondary gain.

Participants were recruited if they fulfilled above-stated criteria for pediatric migraines and informants. Initially, the CBC form was mailed with a cover letter to parents one month prior to their first clinic visit. The completed form was to be returned in a stamped, self-addressed envelope prior to the child's appointment. This mailing was followed by a telephone request to non-respondents asking for the return of the CBC's. Those patients who continued to have missing CBC's were given a second CBC to complete in the clinic in order to guarantee having a CBC on each patient. Because of the unsatisfactory rate of return and expense associated with the mailed CBC's, a decision was made midway through the project to administer the CBC to parents and to score results in clinic through the use of a computer program. Thus, qualified informants were identified immediately and recruited on their initial clinic visit. This plan also prevented loss of time spent reviewing files on patients who, for various reasons, never came to clinic.

The researcher met the child and accompanying parent(s) during this initial clinic visit. The purpose of the research project and responsibilities of participants were explained. Allowing time for the child and parent(s) to discuss participation with additional family members at home, the researcher telephoned the parent within the week following the clinic visit to confirm the family's participation. On the first home visit the purposes of the research project and responsibilities of the participants were restated to the entire family; parental consent and child assent forms were signed at this time.

Data Collection

Following four pilot interviews with patients and their parent(s) in clinic, the researcher developed an interview guide. However, as the concurrent collection and analysis of data informed the researcher, more focused questions were used. The verification of categories of information requires moving back and forth between inductive and deductive approaches to data collection (Patton, 1990).

The eight study families were interviewed in their homes over a seven-month period. Informants resided in both urban and rural settings in North Carolina and Virginia. The closest informant lived five miles from the hospital, and the most distant informant lived 224 miles from it. The mean distance of patients from the health care setting was 62 miles.

There were a total of 24 interviews. Most interviews were scheduled at two-week intervals in order to allow adequate time for analysis of one interview to suggest areas of inquiry for the next and yet to maintain the relationship with informants. The shortest interview was 50 minutes whereas the longest interview was over three hours. The mean length of time per interview was 90 minutes. There were no instances of absent informants for any of the interviews. One family was interviewed four times because the mother became sick with a migraine during the interview and the session was terminated prematurely. One particularly articulate family was interviewed only twice because researcher determined that all material had been covered. As originally designed, the other six families participated in two conjoint and one set of individual interviews. The family that participated in two interviews did not have a final conjoint interview.

As expected, interviewing in the home context was extremely informative. The use of space, time, meals, the emotional tone of the home, the meanings of pets, hobbies, special events, and recreational activities contributed much contextual meaning to the holistic picture of the headache patient and his or her family.

Although full participation in the family or "going native" was at the extreme end of the participation continuum, dilemmas regarding degree of participation arose. Perhaps because interviews were in the home where hospitality is the norm, the interview sometimes seemed perceived as a social event, and the researcher was frequently offered beverages, desserts, and occasional dinner invitations. To reinforce the concept of mutual discovery and participation, the researcher did accept offers for light refreshments. However, other situations were more nettlesome. When far from home on a particularly stormy night, one informant invited the researcher to spend the night, which the researcher declined. On another occasion the researcher also was invited to accompany an isolated mother to a major military celebration, which was also declined for fear of role confusion.

The researcher also faced decisions regarding the amount of control to exert over the interview. On several occasions the researcher wondered if objections should be raised when neighbors entered into the home during the midst of an interview, thus changing its focus and context. Because a strategic theme of naturalistic inquiry is to study the naturally occurring interactions and to avoid manipulating the research environment (Patton, 1990), the researcher decided to remain unobtrusive, to let events unfold naturally, and to value the observation of another slice of family life rather than to regret the loss of information from a focused interview.

The interviewer also experienced conflict between the roles of the observing researcher and intervention-oriented clinician. The formal agreement between the researcher and parents stated that clinical services would not be provided by the researcher. However, interviews of the child and family strongly suggested psychosocial difficulties, and the researcher identified the following disorders: (a) inappropriate use of medications and caffeine by a mother with bipolar illness; (b) specific learning disability of a patient; and (c) patient's behavior problems secondary to short stature. Although no clinical treatment was offered for these disorders, referral information, existing resources, and educational materials were provided.

External Influences

Two months after the data collection began, parents, teachers, and school administrators in the local community became embroiled in a highly publicized controversy with researchers at the Department of Psychology, UNC-CH.

Parents complained about the administration of a survey to 500 elementary school students. Protestors charged that the 200 questions about peer relationships, health, sexuality, and family interactions were an invasion of privacy of both the student and the family. Parents angrily claimed that they had not been fully informed regarding the nature of the questions. The survey was cancelled following stormy discussions among parents, teachers, school administrators, researchers, and attorneys (Velliquette, 1989). This negative publicity concerning other research with children impacted on some of the informants, who themselves were local parents, teachers, and school administrators, for they reacted guardedly to inquiries about family reactions to headaches and especially to the individual interviews of their children. This hyper-sensitivity of informants to invasions of privacy also affected the researcher, who sometimes avoided asking probing questions for fear of violating the trust of informants and perhaps jeopardizing their participation in the study. As a result, issues such as marital conflict and expression of emotion were understudied.

Data Analysis

Data analysis was an ongoing process throughout the investigation because new insights and inquiries could be incorporated into concurrent interviews.

Analysis was facilitated by three concurrent interactive processes of data reduction, data displays, and cross-site analyses (Miles & Huberman, 1984). Because Miles and Huberman's approach imposes a quantitative paradigm to data management, however, it can disallow surprises, new insights, and varying perspectives (Marshall, 1985). Therefore, the researcher guarded against undermining the exploratory nature of this qualitative study by continually questioning the imposition of structure onto the data.

Data Organization

All interviews were transcribed verbatim. These transcripts included all utterances made by informants and researcher, identification of speakers, and comments about intonations, non-verbal behaviors, and physical context. Also imbedded in the transcriptions were researcher's reflective comments regarding personal reactions during the interview, unanswered questions, possible interpretations of data, emerging patterns, possible hypotheses, competing theories, and topics for subsequent interviews. The 24 typed transcripts each ranged in length from 18 to 59 single-spaced pages.

The mechanical aspects of storing and retrieving the transcribed text was facilitated through the use of an interactive, menu-driven computer software program called "The Ethnograph" (Seidel, Kjolseth, & Seymour, 1988). The 24 transcriptions were stored as individual data files, numbered line-by-line, and printed. The printed, numbered transcriptions became the working basis for the creation of a code map, which consisted of both hand-coded text and additional analytic comments in the margins.

Data Reduction

The strategy of this inductive approach was to begin with systematically obtained data and to analyze them in a planful manner in order to discover categories, dimensions, concepts, hypotheses, or theories. Adapting from the Glaser's and Strauss's (1967) constant comparative method, the researcher coded data into categories of analysis in order to compare and contrast properties of the categories and to delimit their non-relevant properties.

A coding system was devised in order to reduce the amount of data resulting from word overload, to organize chunks of similar data, and to retrieve meaningful data. Coding began with a list of codes that was developed prior to analysis and was based primarily upon the research questions regarding concepts of coping. Because new ideas and codes emerged during the concurrent data collection and analysis, the code list was revised several times during the study. The unit of text to which the codes were assigned was defined as a multi-sentence chunk. This same chunk of data could have multiple codes. Segments of the interviews that were not pertinent to the study questions were not coded. A minimum of two passes but often three or four passes of the same transcript was made, which generally leads to a code-recode consistency rate of over 90% (Miles & Huberman, 1984). All coding was done by the researcher.

The penciled code map was the basis for entering codes into the computer network, where the desired coded segments were searched, retrieved, and printed.

Importantly, although the researcher began by loosely conceptualizing coping into the traditional categories of problem-focused and emotion-focused coping, efforts were made to be open to other categorizations.

Within-Case Analysis

To analyze the data, a matrix that displayed the coded information systematically and simultaneously in a special format was essential. A valid analysis requires displays that are systematically ordered by the research questions and their associated codes. Although the researcher analyzed both individual and grouped cases, general patterns had to be identified as the content analysis proceeds (Miles & Huberman, 1984). The initial focus was to understand completely the uniqueness of each individual case; later, cases were aggregated. Such an approach ensured that the findings were grounded in their specific contexts and reflected real-world patterns (Glaser & Strauss, 1967; Patton, 1990). Importantly, because the data display formats for individual cases were carefully constructed and comparable, the resulting standardization of codes and formats aided considerably in the later analysis of multiple cases (Miles & Huberman, 1984).

A conceptually clustered matrix facilitated the assembly of data that belonged together on the basis of the fundamental study concepts, e.g., perceptions, coping behaviors, and consequences. Thus, an informant-by-variable format was constructed with code words down the columns and informant roles across the rows. Categories of variables across the top of the matrix allowed the researcher to read down the columns and to compare perceptions and behaviors of all informants on a given item. The role-ordered rows permitted profiling of individual family member's perceptions and behaviors around various concepts and cross-role comparisons. In later cross-case analysis this matrix facilitated conceptual comparisons among persons in the same roles, e.g., all siblings, and emphasized source differences in type of data and perceptions (Miles & Huberman, 1984). Cell entries consisted of data chunks that were retrieved by "The Ethnograph." If data were missing due to unasked, unclear, or unanswered questions, cell entries included the reason for the missing data.

Cross-Case Analysis

In order to increase the generalizability of findings and generation of theory, it is important to use multiple comparison groups to increase the scope of the study (Glaser & Strauss, 1967). Comparing cases increased explanatory power and identified conditions under which findings occurred. As noted above, common codes and display formats were used for all cases in order to standardize data presentation. Next, an unordered meta matrix (Miles & Huberman, 1984) or master chart was used to juxtapose the data from all cases onto a large wall chart. As noted above, it was initially important to retain all relevant data from each of the cases. As information was progressively refined, however, the data were further reduced and clustered in ways that contrasts and comparisons among cases were possible.

Data analyses and matrixes depended on what the data said and the types of relationships that the researcher was evaluating. Two methods of analysis identified by Miles and Huberman (1984) were used: (a) within-category sorting, which facilitated a closer look at specific issues such as consequences as varied by role; and (b) across-category clustering, which was grouping categories, e.g., types of coping, and then identifying similar characteristics among them.

As the data became increasingly refined, they also were ordered from best to least functioning copers according to the original criteria of CBC scores and attendance. Differences among coping and non-coping cases were displayed so that all data for one variable across all sites could be viewed. This case-order descriptive matrix showed patterns among coping and non-coping children and families. The investigator read across rows and down columns to compare and contrast, e.g., perceptions and outcomes by role.

A summarizing table, which was based on counting, was used in three ways: (a) it facilitated a check on the assumptions that the researcher used to order cases; (b) it permitted comparison among outcomes; (c) it provided readers with an easy-to-read summary. This matrix was important because it forced the researcher to remain grounded in the visible case data (Miles & Huberman, 1984). However, researcher also remained cognizant of the limitations that matrixes places on new leads and openness to competing paradigms (Marshall, 1985).

Drawing Conclusions

Drawing conclusions from the data configurations in the displays was accomplished through counting, noting patterns and themes, and clustering material.

Counting was the basis for identifying patterns, for it isolated variables and told: (a) the frequency at which the variable occurs, and (b) that the variable consistently occurs in a specific manner (Miles & Huberman, 1984). This technique enabled the researcher to see recurring themes or patterns in a large amount of data, to verify hunches, and to guard against analytical bias. Although most conclusions were based on content of the data, some conclusions were based on the plausibility (or lack thereof) posited by the researcher.

Clustering is used to facilitate the understanding of phenomena by grouping variables into categories that seemed to have similar patterns and characteristics. This technique is used by (Glaser & Strauss, 1967) to develop concepts through their constant comparison method of qualitative analysis. Using some of Spradley's (1979) procedures for domain analysis, the researcher looked systematically for semantic relationships such as strict inclusion, cause-effect, rationale, location, sequence, and attribution. Splitting variables became necessary when a variable did not relate well to other variables in the conceptual framework. Subsuming particulars into generals, which is a step beyond the first-level grouping of things in clustering, was used to identify characteristics of a general class (Miles & Huberman, 1984).

Verifying Conclusions

Following the data collection and data analysis, the researcher verified conclusions. To guard against lack of representation, the researcher looked carefully at contrasting and extreme cases. Assertions were challenged by searching for disconfirming data and contradictory evidence (Stainback & Stainback, 1988). Conclusions arrived at through this inductive method were then challenged by deductive reasoning.

CHAPTER 4: PEDIATRIC MIGRAINE WITHIN THE FAMILY CONTEXT

The commonalities and differences among children's and family members' coping behaviors occur against various backdrops of perceptions and biopsychosocial situations. Therefore, detailed vignettes of the eight patients and their families are presented in order that coping mechanisms, which will be discussed in the following chapter, may be considered within their contextual frameworks. These case summaries include a brief description and salient aspects of the psychosocial history of each family member, impressions of family structure and relationships, self and family perceptions of the patient and his/her headaches, physical setting, and external support systems. Relevant medical, psychological, and social data are summarized in Table 1. These vignettes are based upon the personal interviews, medical reports and correspondences, clinic headache questionnaires, The Child Behavior Checklists, and field notes. The names of the patients are fictitious.

Insert Table 1 about here

Case Vignettes

Doris Smith

Essential Informant Characteristics

Doris was a nine-year-old white female with a one-year history of migraine headaches, which were characterized by frontal head pain, dizziness, nausea, and at least one occasion of vomiting. Headaches occurred approximately five times per week. She took 60 mg of sustained release Inderal once a day, Fioricet as needed for relief of headache, and a Phenergan suppository as needed for relief of nausea.

Doris scored in the clinical range of social competence on The Child Behavior Checklist, which was completed by her mother.

Family Composition

Doris lived with her mother, 29, the mother's live-in boyfriend, 27, brother, 12, and, intermittently, a maternal uncle, 23. Precipitated by the unplanned pregnancy of Doris' brother, Jeff, Mrs. Smith married at 16. The Smiths separated when Doris was five years old due to her mother's alcoholism and extra-marital involvement with the current boyfriend. Later divorced, her remarried father, an Army officer, was stationed overseas for more than two years but had remained in contact with his children through letters, telephone calls, and annual visits.

Doris.

Doris presented as a pleasant, cute yet chubby girl. She initially clung to her mother and was quite uncommunicative with the researcher despite family coaxing. In fact, Doris' shyness with unfamiliar people combined with her intense desire for social involvement with family members suggested that she may have Avoidant Disorder of Childhood (DSM-III-R, pp. 61-63). By the third interview, however, she was chatty and spontaneous. Discussion of Doris' drawings, which revealed age-appropriate motor coordination and intellectual function, proved to be a particularly effective interviewing technique.

With flat intonations, Doris' responses regarding headaches tended to be either non specific, especially when discussing feelings, or extremely concrete. Mrs. Smith also described her daughter's frequent somatic complaints as vague:

> she complains to me all day...if I call home from work, 'How are you feeling?' and she'll let me know good, or not too good. And I'll say, 'Well what's wrong?' And she'll tell me, my head hurts. Or my stomach hurts. Or somethin'.

Having repeated first grade because of "immaturity," Doris completed second grade despite missing more than 30 days of school. Most absences were due to headaches and/or associated medical appointments. Doris claimed to have friends, but no peer activity was described during the six weeks of study involvement. Doris expressed much attachment to her puppies, one of whom had died recently, and her stuffed animals, especially "Puffalump."

Mrs. Smith.

Often appearing somewhat disheveled, Mrs. Smith was a potentially attractive, dark-haired woman who continually smoked cigarettes and drank caffeinated beverages. She has a rushed, pushed style of speech and anxious demeanor. Her sleeplessness at night often was followed by fatigue during the day. She claimed to have: (a) a bipolar disorder, which was diagnosed when Doris was eight, for which she took Lithium; (b) frequent tension headaches, for which she daily took six aspirin; (c) petit mal seizures, for which she took Dilantin; and (d) alcoholism, from which she was recovering after a hospitalization when Doris was six.

Mrs. Smith worked approximately 60 hours per week as a full-time secretary and a part-time grocery cashier. Conflicts with her boss made the secretarial job highly stressful, and she requested a leave of absence, presumably to care for Doris, by the end of the study.

One of four children, Mrs. Smith was the "rescuer" in her family of origin. She protected her mother from the physical abuse of her alcoholic yet idealized father, and her childhood environment was characterized by disappointment, feelings of abandonment, conflict, apprehension, and unpredictability. Episodically Mrs. Smith assumed responsibility for her homeless 23-year-old brother, who was mildly mentally retarded and a victim of cocaine and alcohol abuse. Also noteworthy were the mother's and children's tendencies to "rescue" many abandoned animals, which were a source of considerable financial strain.

When she was 18, Mrs. Smith's second child, a 13-week-old boy, died following a brief period of vomiting and diarrhea. Mrs. Smith painfully recalled being investigated by the military child protective services, who suspected her of giving him inappropriate prescription drugs. The charges reportedly were unsubstantiated. She remembered very little about her actions immediately following the baby's death:

> They, um, whatever people told me to do. That's what I did the whole time I was there. I mean, they told me to take a shower, I went, I'm like a little robot...I don't remember the burial or nothin'. I'm sure I do, somewhere.

Mrs. Smith stated further that her efforts to cope with this loss were thwarted by her husband, who blocked her attempts to obtain factual information or to discuss her grief:

> MO: But I wanted to go back and, us (pause, voice trembles) go into it, and, um, gosh, I guess it was about two years after he had died and (Mr. Smith) wouldn't let me.
>
> CG: Why, why did he want to stop you from doing that?
>
> MO: He never wanted to talk about it.
>
> CG: Did he ever talk to you about it?
>
> MO: Um-hm (negative).

<u>Mrs. Smith's boyfriend</u>.

Younger than Mrs. Smith, the boyfriend of three years was a slim house painter who enjoyed traditionally masculine activities, e.g., fishing, going to stockcar races, and riding his motorcycle. Balking somewhat at the researcher's request for individual interviews, the boyfriend wondered "why it's got to be so private" yet was quite straightforward in his responses. He was pragmatic in his approach to helping the children, e.g., creating a successful behavior modification program to improve the children's grades. Reflecting on negative experiences with his stepfather, he consciously avoided forcing the children to accept him but slowly and inobtrusively worked at developing his own relationships with them.

Jeff.

Jeff is a slim, dark-haired, slightly built boy who was preparing, with appropriate apprehension, to enter junior high school. He appeared eager to help the researcher through his candid, caring, and thoughtful observations. Having almost failed third grade when his parents were divorcing--he had "depression or something"--he proudly told of earning A's and B's in school. He enjoyed playing with his friends and participating on a community football team. In contrast to his sister, Jeff was almost stoic in his reaction to pain, most of which stemmed from childhood traumas such as accidents on his motorcycle.

Internal Organization of the Family

Mrs. Smith maintained overt power in the family, particularly because she had custody of the children and ownership of their mobile home. The boyfriend claimed that he and Mrs. Smith intend to marry, but she adamantly resisted marriage at that time because she feared loss of autonomy. However, both acknowledged that they provided a supportive, stable commitment to each other and the children.

Mrs. Smith's described intense attachment to her children and desperate fear of losing them, "My kids are my world, and whatever's around, it's around them. If I don't have a job, I don't care. But, if someone took one of the kids, then they may as well kill me." She expressed closeness to Jeff because they "grew up together" in an isolated off-base housing in Germany where the father was often away at unknown field locations. On the other hand, Mrs. Smith admitted to some favoritism of Doris, with whom she shared much time enjoying adult activities such as cleaning house, eating out, or going to her office.

The boyfriend appeared tightly bonded to Jeff; his relationship to Doris, however, was more conflictual. According to Mrs. Smith, "she thought that he was going to try and take the place of her daddy," which may have been an age-appropriate response for a child in the Electra phase of psychosexual development.

The siblings appeared to have a solid relationship, with the brother assuming a helpful, protective stance regarding his sister, e.g., giving Doris his "magic marble" to assist her enroute to the hospital.

Although there was some tendency to avoid conflict, family members differed with each other, expressed a range of emotions, negotiated solutions, and laughed at themselves and others. Often it was the boyfriend who initiated solution-oriented discussions and imposed limits, e.g., length of maternal uncle's stay.

A striking diffuseness of boundaries permeated the family structure, as was reflected in members' random use of household space. For example, presumably to avoid vandalism, the boyfriend stored a Harley-Davidson motorcycle in the center of the small living room. In another illustration, fluid sleeping arrangements were described by Mrs. Smith after the uncle moves in:

> And, he, um, last night and the night before, he (the uncle) slept in Jeff's bed, but that was only because Jeff and Doris slept together. Now my boyfriend put 'em to bed together last night. The night before was when Jeff slept with my boyfriend, and I slept with Doris so there was an empty bed.

Lack of family structure also was evidenced in the family's chaotic use of time. Although the boyfriend adhered to a fairly regular schedule, Mrs. Smith, unable to sleep perhaps secondary to her bipolar disorder, often watched TV until 4 a.m. and then could not awaken in the morning. She also forgot to administer Doris' medications on a regular schedule or to log her headache patterns. In regard to the study, the family was not at home for one forgotten appointment and cancelled another at the last minute.

Physical Setting

The Smith's live in a mobile home park approximately two miles from a major Army base located in the South. The three-bedroom trailer always was neat and clean although somewhat crowded with possessions. A large television, which usually was operating, dominated the living area. The small book shelf was noted to contain books on depression and prescription drugs. Living in the home were a cockatiel, two dogs, fish in two large aquariums, two cats, and numerous rabbits. The continual cacophony created by the sounds and activities of the animals and television was, at least to the researcher, very distracting.

External Organization of the Family

The diffuseness of the family's boundaries with the external world was poignantly reflected in the entering and exiting patterns of the uncle, maternal grandfather, father, multiple pets, and friends. In the midst of one interview, for example, a neighbor and her two children just walked through the front door, sat down in the living room without introduction, and immediately joined in the researcher's interview with Doris.

As noted, the maternal family imposed significant external stress on the Smith family. The paternal family provided support through the father's financial and Champus benefits and the grandparent's six weeks of summer child care.

Mrs. Smith reported a helpful relationship with her primary therapist and pediatric neurologist. However, her contacts with her psychiatrist and Army physicians had resulted in mistrust, especially regarding prescription drugs. School personnel also put subtle pressure on Mrs. Smith to decrease Doris' high rate of absenteeism.

Appraisals of Patient and Headaches

Doris was described by Mrs. Smith as shy, immature because of the divorce, and "a special child to me...you know, Doris made it!" Although Doris described her headache pain with varying degrees of intensity, Mrs. Smith perceived her as "pitiful" when she has a headache. She added that "a lot of people kind of roll their eyes and stuff at the way Doris is, but it, you know, it's not her fault." Mrs. Smith also projected her own feelings about migraines onto Doris, e.g., "I know when you're in pain you're miserable," or "I know when I get a real bad headache, I wouldn't want to be in school."

Summary

Doris was a child who has suffered multiple losses, e.g., her father through divorce, her mother through hospitalizations and substance abuse, and pets through death. Mrs. Smith contended with multiple stresses associated with single parenthood, work, bipolar disorder, headaches, petit mal seizures, and possible alcoholism. Importantly, Mrs. Smith indeed was significantly affected by the unresolved legacies of an alcoholic father, divorce, and death of a son. She described feelings of responsibility regarding each of these losses, with which she primarily has coped with escape mechanisms, e.g., adolescent marriage and substance abuse. Mrs. Smith possessed strong "rescue" needs, both in relation to the nuclear and extended families, which often resulted in depletion of her already overextended financial, physical, and emotional resources. Mrs. Smith's strengths were that she was an intelligent mother, financially solvent, committed to the well-being of her children, and currently involved in a supportive, stable relationship with the boyfriend.

Juan Sanchez

Essential Informant Characteristics

Juan was an eleven-year-old Puerto Rican male with a five-year history of migraine headaches, which were characterized by hammering pain, nausea, vomiting, sensitivity to light, dizziness, and paleness. Headaches reportedly occurred three times per week except during summer months, when they were less frequent. He took Inderal 10 mg twice a day, and, at the onset of headache, used one regular strength Tylenol and listened to a relaxation tape.

Juan scored in the clinical range for both social competence and behavior problems on The Child Behavior Checklist, which was completed by both mother and father. The mother tended to score him as more pathological in regard to behavior problems than did the father.

Family Composition

Juan lived with his mother, 35, father, 34, and sister, 9, all of whom were Puerto Rican. The parents have been married for 13 years.

Juan.

Juan was a small, dark-haired boy who appeared somewhat hyperactive and had noticeably verbose and dramatic speech even when one considers the expressive nature of his cultural background. He continually demanded attention and, in fact, when the researcher focused on other family members, Juan was observed to complain immediately of stomach pains. He has a number of additional somatic complaints, e.g., abdominal pains, chest pains, and heartburn. Juan was described by all family members as a child who lied, stole, and, when angry, destroyed his and others' belongings with no apparent remorse.

Juan was a fifth-grade student who earned A's, B's, and some C's. Teachers reportedly described him as a "class clown" who was too talkative and active but had average peer relationships. He had missed no school due to headaches, yet he often complained of headache upon arrival at home after school. He swam in the summer, occasionally played with neighborhood children, and participated infrequently in Boy Scouts.

Mrs. Sanchez.

Mrs. Sanchez was an attractive yet slightly overweight, intelligent woman whose speech, like her son's, was dramatic and verbose. She experienced the onset of migraine headaches when pregnant with Juan. Mrs. Sanchez had tried both conventional and non-conventional treatments for her migraines to no avail. She also received surgery for uterine cancer when Juan was nine years old; during the course of the project recurrence of cancer was ruled out despite her perceptions of symptomatology. Although the children were frequent users of the health care system, Mrs. Sanchez resisted attending to her own medical needs, e.g., delayed appointments, resisted taking medications, or refused to sleep in order to relieve migraine symptoms.

Holding herself in low esteem, Mrs. Sanchez was a homemaker with a part-time position as a store cashier. She described herself as one who does "nothing for myself...just cleaning, working, cleaning, working...for them." She also possessed many obsessive-compulsive traits, as manifested in one of her statements about housecleaning:

> for me, I feel sick...really sick, if my house is dirty...when I go to work and I come back, the house is a mess. So, and I come home at 11 o'clock at night, so I go crazy...if I don't finish at night time, I keep working until I finish....until I see the last piece of whatever in the real place, clean.

A persistent theme of loss, abandonment, and mistrust began when Mrs. Sanchez was born and her mother reportedly responded that "she never believe that she have a daughter like that because I was ugly, black, and a lot of things."

Subsequently, this rejected firstborn child was reared by her strict yet overindulgent maternal grandmother despite the fact that her parents reared six younger siblings. As a child Mrs. Sanchez experienced an enmeshed attachment to her grandmother, and this relationship was repeated in the current mother-child relationships. Mrs. Sanchez's view was that:

> I was fine...I got one person [grandmother] in this world, OK? That do everything for me, and she really loved me, OK? And that only to think about that, it was enough for me. You know, if something happened to me, it was OK, because I got her there...but she died (tone changes, almost as if the words should not be uttered).

Reciprocally, the grandmother said that "the only person who kept me alive is you [Mrs. Sanchez] and the kids," which reinforced the mother's view that her grandmother "only live for me." When the grandmother died, Mrs. Sanchez agreed with seven-year-old Juan's upbraiding:

> Oh my God! Sorry, (choking), and he said it was your fault, Mommy, because you let her die alone. She was lonely, she was alone, she didn't have nobody, and that made her have a heart attack...she was lonely, and she got, she suffered so much that she got a heart attack.

Following the grandmother's death, Mrs. Sanchez was hospitalized for four days in a "coma," and since that time she felt that she must do everything for the children "now, not tomorrow." She continued to experience unresolved grief and attachment to the grandmother, who also had migraines and labeled Juan as a "special" child.

Mr. Sanchez.

Mr. Sanchez was a trim, handsome, outgoing, and intelligent veteran of 14 years in the Army. His responsibilities as a computer programmer required that he spend 14 hours a day in the office and a minimum of one week per month in the field, thus leaving many of the parenting responsibilities, which he wondered may be "too much for her," to his wife. On one hand Mr. Sanchez appeared to enjoy the adventure and challenge of military life, e.g., being a paratrooper. Feeling financially trapped, however, he also felt unable to resign from the military service prior to retirement because it offered employment security and medical benefits. A free-spirited man, he happily recalled an unsupervised childhood in which and his five siblings ran barefoot through the mountains of Puerto Rico. The paternal grandfather suffered from alcoholism, and the paternal grandmother died of cancer when Mr. Sanchez was 22.

Rosa.

Slightly overweight yet attractive, Rosa described herself as an average third-grade student. She also was dramatic in her style of speech and especially enjoyed the individual attention of her interview with the researcher. Rosa was extremely sensitive to emotions of others in her family, but unlike her brother routinely sacrificed her own needs to meet the needs of others. She enjoyed playing with neighborhood girls, expressed age-appropriate interest in dolls, clothes, boys, and took swimming lessons.

Internal Organization of the Family

Mr. and Mrs. Sanchez occupied very traditional family roles. Mr. Sanchez was the primary wage earner, and Mrs. Sanchez managed the children and home. In many ways they seemed to be a disengaged couple, with each spouse attending to his or her respective tasks. Mr. Sanchez described himself and his wife as "opposites." In contrast to his wife's rigidity, Mr. Sanchez tended to be easy going and at times impulsive. Although Mr. Sanchez denied that they had considered separating, he believed that his wife "might say yes because one time...she kept saying I'm gonna leave, and I packed up her bags, and I said OK...and she didn't go anywhere." He felt that Mrs. Sanchez was continually "testing" him and that "she only trusted her grandmother." To the researcher Mrs. Sanchez persisted in her belief that her spouse would not always be there.

Living in an emotionally tense environment, Mr. and Mrs. Sanchez were in conflict regarding her relationships with the children. All family members described Mrs. Sanchez's over-involvement with her children as having a driven quality. She stated that:

> if I don't do it [everything], I feel really bad, so. If I want to feel better, I have to do it anyway...I

> don't want them to feel like, ah, I don't love or something like that. So I overdo.

She insisted that everything that she did was for the children because she "don't have anybody else."

The organizational structure of the family was characterized by a weak marital subsystem and domination of the extremely strong mother-son dyad. To illustrate, when the researcher began to talk to the Sanchez's as a couple, Juan squeezed between them, leaned on his mother, and complained of abdominal pains. Examples of enmeshment and over-identification between mother and son were found in Juan's description of his ailments:

> I get, I get, you know those pains my mom gets, all the pain she gets, I get everything she gets...Every single pain that she ever gets in her life, I get it too (spoken with pride)...If, like my mom gets the pain one day, then the next day I start getting the same pain in the same place...It's like those Time-Life books when they say that their daughter gets burned by a pot, and then her mother gets the same pain, in her palm.

Furthermore, family members openly acknowledged Mrs. Sanchez's favoritism of the patient, e.g., she spent $400 for his and $25 for his sister's birthday. Family members supported the researcher's perception that there was much sibling rivalry.

External Organization of the Family

The Sanchez family was strikingly isolated from external sources of support. They received no help from grandparents; however, both maternal and paternal siblings now living in the United States had offered to provide child care, which was declined by Mrs Sanchez. Parents described no social support network, for the Mrs. Sanchez did not want guests who would dirty her home, and Mr. Sanchez was unable to develop personal friends at work because of the strict authoritarian hierarchy. They also had become inactive members of the Catholic church. The family received medical, and on occasion psychiatric, support from the Army hospital as well as the university hospital.

Physical Setting

The patient and his family rented a three-bedroom condominium located on a major Army base located in the South. Completely decorated with newly purchased furnishings, the home was extremely neat and clean. Two relatively new cars, bearing vanity plates with the parents' names, were in the carport. Neighborhood children and pets played in the grassy areas of the cul de sac on which they lived.

Appraisals of Patient and Headaches

Demanding of attention, Juan boastfully viewed himself as a "special," artistically "gifted, "intelligent, and "hyper" child. He appeared to thrive on the attention secondary to participation in this research project, and, in fact, wanted to videotape the interviews. Although Juan portrayed himself as a victim, family members viewed him as an intelligent boy who angered and cried easily, lied, stole, and was spoiled. Because of the maternal history of migraines, Mrs. Sanchez admittedly felt guilty about Juan's migraines, which he viewed as "humongous" and evil.

Summary

Juan was a demanding, histrionic, verbose, and somewhat hyperactive boy who had a very enmeshed relationship with his mother, who also suffered from migraine headaches. He also appeared to suffer from some of the psychosocial effects often associated with short stature, e.g., withdrawal, depression manifested in somatic complaints and aggression, and difficulty with peer relationships.

Mrs. Sanchez also was somewhat histrionic, and her early experiences with abandonment and loss seemed to impede her ability to form basic trusting relationships and to foster separation and individuation of her children, particularly Juan who held special meaning to her. Indeed, it seemed that her children were her lifeline. Mr. Sanchez offered economic stability and a rational approach, but his influence on the family system was limited because of his position as an "outsider." The family was strained by cultural adjustments, financial pressures, isolation, mother's and son's health problems, and frequent separations from father due to military maneuvers.

Robert Threadgood

Essential Informant Characteristics

Robert was a 12-year-old white male with a nine-year history of migraine headaches, which were described as being located in right frontal area and characterized by a steady, bursting type of pain. Other headache symptoms included nausea, vomiting, paleness, dizziness, and difficulty walking secondary to weakness. Robert admitted to making himself "throw up. I don't stick my finger down my throat like everybody else...I just suck in my belly and out it comes." He had been treated in the past by Inderal, phenobarbital, Ergostat, and Periactin.

Robert scored in the clinical range of social competence and behavior problems on The Child Behavior Checklist, which had been completed by his mother.

Family Composition

Robert lived with his mother, 32, and stepfather, 45, whom Mrs. Threadgood married one year ago. Robert was an only child, and he had experienced no contact with his biological father since he was four years old.

Robert.

Robert was a somewhat short, pudgy, friendly boy who awaited the researcher on the steps of the Threadgood mobile home prior to the first visit. His cooperativeness and eagerness to share his story implied a sense of drama and importance to his participation in the study. Robert's speech contained many dramatic expressions, extremisms, and generalities. Robert also appeared to be somewhat immature and to giggle inappropriately at times, e.g., "I don't know why people think I do it [have headaches] for attention ...I've got all of it I need," a mannerism that may have indicated unconscious conflicts about content. The interviews also found Robert to be an externally focused person. For example, when he was unable to work a mathematics problem, Robert "felt like I was letting down the teacher...and I started getting tensed up, and I got a headache."

Beginning in infancy, Robert had a history of medical problems and somatic complaints. According to Mrs. Threadgood, Robert had rheumatic fever at age one, and for inexplicable reasons lost 26 pounds at about age three and was "down to infant size." Dental examinations had revealed that he had "three sets of teeth." In addition to complaints of stomach pains, Mrs. Threadgood stated that:

> ever since Robert's been real little, he's complained of real bad chest pains...sometimes at school, they'll, it'll make him so weak he'll just about fall on the floor...he becomes real weak and just about starts crying because the chest pains hurt him so.

Robert confirmed that his chest has a feeling of:

> burning, like somebody throwing an iron into you...At first, it's, I feel like my heart's beating too hard. Seems like my heart'd be beating up against my chest

> like that (gestures palpitating shirt) and pulling my skin. And then, it'd start burning.

Lately, he added eagerly, he had them "there where I have to get down and bend over because I can't hardly stand it. I lean over and start holdin' my chest, and mamma has to put my head in between my knees because I double over." These chest pain attacks often occurred when Robert was alone, e.g., waiting for his mother to return from work. Robert and his mother wondered if these symptoms indicated heartburn, asthma, or impending heart attack. Robert also tended to watch scary movies and to have violent nightmares in which he and/or his mother were "hung, ripped apart, tore apart, hatchet to death...I get killed in all my dreams."

Robert had been an A and B student until he transferred schools in the sixth grade, when he received F's, D's, and one C. Believing that the academic pressure was inappropriate and requiring excessive family involvement, Mrs. Threadgood stated that:

> I couldn't tolerate four to six hours of homework every day, and that's with me helpin' him...they assigned 26 book reports in two weeks..Mr. Threadgood, me, and Robert worked ourselves to death on top of working and stuff trying to get it done.

The parents transferred Robert to another school, where he earned B's and C's. According to his mother, Robert missed "30 to 40, 50 days" per year because he felt tired or had a migraine. Despite absences Robert claimed to have peer friendships at school, but he did not participate in many activities with them. He had asked to skate, swim, play softball, and participate in football, but his mother prohibited these sports because she believed that physical activity resulted in migraines. Robert did play and ride bikes with young neighbors. He also was very attached to his dog, and he dreamed of becoming a veterinarian so that he could "have a lot and take care of a lot [of pets]. And have about 50 dogs and 25 cats and a whole bunch of rabbits, birds, and everything."

Mrs. Threadgood.

Mrs. Threadgood was a slim, jean-clad woman who chain smoked throughout the interviews. Mrs. Threadgood shared much information. Throughout the interviews her affect continually suggested feelings of frustration, helplessness, or terror; yet, Mrs. Threadgood also conveyed pride that she was a "survivor" of many of life's traumas.

Mrs. Threadgood's psychosocial history was characterized by abuse, violence, sexual confusion, and abandonment. Her mother, a "wild" country western singer, died in a plane crash when Mrs. Threadgood was five, and her father was murdered three months later by his former wife's brother. Following several abusive placements with relatives and foster parents, Mrs. Threadgood was reared by a strict Episcopal priest and his wife until age 18. At that time she ran off and married Robert's father, an itinerant musician, and within the year she experienced a miscarriage followed by the birth of Robert, the product of an unplanned pregnancy. Within the year, she had a total hysterectomy and therefore was unable to have more children. When Robert was six months old, Mrs. Threadgood left her first husband because she discovered that he was bisexual, a gender orientation that she had shielded from her son but worries may be hereditary. Except for one traumatic visit when Robert was four, there had been no contact with his father or paternal extended family. Mrs. Threadgood remarried when Robert was five, but three years later she left the second husband because of his alcoholism, episodic employment, and spouse abuse. Mrs. Threadgood had lived with current husband for three years.

Mrs. Threadgood linked her unwavering belief that something was wrong with Robert to the following experience. Crying as she talked, Mrs. Threadgood remembered:

> I had a friend die of an aneurysm (gasps). I don't want that to happen to Robert! A friend of mine (blows nose) had terrible headaches all his life. Well, one day he had one and didn't get rid of...(she pauses, and her voice becomes high, tightens, and changes to whisper), and I don't want Robert to get messed up...I don't want Robert to do that (still sobbing). And I don't want the doctors to miss anything.

Mrs. Threadgood was employed as a weaver at a textile mill. She was fired from at least three positions at other mills because of absenteeism secondary to Robert's headaches. She also chose her seven p.m. to seven a.m. shift, which was opposite her husband's daytime shift, so that someone would be with Robert at all times even though the schedule left little time for the parents to be together. She had few social relationships except work acquaintances.

Mr. Threadgood.

Mr. Threadgood was a soft-spoken, quiet, self-effacing man with limited education yet perceptive insights regarding family dynamics and Robert's headaches. Deferring to his wife during conjoint interviews, Mr. Threadgood cautiously offered his differing opinions regarding Robert's headache symptoms and treatment during the individual interview. Mr. Threadgood had been married previously and had several young adult children who lived in the area. He cautiously attempted to establish a relationship with Robert without threatening the mother-child system. Mr. Threadgood worked as a weaver at the same textile mill as his wife. He enjoyed fishing and hiking in the mountains, which were very important to him, although his activities were increasingly restricted by arthritis.

Internal Organization of the Family

Presumably because of her traumatic and unpredictable life experiences, Mrs. Threadgood had a great need to control and difficulty trusting others. She described the impact of these experiences on her extremely close relationship with Robert:

> Our relationship is strong. We, we don't, I mean nothing comes in between me and Robert. We're very close, and he tells me things, and I tell him things, and share a lot of secrets that I don't guess, I don't figure mothers and sons and stuff ought to share.

Regarding some aspects of his relationships with his mother, Robert occupied a pseudomature role, as illustrated by his judgment that "All the other men, when mom was dating and stuff, I mean, they just weren't right for her. But Mr. Threadgood's right for her."

Although the mother-son dyad were the predominant family subsystem, there was evidence that Mr. Threadgood's gentle and patient efforts to strengthen the marital subsystem and to develop a father-son relationship were succeeding. For example, Mrs. Threadgood always had slept with Robert when had his frequent headaches, but recently she stayed with Robert for only part of the night and then returned to her husband's bed. Mr. Threadgood reflected, "It's been him and his mother, and he really relates to his mother more than he does me. And now, I mean, he's comin' to me more on a lot stuff now than what he use to."

The emotional atmosphere of the family was described as apprehensive due to unpredictable nature of headache occurrence. When Robert had severe headaches, all agreed that Mrs. Threadgood "panics...loses it...is crazy." Communication patterns were dominated by Mrs. Threadgood, and there were issues that Robert and Mr. Threadgood did not discuss because of her overly controlling responses.

Physical Setting

Residing in a textile mill town of less than 10,000 persons, the Threadgood family and their dog lived in a neat, sparsely furnished three-bedroom mobile home owned by Mrs. Threadgood. During the course of the study, the family moved their trailer from a mobile home park to their nearby five-acre treed lot in the foothills of the Great Smoky Mountains. Mr. and Mrs. Threadgood wished more privacy although Robert preferred to be less isolated and close to peers. Despite their limited income Robert's room was carefully decorated, albeit in a feminine style with lace curtains, and had furnished with a VCR, television, and tape deck.

Appraisals of Patient and Headaches

Robert described himself as a "short and overweight" and unhealthy, pre-adolescent who projected his feeling of "pity [for] other people with headaches."

Mrs. Threadgood repeatedly expressed how "pitiful" Robert was and how unfair his affliction was. Despite extensive medical evaluations, she was convinced that something was wrong with Robert and perceived herself as responsible yet helpless in protecting him from potentially life-threatening events. She pleaded, "When he gets a real bad one, I mean, you just think the whole world's going to close (her voice is high, trembling). (Desperately) I love him so much. I don't think I can pull him out of it."

Mr. Threadgood cautiously described the sequelae of her anxieties:

> sometimes I think she (hesitatingly) treats him more smaller than what he is 'cause, you know, I guess she's just that overprotective. Of course, I guess that she has a right to be. But, she treats him a little bit, how would you say, smaller than what he is, in my opinion. Now, that's _my_ opinion.

In contrast to Mrs. Threadgood, Mr. Threadgood tended to perceive Robert as a normal child except for his management of the headaches.

Summary

Robert was caught in an extremely enmeshed relationship with his mother, as was evidenced by her frequent misuse of "we" instead of "I" or "he", her inability to recognize his efforts to cope with migraine, and her resistance to his participation in age-appropriate activities, peer relationships, and academic challenges. Mrs. Threadgood's early life experiences with abuse and abandonment resulted in her being highly mistrustful and extremely controlling. Indeed, it seemed that Robert was her reason to live, and she was unable to consider that his headache disorder was not life-threatening. Perhaps because of underlying fears about homosexuality or interpretation of the many somatic complaints and the extra teeth, Robert was perceived as "not normal." These convictions led to their inability to make appropriate use of both local and tertiary health care resources.

Living in a small, financially depressed mountain community, Mrs. Threadgood had limited financial resources and employment opportunities, and Robert's academic resources were likewise constrained. Although Mr. Threadgood provided stability to the family and a male role model to Robert, Mrs. Threadgood's record of severed relationships left the researcher feeling apprehensive about the longevity of this third marriage.

Jason Braun

Essential Informant Characteristics

Jason was a nine-year-old white male with a three-year history of migraine headaches, which were characterized by steady, bursting, and throbbing head pain. His headache symptoms included nausea, vomiting, abdominal pain, dizziness, sensitivity to light, difficulty with visual focus, and difficulty walking. He took Tylenol with codeine for relief of headaches.

Jason scored in the clinical range for behavior problems on The Child Behavior Checklist that was completed by his mother. However, he scored in the non-clinical range of the Child Behavior Checklist that was completed by his stepfather.

Family Composition

Jason lived with his mother, 39, and stepfather, 40. Mr. and Mrs. Braun have been married for six years. Jason had been legally adopted by Mr. Braun and had no contact with his biological father.

Jason.

Jason was a towheaded, handsome, boy who was friendly and cooperative with the researcher. He was candid and spontaneous in his efforts to inform the researcher about his headache experience.

Jason was a fourth-grade student who missed approximately 10 days of school due to migraine headaches. He stated a belief that some migraines were caused "by anger because when you get mad you squint and then you get a headache." As a second-grade student, he was diagnosed with Attention Deficit Hyperactivity Disorder (ADHD), and Jason continued to experience academic frustrations in language arts. He received failing grades in spelling and history, became frustrated with related homework assignments and did not like attending school because of academic pressures.

Being a very active child, Jason enjoyed bike riding, fishing, hunting, rock collecting, and other outdoor activities; he also excelled at drawing. Jason had a large vegetable garden and insisted on giving tomatoes and beans to the researcher. He had won several competitions in karate, which, according to self-report and his mother, contributed positively to his self-esteem. He also enjoyed watching "monster truck" competitions with his family and drew many action-packed illustrations of them.

Mrs. Braun.

Mrs. Braun was a pleasant, intelligent, and cooperative, yet assertive mother who insisted on participating in the study despite the fact that she had a total hysterectomy just four weeks prior to the interview. Mrs. Braun had considerable responsibility as office manager for a local radio and television broadcasting company, and she was admittedly proud of her career accomplishments despite the lack of undergraduate education. During her medical leave, however, she decided to quit her job because she enjoyed being "a mother" to Jason.

She had "run away" from her first husband of ten years after brief treatment for depression. She experienced no depression after leaving Jason's father.

Mr. Braun.

Mr. Braun, Jason's stepfather, was a land surveyor. He was candid and thoughtful during the interviews. Suffering from undiagnosed Lyme's disease, Mr. Braun had experienced severe migraine headaches for several months. He felt that this headache experience enabled him to understand and to support Jason. Declaring himself a stoic regarding pain, e.g., "a little pain won't kill you," Mr. Braun also had degenerative disc disease, which had required three surgeries.

Having experienced two prior marriages to women significantly younger than he, Mr. Braun relished his stable, mature marital relationship with Mrs. Braun.

Internal Organization of the Family

Mr. and Mrs. Braun appeared to have very traditional family roles; there was good evidence of appropriate marital and parent-child boundaries. Evidencing the close father-son bond, Mr. Braun had adopted Jason one month prior to the researcher's visit. They enjoyed each other and many shared outdoor activities. Mrs. Braun who described a childhood in which she had much responsibility and little fun, discovered play and took karate lessons and rode bikes with Jason.

Although Jason's ADHD occasionally added stress because he required support with academic work and increased supervision, parents seemed to understand the impact of this deficit and to have adaptive responses.

External Organization of the Family

Although the Braun family was fairly self-sufficient, they were involved with the maternal extended family. There was little involvement with the paternal family except for a maternal aunt who had reared Mr. Braun after age 10. Regarding Jason's ADHD, school personnel seemed to have inconsistent ability to respond to his needs, which was a source of frustration. The family reported good support from medical providers.

Physical Setting

The Braun's rented a small two-bedroom ranch home in an agricultural area near a textile mill town of less than 20,000. Approached from a dirt road, the home was located on a treeless lot of converted farmland. A five-acre pond, where Jason fished, was within walking distance of the house. A large garden of tomatoes, okra, corn, beans, and squash flourished behind the house. The Braun's had a large television and videotape collection, which they used frequently. Giving credence to Mrs. Braun's statement that Jason did his chores well, his room was neat and ringed with karate trophies, a rock collection, trucks, and a stereo.

Appraisals of Patient and Headaches

Jason viewed himself as an active, healthy child who was easily frustrated by his academic performance and prone to "give up." He expressed pride in his athletic prowess and sportsman abilities.

Following a difficult pregnancy, Jeffrey was born but physicians questioned whether he would live. Initially, Mrs. Braun "was protective of him because I thought to myself that if he died, I'd die. I tried so hard to do all I knew to do, and I felt so guilty." She added:

> ...I don't think I can ever do enough, but I do the best I can, and I just have to come to terms with myself that is the <u>best</u> and that is <u>all</u> I can do. It's like, you have to make decisions in your life to either make your life a certain way or to live regretting or

> sorry all your life. You have to determine when you'll draw the line.

At this time, Mrs. Braun perceived Jeffrey as a child who required above-average physical activity and was frustrated by academic work because of having short attention span and "going too fast." Her descriptions were consistent with his diagnosis of ADHD. She recognized Jason's independent, creative, and inventive skills as well as his athletic abilities.

Mr. Braun's views were consistent with the above-mentioned perceptions although he tended to attribute more of Jason's activity level to being "all boy" and a perfectionist than to an underlying disorder.

Although they expressed appropriate concern for Jason's headaches, Mr. and Mrs. Braun did not view the headaches as a serious concern based on Mr. Braun's and maternal family members' experiences with migraines and ruling out of serious illness, e.g., brain tumor.

Summary

Jason impressed the researcher as a young man, who, with family support and school intervention, was coping well with his headache disorder and ADHD. This upwardly mobile couple utilized their many personal resources to establish a supportive and nurturing family life. The major sources of stress for them seemed to be from medical problems.

Jeffrey Graham

Essential Informant Characteristics

Jeffrey was a six-year-old white male with a two-year history of migraine headaches, which are located in the right frontal region of his head. His headache symptoms included a bursting and pounding head pain, nausea, vomiting, sensitivity to light, and sensitivity to sound. He was treated with Tylenol with codeine and Phenogran suppositories to decrease vomiting.

Jeffrey scored in the non-clinical range of The Child Behavior Checklist, which was completed by his mother.

Family Composition

Jeffrey lived with his mother, 28, and brother, 1. Also included in the last conjoint interview was the maternal grandmother, who resided one-half block away and frequently cared for Jeffrey.

Jeffrey.

Jeffrey was an active, well-coordinated boy who was somewhat restless and occasionally oppositional and demanding during the interview. Although he responded to questions about his headaches, his descriptions were fairly concrete and unembellished. Jeffrey perceived his headaches as "a damage up in your head," a "fire," and something that went "ka-boom, ka-boom, ka-boom." Jeffrey is a kindergarten student, and he has missed no days because of headaches.

Ms. Graham.

Mrs. Graham was slim, intelligent, anxious, and busy single parent of two young children. She was reared in a religious, fundamentalist household. As a girl she had felt close to her mother, but when she became a teenager, there were more conflicts with her restrictive parents. While engaged to a flight instructor, she became pregnant with Jeffrey. The father did not want children and urged Ms. Graham to get an abortion; shortly after they were married they separated and divorced, presumably because of the stress of parenthood. Four years later Ms. Graham again was engaged, became pregnant, and was abandoned by her fiance'. The grandmother wanted Ms. Graham to seek an abortion, but Ms. Graham refused to terminate the pregnancy for religious reasons.

Ms. Graham felt quite stressed by her position of personnel manager in a small local company. Yet, she expressed pride in garnering the financial resources to purchase a car, a home, and necessities for her two sons. She gains considerable support from her spiritual beliefs; she reads the Bible daily and attends church functions several times a week.

At the age of 20, Ms. Graham began to have migraine headaches, which particularly affect her eyes.

Jonathan.

Jonathan was a demanding one-year-old who had just begun to walk.

Internal Organization of the Family

Ms. Graham was stressed by the responsibilities of rearing two young children, and the atmosphere of the home felt rushed and serious. Indeed, these young boys made many demands, and Ms. Graham pushed herself to care for them despite the strain she felt from her own unmet needs. The relationships were further strained by sibling rivalry.

Physical Setting

The Graham family lived in a small, aging, three-bedroom brick home on a quiet, shaded street of a textile mill town of about 20,000 persons. The hardwood floors were bare, the walls were newly painted, and the home was sparsely furnished. A Nintendo game often was in use by Jeffrey. Childrearing books by James Dobson lined the coffee table.

External Organization of the Family

Ms. Graham received considerable assistance for Jeffrey from the maternal grandparents; they provided daily after-school care and dinner, frequently let him spend the night, and purchased many of his clothes. Perhaps because the grandparents opposed continuation of Jonathan's pregnancy, they have refused to help with him. In fact, she stated, "he's only spent one night in that house." In summary, because of her need for parents' support combined with her wish for more autonomy, Ms. Graham was in a state hostile dependency.

Ms. Graham also received much support from her pastor and other members of her church.

Appraisals of Patient and Headaches

Jeffrey offered nothing about his self-perception. Ms. Graham attributed to him a quality of selfishness; however, her example of lack of remorsefulness after spilling a drink may have represented her misinterpretation of his shame. Ms. Graham remembered Jeffrey as a fussy, colicky infant, and she continued to be upset about his "picky" eating. She felt that Jeffrey was not only lacking in empathy but also becoming a "whiner" when unable to get his own way.

Because a maternal aunt's headaches were symptoms of a brain tumor, Ms. Graham was quite anxious that Jeffrey might have a tumor. She did find the visit to the pediatric neurologists reassuring.

Summary

Jeffrey was a somewhat demanding, active child of a young, single mother struggling to manage her many responsibilities. Although the mother was highly stressed by her employment, two young children, household management, and financial worries, her inability to meet all of Jeffrey's needs was somewhat assuaged by the support of his grandparents.

Kevin Nordstrom

Essential Informant Characteristics

Kevin was a 12-year-old white male who had a two-year history of migraine headaches, which continually increased in frequency since their onset. His headaches were characterized by a left-sided throbbing pain. Other headache symptoms included sensitivity to light, nausea, and vomiting. Kevin experienced one to three headaches per month, and he tended to awaken with a headache in the morning. To treat his migraines, Kevin took Tylenol with Codeine and Inderal.

Kevin scored in the non-clinical range of The Child Behavior Checklist, which was completed by both parents.

Family Composition

Kevin lived with his mother, 38, father, 38, and sister, Margaret, 9. Mr. and Mrs. Nordstrom had been married for 15 years.

Kevin.

Sporting a blond flattop and clad in a tee-shirt and shorts, Kevin presented himself as an athletic-looking, friendly, and attractive pre-adolescent. While occasionally disagreeing with family members in an age-appropriate manner, Kevin was cooperative in both conjoint and individual interviews and focused seriously on the topic of headaches.

Kevin volunteered the belief that migraines were caused by tension and stress, e.g., matriculating to a new school. Actually, since the entire family was involved with school, the commencement of school was admittedly stressful for everyone. Kevin recalled getting a migraine headache on his first day:

> I was walking up the ramp (to school entrance), and I just threw up, and, ugh, just held it in my mouth...for 10 or 20 minutes, and then I got down to my room, and I went into the bathroom immediately, and went 'blaa.' It was nasty!

Searching for causation, he explained that "your nervous system just goes crazy, and it goes up to your head like, like screams to your head and lets it all out, and that's how the migraines come." Although he felt a "little shocked to have something that most people don't," Kevin had adapted to the existence of his migraine headaches. However, he did feel that "migraines should be just as important as pneumonia and stuff. 'Cause I had pneumonia over the summer. And migraines were worse."

Kevin was an A and B student at the middle school, where he had missed six days of school due to migraine headaches. Because his headaches occurred in the morning, which necessitated school absenteeism, and ceased by early afternoon, which allowed him to participate in after-school activities, Kevin was sometimes the object of suspicion. He enjoyed all sports and competed very successfully in basketball, tennis, and soccer; he also played the drums. Kevin appeared to have a number of mostly male friends, a few of whom knew about his migraine headaches. He enjoyed a wide range of age-appropriate activities, which were sometimes terminated prematurely by headaches, e.g., a sleep over.

Mrs. Nordstrom.

Mrs. Nordstrom was a slender, energetic woman with a lilting voice and cheerful affect. Even though family members were "not thrilled," wondered what the researcher "wanted to get out of us," and were difficult to schedule because of activities, Mrs. Nordstrom encouraged their participation in order that children with migraines could be helped.

Even though the maternal grandfather suffered from migraine headaches and Mrs. Nordstrom suffered from frequent non-migrainous headaches, she viewed her family of origin as a:

> healthy, robust family...I come from a real, real, you know, strong Southern family, you know of workers, you know...You're sick, you don't feel good, you know? You either go lay down in the corner and get out of my way or you get up and go on to work (laughs).

When she was pregnant, Mrs. Nordstrom did experience two migraine headaches, which she described as:

> I had never experienced, I mean, my vision was blurred ... I could barely see the road to drive home. And, I was trying to find my doctor's number in the phone book and could not read the phone book. And, the pain in my head! I thought my head was going to explode. I mean, I really thought that I was having a stroke, that some horrible thing was happening to me.

When Kevin was two, Mrs. Nordstrom suffered the loss of twins during the last trimester of pregnancy. Admitting that she may have been severely depressed, she was unable to remember how she "dealt with it. It's almost like there is a void there for a long time after it happened." Yet, she reasoned, if the twins had survived, they would not have had Margaret, and "now it seems fine."

Mrs. Nordstrom was a teacher, and she had the flexibility to get Kevin from school when he became sick, to check on him over lunch, or to stay home with him as needed.

Dr. Nordstrom.

Dr. Nordstrom was a tall, carefully groomed, articulate man whose presentation befitted his role as school administrator. Although Dr. Nordstrom was somewhat guarded initially during the interviews, he later provided thoughtful and insightful views regarding Kevin's migraines. Possibly reflecting his Ivy League education as well as personality style, Dr. Nordstrom's approach to Kevin's headaches emphasized a controlled and rational approach.

Dr. Nordstrom described the paternal grandmother as a hypochondriac who saw her physician several times a week. He perceived that she misused the health care system and as a result, in retrospect, was unfairly suspicious of Kevin's complaints of headache.

Like his wife, Dr. Nordstrom recalled the loss of their twins as the "closest to tragedy" that he had experienced.

Margaret.

Margaret was a chatty, friendly, and attractive girl who described having many friends, academic success, and athletic abilities.

Expressing some puzzlement about the symptomatology of headaches, Margaret discussed why people throw up "cause it's all in your head, I guess... 'cause your mouth is very close to your headache (giggles)." Margaret expressed confusion because of the varied intensity of Kevin's headaches and his ability to participate in after-school activities despite the need to remain home during school. She suspected that Kevin's headaches were "not that bad" and thought that "it would be nice to have one because, um, I don't know, it just would be very nice to have one to see what it feels like."

Internal Organization of the Family

Dr. and Mrs. Nordstrom appeared to have traditional expressive and instrumental roles within the family. Although both parents had many professional obligations, Mrs. Nordstrom was the parent who most frequently altered her employment to meet the needs of the children. Family members seemed to maintain appropriate marital, parent-child, and sibling boundaries. Using humor frequently, family members demonstrated communication patterns that were open, candid, and fostered individuation. There was some evidence of sibling rivalry, which seemed within normal limits.

Physical Setting

Having moved into the state one year prior to the study, the Nordstroms owned a new, spacious, three-bedroom contemporary home in an upper-middle class suburb of a Southern college town with a population of about 50,000. Interviews were held in a large living room that contained contemporary artwork and coffee table books about history. Kevin's room was clean and orderly; posters of basketball stars filled the walls, athletic trophies lined his shelves, and his drums were in the corner.

External Organization of the Family

The Nordstroms maintained regular contact and visitations with grandparents, all of whom were living, and extended family; however, no family members lived in the region. Family members were active participants in many school, community, athletic, and church organizations. The school system, which was both an employer of the parents and provider of services for the children, was deemed very supportive. The Nordstroms also described positive and trusting relationships with the health care system.

Appraisals of Patient and Headaches

Despite repeated hospitalizations during infancy for respiratory problems and emergency room treatment for childhood trauma, Kevin was perceived as an "active... healthy" child. Family members concurred that Kevin was intelligent, athletic, and well-liked. Yet, Kevin was very concerned, according to his mother, "...as to whether or not he will be accepted by people. He tries to come off, um, as just being in control. Looking good -- he's very much into looks."

Particularly when headache frequency increased, Dr. and Mrs. Nordstrom had worried privately that Kevin could have a brain tumor, blood vessel problem, or serious disease. After his diagnosis of migraine headaches by the pediatric neurologist, however, Mrs. Nordstrom stated that "I was tremendously relieved" and assumed that Kevin felt similarly. Dr. Nordstrom articulated his view that:

> If he had a serious, um, if he had a terminal illness ...I would react differently. So I guess part of this is my perception of the seriousness of his problem. I'm sorry that he has it. I wish he didn't. I'm sure it's not comfortable, but there are many people that have things much worse, and it's not life-threatening. It's not stopping him from doing anything. Um, so, I don't particularly dwell on it.

Summary

Despite the severity of Kevin's headaches, neither he nor his headaches were perceived as being extremely unhealthy. Both Kevin and his family members had many personal resources, for they were intelligent, well-educated, financially comfortable, and healthy individuals within a functional family system. Furthermore, there were excellent medical, employment and academic resources available within the community.

Ellen Fitzgerald

Essential Informant Characteristics

Ellen was an 11-year-old white female with a five-year history of migraine headaches, which were characterized by throbbing and sharp pain behind the eyes and temples, nausea, vomiting, light sensitivity, and paleness. Headaches occurred several times a month. She took aspirin and Tylenol for relief of symptoms.

Ellen scored in the non-clinical range of The Child Behavior Checklist, which was completed by her mother and her father.

Family Composition

Ellen lived with her mother, 45, and father, 44. She had a 20-year-old brother who lived at college. Her parents have been married for 23 years.

Ellen.

Ellen was an tanned, sloe-eyed, athletic-looking girl who was noticeably pensive in her style of speech and often had a flat tone of voice, which may have been associated with the headaches that tended to occur during the interviews. Although occasionally given to humor, Ellen tended to be serious and candid in her efforts to clarify researcher's questions and to respond with specificity and comprehensiveness.

Ellen described her headaches in detail. She said that her "face doesn't feel like normal. It feels like it, it almost, it feels heavy on your neck and everything, but it almost doesn't feel like it's there...sometimes." Her mental image of the headache is a "heart beating in my head" or a construction worker with a drill and hammer "going from these two sides right there (points) in my temples. And it's just like that guy John Henry (a steel driving man) or whatever, and he was just banging through my head." Ellen also stated that the day after a migraine she felt "thick headed and stuff..I feel like my head's a brick or something."

Ellen was a sixth-grade student who earned mostly A's and was eligible for the Academically Gifted program, in which she chose not to participate because of the additional stress and the high quality of her regular teacher. She had many friends, many of whom were boys who shared her athletic interests. Ellen thrived on competitive sports and excelled at basketball, soccer, and horseback riding. She loved animals, and was very attached to her dog and cat. Ellen had missed no school due to headaches, which tended to begin in the afternoon, but to her dismay she had been unable to participate in some after-school athletic events.

Mrs. Fitzgerald.

Mrs. Fitzgerald was an attractive, emotionally expressive, nurturing woman who always met the researcher at the door and appeared eager to participate in the research project, as did other family members. By happenstance she worked as a teacher's aide at Ellen's school, and this situation allowed her to assess the quality of Ellen's headaches, to provide either medication or transportation home, and to facilitate understanding and management skills among the patient's teachers.

Mrs. Fitzgerald stated that the previous year when the patient was nine "was the worst year I can ever, ever imagine living through." It was during that year that the family moved to another state, the brother left home to begin college, the father began his medical residency, and Ellen was depressed presumably because of school change. Seeking medical care for unexplained weight loss and possible depression, Mrs. Fitzgerald was aided in identified the multiple stresses of that year as follows: "When you have one child go..., and another one miserable, and you've completely lost your husband, you know, and I'm used to him being a big part of my life...I have no friends, I know nobody." Presumably due to Ellen's unhappiness with the social and academic offerings of her new school, Dr. Fitzgerald changed his residency program and returned to the community where Ellen had been successful. This move also decreased Mrs. Fitzgerald's symptomatology, for it enabled her to rejoin her support network, to find employment, and to eliminate some of the stresses due to relocation.

<u>Dr. Fitzgerald</u>.

Dr. Fitzgerald was an articulate, factual, upwardly mobile man who was open in his experiences and thoughts during the interviews. Playing hooky and almost quitting high school, Dr. Fitzgerald joined the Navy and did not begin undergraduate school until he was in his 30's. He acknowledged his appreciation for the family's sacrifice of home ownership and financial security in order for him to attend medical school, and he stated optimism about their adventure, "here we were starting on a new career (in contrast to retirement-bound classmates seen at a recent high school reunion), but that's all right." His demanding residency schedule left little discretionary time, which he spent with Ellen, e.g., riding horses, and his wife.

Dr. Fitzgerald had experienced two migraines, the first one occurred when he was 32 and preparing for a major speech. He remembered that he threw up and that "it felt like there were two ice picks in my eyes; I couldn't believe the pain in my head!" The paternal grandmother and aunt both had suffered from frequent headaches. Dr. Fitzgerald remembered his mother's "trademark," a bandana pulled tightly around her head as she continued to cook and clean. He admitted that he was reared to value stoicism in the face of illness. Abusing themselves through smoking, drinking, and avoiding medical care, the paternal grandparents suffered multiple ailments including the grandfather's diabetes which was complicated by leg amputation, liver problems, and heart disease.

Internal Organization of the Family

Family members appeared to have traditional expressive and instrumental roles and to have appropriate marital, parent, and child boundaries. Mrs. Fitzgerald appeared to control most activities, including routine care of migraines, regarding Ellen and household management since Dr. Fitzgerald often was unavailable.

Both Mrs. Fitzgerald and Ellen concurred that Ellen was exquisitively sensitive to the mother's stresses. Ellen perceived her mother as "short-tempered," and she usually conformed to Mrs. Fitzgerald's wishes "to make her feel better." When Ellen felt angry, "you don't want to let it out...you usually like to spend time by yourself...I usually sit on my bed and talk to my cat or something." Mrs. Fitzgerald described her daughter in positive terms but did view her as sometimes "stubborn" and "strong willed." Mrs. Fitzgerald stated that "she and I spend a lot of time alone together because of Dr. Fitzgerald's residency. I think we're close because of that, because for many of our years we have been essentially alone in the house together." Mrs. Fitzgerald later explained that "I feel in sync with her feelings, too, as much as she is with mine...I think I can really feel how she's feeling." Dr. Fitzgerald viewed his daughter as one who, if anything, tried not to reveal her tender and sensitive feelings. Yet in contrast to Ellen's self-description, he generally saw her as being open and expressive of both happiness and anger. These and similar statements offered some evidence that Ellen was more restricted in emotional expression than her parents perceived.

The Fitzgerald's appeared to have a family-centered orientation, and the atmosphere of the home was calm and nurturing.

Physical Setting

The Fitzgeralds rented a three-bedroom ranch home in a treed suburb of a Southern college town of about 50,000 people. It was located about half a mile from a farm where Ellen and her father rode horses. Within walking distance was a neighborhood pool and recreation center where the Ellen and her peers spent many summer hours swimming and playing tennis. Soccer balls and other athletic equipment were strewn in the front yard. The home itself was neatly furnished in a traditional style and created in the researcher a feeling of orderliness and calm. An extensive collection of the father's hand-painted miniature soldiers was in a display case. Interviews were held in the closed dining room, which afforded privacy.

External Organization of the Family

The Fitzgeralds are a well-educated family who have adequate financial means and good health insurance. The family enjoyed significant support regarding Ellen's headaches both from the public school and health care systems, where the parents had both professional and social networks. Although they did not live nearby, the maternal family maintained contact through regular telephone calls and visits. The paternal grandparents are deceased.

Appraisals of Patient and Headaches

Congruent with her parents, Ellen viewed herself as a healthy person, a good student, and a skilled athlete. Mrs. Fitzgerald offered a statement that captured Ellen's wide range of interests, "You know, Mom, there just aren't enough hours in the day for what I'd like to do. I like to play with my friends, I like some time to play alone, I have to do my homework, and the nights just go by too fast."

Mrs. Fitzgerald described Ellen as "communicating a lot" but questioned "whether she's giving me or us verbally everything, I'm not sure." Mrs. Fitzgerald described the Ellen as a high spirited, happy go lucky, physically active, and determined person.

Dr. Fitzgerald perceived his daughter as an active, "rugged" girl. He recalled an incident several years prior when:

> she did a dive, and smacked her face on the board coming down...I thought she broke her neck...she came out [of the water] and tried to force a little smile, but the tears, the tears just came out....She had a little blue bruise on her nose and face and cut her lip...and I saw her go up on the high dive there about two minutes later. (Proudly.) She just jumped right in!

Dr. and Mrs. Fitzgerald were similar in their perceptions of the headaches. Initially, they worried that the headaches could be a symptomatic of a serious disorder such as a brain tumor. Mrs. Fitzgerald explained:

> You think anything when a child has that kind of pain in the head. And that, those fears didn't go away after she was diagnosed as having pediatric migraines. We still worry...could there be something wrong...but then you have to think realistically, and think that something as bad as a brain tumor, it wouldn't be an occasional pain...it would get progressively worse.

Father denied worrying about a tumor after diagnosis because she is "so healthy otherwise." At the time of the study, all perceived the Ellen as extremely healthy except for migraines.

Summary

Ellen and her family have many personal resources upon which to draw; they are well-educated, intelligent, financially stable, and healthy individuals. Although Ellen restricted her expressive communication, there was no evidence of serious psychopathology in this family. Furthermore, they were well supported by professional and social resources.

Timothy Brigham

Essential Informant Characteristics

Tim was a 12-year-old while male with a two-year history of migraine headaches, which were characterized by a sudden onset of pressured, bursting, throbbing, and aching pain around the eyes and forehead. Tim took aspirin, Inderol, and utilized biofeedback skills to manage his headaches.

Tim scored in the non-clinical range of The Child Behavior Checklist, which was completed by both parents.

Family Composition

Tim lived with his mother, 48, father, 44, and sister, Anna, 18. Mr. and Mrs. Brigham have been married for 24 years.

Timothy.

Wearing a T-shirt that read "American by birth, Confederate by choice," Tim presented as highly cooperative, eager, talkative, and bespeckled young man who easily shared information about himself and displayed his quick sense of humor and mischievous nature. However, he tended to be somewhat distracted at times by verbal information and requested repetition of some questions.

Tim likened his headache pain to:

> something inside your head just pushing out so it explodes like a firecracker and the fuse has been set and blown on out. And sometimes it is like a sledgehammer picking out, just hitting in there...it's like there's something in there just pushing hard enough right behind the eye sockets that my eyes won't pop out, but they're almost going to.

Tim usually became pale and experienced some visual disturbances that reminded him of fluorescent lights with "yellow, white, and red dots." When he was getting a migraine, Tim felt dazed and as if his brain were numb. "If I had a migraine, I don't think I could think...clearly with a migraine...it's like my brain decided it's on lunch break." For one or two days following a migraine Tim felt extremely tired, which his teachers noticed and his father likened to a "hard drunk."

Tim was a seventh-grade student who expressed increasing frustration with academic performance at school, where his grades range from B to D. A recent educational evaluation including the Woodcock-Johnson Psychoeducational test resulted in a classification of very superior intelligence with specific learning disabilities in the areas of sequencing and short-term memory. The evaluator found him to be somewhat distractible. Despite academic difficulties, Tim enjoyed school and was well-liked by peers and teachers. Although Tim sometimes was several hours tardy because of migraine headaches, he had not missed a full day of school in the past year because of them. He did experience several teachers whose sarcastic tone and facial expressions led Tim to feel that they "thought I was conning them to get out of class." Teachers' attitudes changed when they learned that he received an Magnetic Resolution Imaging (MRI) and was being treated for headaches at the university hospital.

Tim enjoyed outdoor activities, e.g., riding his bike, building a fort with friends, gardening, and helping his father with property maintenance. He also was active in a Baptist youth group.

Mrs. Brigham.

Mrs. Brigham was a smiling, attractive, soft-spoken, firm yet nurturing woman who is self-employed as a bookkeeper and secretary for the Brigham's real estate rentals. Because of her home-based employment, she was readily available to transport Tim to and from school in the event of a migraine headache. She also suffered from mild migraine headaches, which were relieved by aspirin.

Mr. Brigham.

Mr. Brigham was an attractive, friendly, humorous man who, like Tim and Mrs. Brigham, was extremely cooperative during the interviews. He agreed with the descriptions of other family members that he was an "eat, sleep, and work" kind of man who spends long hours maintaining the low-income rental properties that he owns. Mr. Brigham also had occasional migraine headaches, but in contrast to his wife, he resisted taking prescribed medications and used extra-strength Tylenol or Exedrin with sleep only as a last resort.

Anna.

Anna was a quiet young woman who participated in the family interviews with brief comments generally related to the topic. Anna unfortunately suffered from an aneurysm at the unusually young age of fourteen. Following surgery and years of rehabilitation, special education, and treatment for seizures, Anna hoped to be graduated from high school that year. However, she was unable to develop independent living skills due to severe short-term memory deficits and physical impairments. The family members' and her attitude towards her disabilities were reflected in her statement "laugh with the world now for when you cry, you cry alone."

Internal Organization of the Family

Mr. and Mrs. Brigham assumed traditional expressive and instrumental roles and exercised shared decision making. Despite the stresses of caring for chronically disabled Anna, family members seemed to maintain appropriate marital, parent-child, and sibling boundaries and to balance individual and family needs. Communication patterns were open, supportive, and permitted individuation; although they are clearly in charge, parents listened empathically to views of their children and incorporated them into decisions. The use of physical space was orderly yet flexible in times of need. For example, Tim usually went to his own bed when he had a headache but occasionally exchanged beds with his mother, whose soft mattress helped headaches located in the back of his neck.

Physical Setting

The Brighams owned a modest three-bedroom ranch home on the outskirts of a Southern textile mill town with a population of less than 50,000. Two pickup trucks and a sedan were in the driveway, and a doormat inscribed "good coffee, good friends" welcomed visitors. Interviews were held in a cozy kitchen area. An open Bible lying on their coffee table was one of many artifacts that symbolized the family's strong spiritual orientation.

External Organization of the Family

The Brighams were an educated family whose monthly income was limited but who had assets in property. They were stressed by the lack of health insurance. The maternal grandparents lived nearby and provided significant emotional and material support to Tim and his family, particularly when Anna experienced a lengthy stay at the state children's rehabilitation hospital following her aneurysm event.

Appraisals of Patient and Headaches

Tim perceived himself a somewhat frustrated child who found physical outlets for his aggression in karate, weight lifting, or occasionally breaking things such as his golf club. Tim also wished that he could play competitive sports but felt at risk for physical harm due to his small size. Perhaps because of his learning disability Tim was somewhat accident prone, e.g., frequently fell off his bike, and he resented being accused of "doing a stunt and screwing up."

Mr. and Mrs. Brigham described Tim as independent, energetic, unable to sit still, and a "ham" whose mischievousness is "a lot of fun." They understood that Tim was a highly intelligent boy who required special assistance because of his learning disability.

The trembling, shaking, and pain associated with Tim's first migraine was so severe that it reminded the parent's of a seizure or an aneurysm. The local physician ran an MRI on Tim, and all family members were reassured that he would not suffer from the same disorder that afflicted Anna.

Summary

The Brighams were a family that derived much support from their spiritual orientation as well as personal resources of intelligence, adequate financial income, good communication, a highly functional family structure, extended family support, and medical and psychological services. Despite the fears and subsequent care demands that resulted from Anna's serious and chronic disability, the Brighams demonstrated superb and adaptive coping skills regarding it.

CHAPTER 5: COPING BEHAVIORS OF CHILDREN WITH PEDIATRIC MIGRAINE AND THEIR FAMILY MEMBERS

As was stated in Chapter 1, the purposes of this study are threefold:

1. The first purpose is to identify various pain coping efforts used by children who suffer from pediatric migraine.
2. The second purpose is to identify pain coping efforts utilized by the family members of children with pediatric migraine.
3. The third, but less emphasized purpose, is to identify the physiological, psychological, and social consequences of these pain coping behaviors both for the pediatric patient and members of his or her family. To examine closely the association between coping thoughts and behaviors and their outcomes was--particularly their physiological outcomes--beyond the scope or intent of this project. However, since the question of coping outcome frequently is asked, available findings are presented in Tables 2 and 3.

Insert Tables 2 and 3 about here.

As stated in Chapters 1 and 2, coping strategies flow from cognitive appraisals. Judging whether an event is perceived as threatening is based on primary appraisal, which helps one to distinguish among irrelevant, benign-positive, or stressful events. Secondary appraisal is a judgment about the potential response to a stressful event.

The term "coping" is confounded because in both animal experimentation and psychoanalytic ego psychology approaches coping is equated with successful adaptation to a situation (Lazarus & Folkman, 1984). Using the adaptational model, one would state that if a child were to cope well with headaches or the associated emotional distress, these adversities would be overcome. At the extreme, this approach would mean that a child who copes successfully prevents future headaches. Conversely, if the child were to cope ineffectively, these problems remained. In other words, the adaptational model would force one to conclude that if the child continued to have the same frequency or intensity of migraine headaches, then coping efforts were inappropriate.

Yet, as Lazarus and Folkman emphasize, it is important to define coping independently of outcome, especially physiological, and to separate studies of <u>process</u> and <u>outcome</u>. Coping outcome, which refers to the effectiveness of a strategy in thwarting a perceived threat, differs from coping function, which describes the purpose of a strategy. To illustrate, a child with pediatric migraine might comply totally with the medication regime, a coping function, yet continue to have migraine headaches, a coping outcome.

In this study, data analysis was based upon the Lazarus and Folkman's (1984) previously stated definition of coping as "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person (p. 141)." This definition of coping is used in this study because it presumes that coping is an ongoing process, avoids confounding coping efforts with physiological outcomes, and emphasizes management rather than mastery of stressful situations. Thus, a child can be successful in coping yet still have headaches. Success, therefore, means that the child is able to carry on a relatively normal lifestyle, for example, attend school.

Categories of Coping Behaviors

The following categories of thoughts and behaviors emerged from the data, and they were initially grouped into two general types based on function: emotion-focused coping and problem-focused coping. Emotion-focused coping is intended to reduce emotional distress whereas problem-focused coping is meant to alter the source of stress (Lazarus & Folkman, 1984; Pearlin & Schooler, 1978). Thus, emotion-focused coping is an attempt to reduce the anxiety associated with migraine headaches; problem-focused coping is intended to prevent, to mitigate, or to cure migraine headaches.

As a first-cut categorization, the distinction between emotion-focused coping and problem-focused coping was a very useful conceptualization. Like Carver, Scheier, and Weintraub (1989), however, the researcher found that these two categories were too general. Using them led to a tendency to classify actions and thoughts that were not clearly problem-focused coping as variations of emotion-focused coping. Furthermore, translating these broad concepts into measurable goals and objectives necessary for the evaluation of clinical practice with children and families is unwieldy.

In analyzing the data, the researcher found that there was much diversity among coping functions. Furthermore, thoughts or behaviors often had more than one coping function. For example, seeking the support of others was sometimes intended to help an informant gain information, receive medication, or obtain other tangible services such as an ice pack. Seeking the support of others also created the opportunity for informants to ventilate emotionally, to be soothed, or to experience increased self-efficacy. Others also distinguished between seeking social support for instrumental reasons, e.g., problem-focused coping, and seeking social support for expressive reasons, e.g., emotion-focused coping (Carver, Scheier, & Weintraub, 1989). For this study behaviors and thoughts were further categorized based on their predominant purpose as stated or implied by the informants; categories are thus mutually exclusive even though coping efforts often served multiple functions.

There seemed to be a distinction between attempts to manage emotional affect and to alter cognitions, perceptions, and beliefs. Therefore, emotion-focused coping was sub-divided into affective and cognitive coping functions. Some thoughts and behaviors, however, were still difficult to categorize. For example, prayer served multiple functions. As a problem-focused activity, asking God for relief from headache pain was an action designed to reduce or to eliminate the source of stress, especially for children who still utilize age-appropriate "magical thinking." As an affective coping behavior, the soothing, repetitious sounds of meditation or prayer could increase serenity and reduce tensions. On the other hand, as a cognitive coping behavior prayer diminished informants' perceptions of the threat, e.g., God will not give me more adversity than I can bear. For study purposes spiritual activities were categorized as cognitive coping behaviors because their major purpose for informants appeared to be altering the primary appraisal, e.g., perceptions of the headache malady, or secondary appraisal, e.g., patient's and/or family members' abilities to cope. The researcher's categorization dilemma regarding religion was similar to that experienced by Carver, Scheier, and Weintraub (1989).

Another classification issue arose when categorizing coping functions of family members. Were their coping efforts intended to help the patient or themselves or both? Because the researcher's questions generally asked family members how they helped the patient to cope, their responses were presented as efforts to help the patient even though the coping strategies sometimes benefited the family member as well.

To avoid the confusion inherent in comparing and contrasting the statements of patients and family members about the same events, this initial categorization of coping behaviors was limited to informants' self-statements only. The specific coping behaviors utilized by the informants' are summarized in two tables. Table 2 presents patients' ways of coping with migraine headaches, and Table 3 shows family members' ways of coping with the patients' migraines. The thoughts and behaviors are rank-ordered based on the frequency that informants mentioned them; the number of similar self-statements regarding a specific item that were volunteered are in parenthesis.

Following the analysis of children's coping efforts in Table 2, the researcher clustered these thoughts and actions into more specific categories. This clustering was based upon the comparison of coping measures found in the general categories and identification of their common properties. The same method was used for clustering family members' coping in Table 3. Based upon this analysis, the following categories emerged and were defined.

Affective coping was defined as the informants' efforts to reduce anxiety or other distressful feelings. It frequently manifested itself through social support coping, which was opportunity to ventilate feelings about the headache disorder, to feel understood, or to be reassured.

Cognitive coping was the term used to describe the mental activities used to alter the informants' perceptions of the headache disorders or patients in order to decrease anxiety or to employ cognitive-behavioral techniques to manage the stress that exacerbated migraine headaches. Cognitive coping took the following forms: (a) spiritual coping, which included prayer and talking with God or a supreme being; (b) cognitive-behavioral coping, which included such techniques as thought-stopping, biofeedback, progressive relaxation, imagery, and physical activities that were intended to distract the informants' attentions away from the headaches; (c) perspective coping, which was the use of humor and other mechanisms of defense to reframe the stress of headaches into a less threatening condition; (d) resignation coping, which described one's acceptance of their inability to eliminate totally the stress; and (e) "I'll-never-surrender" coping, which describes one's refusal to stop trying to eliminate the stress.

Problem-focused coping was conceptualized in distinct ways as follows: (a) active coping, which were actions taken to obtain relief from the migraine headache; (b) prevention coping, which were actions taken to prevent the onset of a full-blown migraine headache; (c) anticipatory coping, which were advance plans of action made in case there were a headache event; and (d) <u>extender coping</u>, which were requests for others' instrumental assistance.

Copers Versus Non-Copers

The following discussion presents the types of coping efforts used by the non-copers, copers, non-copers' family members, and copers' family members. Some concepts are illustrated with quotations of the informants.

<u>How Non-Copers Managed Pediatric Migraine</u>

<u>Affective Coping</u>

To obtain social support for the purpose of reassurance and understanding, as well as tangible assistance, non-copers most frequently relied on variations of crying. For example, Juan described that:

> I let go of it, and then I just lay down, and I moan and groan because of the pain...And my dad says 'shut up! You're bothering me, shut up! Or, go to your room.'...My mom's the only one that <u>knows</u> what it feels like (dramatically), and sends me to my room, gives me my food, fixes up my couch, lays out the bed...and check(s) on me. She's the <u>only</u> one.

<u>Cognitive Coping</u>

Non-coping children did use some cognitive-behavioral strategies to cope with their headaches. The primary cognitive effort of the non-copers was to become involved in a distracting activity, such as watching television or playing, when mild headache symptomatology occurred. Two of the children emphasized the need to avoid thinking about the headaches, thought stopping, with the hopes that they would go away. Personifying his headache as an evil demon or devil, Juan explained:

> Every time I keep, I keep my attention on this, the devil grows bigger and bigger and bigger...That's why, when I don't pay attention to 'em, I forget all about it. It's like, it is, it's, it's in my head, and it's noticing 'he's not paying attention to me anymore. And then he starts shrinking and shrinking, and it goes away into somebody else's head.

Juan also used a progressive relaxation tape at the onset of a headache.

In contrast to all other children, Robert coped by focusing on "how it's hurtin'."

Problem-Focused Coping

Overall, the non-coping children used a variety of problem-focused coping. However, based upon the frequency and emphasis of presentation, e.g., the patient always coped in this manner, extender coping was found to be the major coping behavior for the non-copers. This behavior occurred at the onset of a headache and involved telling parents or other authority figures about the headache. Robert, also an outlier in this category, stated that "I sometimes will tell 'em, but most of the time, most of the time I'll try, and try to wait until the last second 'cause there's something, a ball game on, or something that I want to watch." However, because his pain behaviors, e.g., rubbing his head or "holding back," consistently communicated the onset of migraines to his highly vigilant and responsive parents, the researcher considered the combination of Robert's verbal and non-verbal behaviors to be extender coping.

Although they were heavily reliant on extenders for assistance, the non-copers consistently used active coping efforts such as taking medication or lying down. They also used comforting artifacts such as ice packs or hot wash cloths, presumably in an effort to decrease headache pain in order to sleep, which relieved them of the headaches. Despite the admitted benefits of being in a dark, quiet place, however, the non-copers often resisted going to their rooms to lay down and preferred to remain with others, e.g., lying on the living room sofa.

Prevention coping was mentioned infrequently by the non-copers. To prevent headaches Juan avoided physical activity, which may also have offered secondary gain in terms of his withdrawal from the age-appropriate peer relationships and physical activities that were likely made difficult because of his short stature.

The non-copers utilized very few anticipatory coping thoughts or behaviors. Robert occasionally wore a hat in the sun, but "I don't wear them too much...I can't get my hair too bad or something (Robert and Mrs. Threadgood laugh.)" Jason would protect himself from the bright sun by wearing his baseball cap. He also strategized that "When I thought I would have a headache at school, I took a pen and wrote my phone number on my hand so if I got a headache I wouldn't have to think of my phone number--just dial it."

How Copers Managed Pediatric Migraine

Affective Coping

Although copers' solicitations of family members were stated as requests for concrete needs and thus were categorized as problem-focused coping, the researcher presumed, on the basis of the atmosphere of the family, that the children also received acceptance, understanding, and reassurance regarding headache pains from family members. The copers confided in one or several close friends regarding their headache disorder to facilitate friends' understanding of their genuine pain as reassuring friends of their liking for them despite the last-minute cancellations of planned activities. Two children mentioned sleeping with their cats, who seemed to be comforting transitional objects. Tim laughed, "Of course, I have my little nurse--our cat! Every time I have a migraine, she sleeps with me. We don't say a thing to her, she just senses it...until I get to sleep and she knows that I'm OK, she'll stay there."

Cognitive Coping

All of the copers used various cognitive-behavioral strategies to decrease stress associated with their headaches and to enhance their efforts to relax and to sleep, which usually brought headache relief. All repeatedly used thought-stopping techniques such as "blocking it out" or "refusing to complain." Three children identified mental distraction methods, for example "thinking about what I would do the next day." Several children created images, which for Kevin was "winning Wimbledon, or, or winning, or making the winning shot of the NBA championship. Stuff like that." In addition to thought-stopping, Tim relied heavily on biofeedback for relaxation.

Two children used prayer and spirituality to ask for headache cure or to change perspective. Tim recalled, "I think I was sort of like anybody, asking 'Why me?' You know? But that's just what God had in the plan for you." Another form of perspective coping used by Tim was humor:

> I mean, look at the price you've got to pay for the pain. It's sort of neat, though, because I had an MRI done, and everybody says 'Oh, you don't have a brain,' and I say, 'I've got over 23 pictures to <u>prove</u> that I've got one. Do you have any proof?'

Kevin also claimed to benefit from identification with a successful role model, as this dialogue reflected:

> Mrs. Nordstrom: Who were you telling me that had migraines? He thought it was, he talked like it was kind of neat. Um, somebody that plays for Duke. Who was that?
>
> Kevin: Quinn Snyder.
>
> Mrs. Nordstrom: I think that kind of, I don't know, made it seem like not such a whimpy thing to have. 'Cause I remember the way you were telling me. 'Mom!'

Do you know that Quinn Snyder missed a practice because he had a migraine?'

Kevin: I thought it was awesome!

CG: Now, what do you mean by awesome?

Kevin: Somebody, somebody who 's really great to have 'em. And I do too.

CG: So, you decided you can be really great even if you've got migraines.

Kevin: (quickly) Yeah!

All of the copers implied or stated their acceptance of their headache disorder. In a dramatic yet humorous style Tim captured the essence of resignation coping by stating his inability to avoid being a victim of migraine and to yield to it, "Go to bed. Sucker! (laughs)."

Problem-Focused Coping

All of the copers gave high priority to the active coping measures of taking their medications and going to bed in a quiet, dark room. They also named other efforts, such as using cold cloths, ice packs, or hot baths, to increase their likelihood of relaxing, sleeping, and obtaining headache relief respectively.

Prevention coping also was used by all of the copers. Copers frequently identified headache stimuli, e.g., bright sun, loud noises, specific foods, and daytime naps, and they actively sought to avoid them or to mitigate their effects. Two of the children emphasized the importance of trying to differentiate between regular headache symptoms and migraine symptoms in order to avert a full-blown migraine by quickly taking appropriate medication. Tim explained:

> I've been able, I've learned to read my body, more or less. Like, OK, Tim, you need to go to bed now, or Tim, stay up for 30 minutes longer so the headache can go away. Usually, you just have to pay attention to your head, the feeling of your head. It's not your body physically but mentally.

Copers also engaged in anticipatory coping by carrying medications and other headache remedies with them or planning how to get help if there were to be a headache when they were away from home.

Lastly, these children used extender coping, but their usage was characterized by clear requests for instrumental help, e.g., "get me an ice pack."

How Non-Copers' Family Members Managed Pediatric Migraine

Affective Coping

The non-coping parents, including Mrs. Sanchez who had been in "psychotherapy," felt considerable unresolved anxiety, fear, and guilt associated with children's headaches. They seemed to have few ways of coping with these feelings, and many of their responses to them, e.g. ventilation, were inappropriate albeit positively reinforced. Mrs. Threadgood recalled:

> And I, I went down to the [hospital] administration and threw a chair across the room. It was a real dramatic thing. I was real upset because nobody was giving me

> any results, and he was withering away. And, I got upset about it...By the time I got back to his room, they had three doctors in there.

Mrs. Threadgood also admitted to excessive crying, screaming, pounding the walls, and kicking the stove when Robert had an unremitting headache.

Cognitive Coping

Family members of the non-copers used very few cognitive coping strategies. Mrs. Smith mentioned tangentially that she "tried to forget about them" whereas Mr. Sanchez, who was already somewhat disengaged from his family, "focused my mind on work."

A form of cognitive-behavioral coping, distraction, was used by Mrs. Threadgood and Robert, which they explained:

> Robert: [I] can't teach myself [to relax]. Usually, when I have 'em [headaches], my mom comes in and lays with me and talks to me and gets my mind off of it. My head don't hurt no more. I'm able to go to sleep before it comes back.
>
> Mrs. Threadgood: That doesn't work all the time though. Sometimes, I found that if I can get his mind off of it, or I'll lay in there and talk, but I might lay in there and talk for two hours before he seems like he ever even hears me. You lay there, and you ask him questions about this, that, and the other, and about Carowinds [amusement park] or what we're going to do for vacation or something, anything to get his mind

> off of it. But, a lot of times, for a long time, he doesn't even hear me or anything, doesn't even...as long as I'm in the room.

"I'll never surrender" coping was used by three of the non-coping mothers who felt that they could not do enough or could not give up searching for a headache cure. Mrs. Threadgood stated:

> And we're all goin' to do the best we can to help Robert through it. And if it takes 'till he's 35 years old, we're going to help him get through it. You know, it's just, it just takes a lot. It always has took a lot to help him through it. And we're willing to pay the price, whatever it takes...I'm not going to give up.

Problem-Focused Coping

All of the family members of non-copers utilized problem-solving coping.

All of the families used various active coping efforts to terminate the headaches. All parents administered medications and contacted, or in one case implied contact, with physicians. Interestingly, two of the four families researched medications in the Physician's Desk Reference. They universally remained at home when their children had headaches and tried to reduce headache pain in various ways such as fixing ice packs, making the child shower, asking the child what they wanted, or creating a quiet, dark environment. They all "checked" on the bedridden patients, and three of the non-coping families reported that they lay with the patient, often for long periods of time. Mrs. Threadgood described:

> I might lay in there, you know, with him a couple of hours and, you know, talk to him some. Sometimes I don't do that. Just sometimes I do. If I'm real tired, if I'm real tired and I don't feel like going in and out, lots of times I lay down with him just because I'm tired...I can lay there and go to sleep. Sometimes I have, with him layin' there crying with a headache. I'll just, you know, drop on off.

When the suspicion of a headache occurred, three of the four children were kept home from school by the parent. Although all parents admitted to trying things, Mrs. Threadgood had the most extensive yet random list of active coping strategies, as the following statements indicate:

> Mrs. Threadgood: And if Robert comes up with an idea, we'll try it. We've listened to other people about what they try, and we try things too.
>
> Robert: They done get so bad where my mom or Mr. Threadgood would take me driving around somewhere in the dark and roll the windows down or something, and the cold air calms me down a little bit.
>
> Mrs. Threadgood: I used to try cold wash rags...and we used to try the hot wash rags. We tried vibrating his back, and the back of his neck, and that just about killed him...I used to make him drink hot

> coffee...because I heard that if you, if you're taking aspirin or Tylenol or something like that, if you drink it with coffee, it'll, I know it sounds like an old wives tale, but it'd send it up through you a little quicker. I've tried some crazy things, haven't you (to Robert)?

Few prevention coping strategies were used by the non-copers' families, and often implementation was inconsistent. One family "doctor shopped" and, in fact, "institution shopped." Two of the families were non-compliant in regard to administration of prophylactic medications although one mother attempted to cope with her non-compliance by switching from her child's current prescription to a time-released medication that was taken less frequently. Even though parents of non-copers identified use of medications as a coping strategy, none of them emphasized it. Three children's parents stressed the restriction of activities as a way to avoid headaches, and subsequently the children missed school, athletic, and peer activities. Only one mother volunteered that she had talked with the child's teacher about her migraine headaches. Two mothers mentioned non-specific attempts to teach their children either to "catch it early" or to identify headache stimuli.

How Copers' Family Members Managed Pediatric Migraine

Affective Coping

All of the parents of copers used strategies to cope with the distressing affect associated with their children's' migraine headaches. Through ventilation with friends, talking to a spouse, or making themselves calm, three of the coping families reduced their anxieties. Focusing on management of his emotional responses, Mr. Brigham reasoned:

> I really think many people get uptight over things they have absolutely no control over to start with. If it's something we've got control over, then maybe we need to be uptight. But if we don't have control over it, let's just figure out what our reaction is going to be...We may not be able to control actions, but we can control our reactions.

Although Mr. Brigham emphasized management of affect, this quotation also described the disengagement from control that characterizes resignation coping.

Cognitive Coping

All of the parents of copers mentioned a wide range of cognitive coping approaches.

Two families relied heavily upon spiritual coping. Mrs. Graham, the single parent of two young children, explained that:

> The only way I can cope with things like that is that I know that everything happens for a reason. And, I've been through a lot in my life. And I know things now that I know I wouldn't have known if I had not had those difficult things to go through....So I teach Jeffrey that, you know, we might not, life might not

> always be the way we want it to be, but we have to understand that it's got to be the way He wants it to be. And there's a reason for it. So that's the only way, like, that I can cope.

Mr. Brigham reflected on both Anna's and Tim's medical problems as follows:

> Not that we understand all the why's or <u>any</u> of the why's, but He has been with us through it. And some of the things that many people will attribute to fate or luck, I say God either causes them or He allows them to happen just as He has allowed Anna to recuperate, and he has allowed Tim to become better. Because, to them, both were equally traumatic, his migraines and her situation. Each situation is equally important...God has delivered. For example, he didn't have a headache last week until he got home [from band camp]. That's a blessing because it did not interfere with his enjoyment of the week, his opportunity to learn, to be taught by professors and have interactions with so many experts.

Three sets of parents stated that they "focused on the positive," which is a form of thought stopping that involves interrupting a self-defeating thought and then attending to a positive self-statement.

Using perspective coping, three families acknowledged that many people have afflictions that are much worse than theirs in order to reframe their situation into a less threatening one. For example, Dr. Nordstrom offered:

> I guess part of this is my perception of the seriousness of his problem. I'm sorry that he has it. I wish he didn't. Um, I'm sure it's not comfortable, but here are many people that have things much worse, and it's not life-threatening, it's not stopping him from doing anything.

From his perspective as a physician, Dr. Fitzgerald fully appreciated that "it's [headache disorder] not leukemia or cancer or something like that." And Mrs. Brigham, who experienced Anna's aneurysm, strongly believed that "no matter how bad you think you are, there's somebody out there worse." She also changed perspective by converting large and overwhelming problems to small and manageable ones, for example, in "taking one day at a time...I deal with it as I get to it rather than worrying on down the line."

All of the copers' families indicated a type of resignation coping, which was characterized by acceptance of the inevitability of some migraine activity and parents' and children's' limitations in curing them. Illustrating the reframing of feelings of helplessness into self-efficacy, Dr. Nordstrom explained:

> I can't control it, and so there is nothing I can do about it. So, I don't feel helpless, because I don't feel like, I guess, in a way I don't feel that my help is particularly needed. Nor am I able to offer any

> help, nor am I able to do anything about it (laughs). So, um, it's just a subtle, a subtle difference, I guess, but I think it's in the personality of a parent.

Problem-Focused Coping

All of the families of copers used active coping measures such as contacting physicians and using medications. They tended to gather information from the physicians with one exception, Dr. Fitzgerald, who understandably talked to his medical colleagues and read professional articles about pediatric migraine. All parents comforted the patients with cold cloths and quiet, dark surroundings when children had migraine headaches. When children had headaches, all families indicated that someone stayed home with the stricken patient at least part of the time. Members of three of the four coping families emphasized, however, the importance of leaving the patient alone when he or she was trying to sleep. Family members tried different headache remedies, but they did so in an empirical, well-organized manner. The following dialogue, for example, captures Mrs. Nordstrom's approach to the identification of headache remedies for her son:

> Mrs. Nordstrom: I probably deal with 'em real systematically. Because I know that with my own headaches, being real systematic with 'em always seems to help if you find out what works...

> CG: How did you go about doing that? Can you tell me a little bit more about that? Who took the lead? Or, who said what?
>
> Mrs. Nordstrom: Um. (Pause). Probably, probably me because he just wasn't feeling too well, and he was trying to watch television, and I just would say to him, you know, I know that when I have headaches, it's always better for me if I'm in quiet. The noise makes it worse. And he'll try...Mom, that makes it feel better. And then I always put a cold cloth on his head. No, no, no, that didn't, that wasn't good. And we would just trying different things...and so we just kind of worked around, and what he said, you know, felt the best.

Using prevention coping, all families of copers were very engaged in efforts to avoid the onset of headaches. Two families kept extensive headache calendars, which led to the identification headache stimuli such as certain foods, bright sun, and naps. Similar to Mrs. Nordstrom's systematic approach to cure, in each case family members facilitated the patient's identification of headache precursors. In all families the child also was helped to differentiate between regular and migraine headaches so that proper precautions, such as taking medications, could be instituted before a migraine became full blown. All of these families also made concerted efforts to have predictable eating and sleeping schedules and to avoid known headache stimuli. Importantly, they did not restrict the patients' activities to avoid headaches, but, on the contrary, strongly encouraged their participation in school, church, and extra-curricular activities.

The parents of copers also used anticipatory coping to avoid or to minimize the impact of a migraine headache. In each case, for example, parents of the coper stated or implied contact with the child's school teacher regarding the migraine symptoms and availability of needed medications. They also took medications and necessary paraphernalia, e.g., a Tupperware bowl, on outings.

CHAPTER 6: DIFFERENCES BETWEEN COPERS AND NON-COPERS

The descriptions of coping behaviors contained in the previous chapter are helpful in understanding how children and their families coe with pediatric migraine. That material is especially useful in categorizing and grouping behaviors by type. However, the ultimate purpose of understanding coping behaviors is to be able to affect practice so that patients will be able to be more successful in coping with migraine. To accomplish this goal, it is necessary to go beyond describing coping behaviors and instead to understand the efficacy of different types of coping behaviors. In short, how do successful migraine copers differ from less successful copers with respect to the coping behaviors that they use?

As discussed earlier in this manuscript, "successful coping" has multiple possible definitions. In this study the researcher has used two criteria to differentiate copers from non-copers: The Child Behavior Checklist and school attendance. As discussed in Chapter 3, these two criteria are not perfect, but they do provide a rational basis for distinguishing migraine patients who are more successful coping from those who are less successful. These two critera do not imply that copers have fewer or less severe migraines but only that they are more successful at minimizing the impacts of migraines on their daily lives.

This chapter draws inferences about the efficacy of coping strategies by exploring the differences between copers and non-copers with respect to the coping behaviors that they employ. The practice implications of these differences are addressed in Chapter 7.

Family Members' Coping Appeared to Influence Children's Coping Behaviors

As Tables 2 and 3 display, the coping efforts of children with pediatric migraines tended to mirror the coping efforts of their family members in regard to types and patterns of usage. For example, non-copers and their family members reported few cognitive-coping behaviors. Such a finding suggests that children--both copers and non-copers--may be subject to the influences of social modeling; observations of how family members coped with headaches and other types of stress served as powerful social models for the children.

The reciprocal relationships between children and their family members also is easily identified by examining Tables 2 and 3. For example, the need for their parents to control and to overcompensate is complemented by the non-copers' passivity and dependency. Furthermore, when non-copers expressed pain behaviors, e.g., Doris' crying and whining, the contingent sympathy, concern, and companionship that they received from family members reinforced and maintained the behavior. Other behaviors, such as Doris' making a headache calendar, were not reinforced by family members and thus extinguished. In summary, both children and their family members reinforced each other's behaviors, whether adaptive or maladaptive, by punishing or rewarding them.

Copers and Their Family Members Developed a Wide Repertoire of Coping Efforts

One of the unexpected findings was that the copers and their family members, in contrast to the non-copers and their family members, had a greater coping repertoire. The copers not only depended on all three broad categories of coping, affective, cognitive, and problem-focused, but also used a greater variety of coping subtypes within each of the major categories.

Affective Coping

Both copers and their parents sought social support from other family members, friends, and teachers by telling them about the migraine disorder in an effort to foster understanding, acceptance, and reassurance. For example, copers were particularly concerned that they would lose social support because their friends might inadvertently feel rejected when copers abruptly cancelled activities. Three copers felt that it was therefore necessary to explain the unpredictability, severity, and duration of migraine headaches to their friends.

In contrast to copers, the non-copers appeared more highly dependent on social support from family members, which they frequently solicited by whining, crying, and other pain-communicating behaviors. Two male non-copers were adamant about not seeking social support from their peers to avoid teasing. Their avoidance may have stemmed from beliefs that having headaches was inconsistent with their gender role. However, each of these non-copers also scored in the clinical range for behavior problems on the CBC, and there may have been other reasons, such as short stature or ADHD, for their avoidant behaviors.

Family members of the non-copers had few yet extreme affective coping behaviors. Two mothers ceased employment either temporarily or permanently to avoid stressing their children or themselves by being absent from home when the children had migraines. Another mother, Mrs. Threadgood, ventilated her anger through primitive behaviors such as "screamin' and hittin' the walls and throwin' stuff and kickin' things" when stressed by her son's headaches. It is noteworthy the non-coping mothers did not rely on others for social support, perhaps because of the basic mistrust characterized their own childhood traumas.

Cognitive Coping

Each of the copers utilized between two and five subtypes of cognitive coping.

All of the copers had developed some form of thought-stopping, which is the technique of blocking out unwanted thoughts, e.g., headache pains, and then substituting beneficial thoughts for the undesirable ones. For a simple example, Jeffrey recalled thinking about, "What I'm going to do the next day and things like that." Several children combined thought-stopping with distraction, another common method for alleviating pain. Tim described his method of distraction, "Usually, I don't try to think, I go ahead and do something...I like woodworking and doing something with my hands. If I'm doing something with my hands, that gets my mind off my headache." According to McGrath (1990), when a child's attention is actively focused on something other than his or her pain, the child's concentration may actually trigger an internal pain-suppressing system that blocks pain.

Interestingly, of the three children--one coper and two non-copers--who utilized motor rather than mental distractions, one was diagnosed with ADHD, another had a specific learning disability, and the third described himself as "hyper." The reseacher speculated that physical activities in distraction coping may be especially beneficial to children who have difficulty attending, for their motor involvement required increased attention and therefore actually helped to reduce headache pain.

The copers also used a variety of other cognitive approaches. As noted earlier, Tim also used biofeedback. Two children relied on spiritual coping, and one child had found a positive role model with headaches. Most significantly, all of the copers stated or implied their acceptance of the inevitablity of occasional migraine headaches; in other words, they used resignation coping.

Like the copers, all of their family members used multiple types of cognitive coping. Two parents consciously used themselves as role models in the management of headache pain, and two families relied on perspective coping to reframe their views on the severity of the headache disorder. Although not obvious in the data displays, three of the four copers' families also used humor extensively in dealing with adversity.

In stark contrast to non-coping families, <u>all</u> coping family members used some type of resignation coping, which meant that they accepted the inevitability of the headaches and acknowledged their limitations to control them. Sometimes resignation coping was imbedded in spiritual coping, as when a parent decided that "the rest was up to God" and relinquished ultimate control of the headaches to a Supreme Being. The researcher continues to be intrigued as to how and why copers and their families detached themselves from the issue of headache control. Perhaps the summation of coping efforts that resulted in failure to eliminate the headaches served to break through the defense mechanism of denial and helped individuals to accept reality. Reality could be characterised as acceptance of the headaches, acceptance of one's limitations, or a combination of both. On the other hand, perhaps copers protected their egos by rationalizing that it was unnecessary for them to be in control due to the availability of a higher power or decreased need for control.

One of the four non-copers used <u>no</u> cognitive coping strategies, and another coped by focusing on his pain, a response that generally intensifies the pain experience. Importantly, two of the non-copers were highly dependent upon others, especially their mothers, when they used distraction, as the following dialogue indicated:

> Juan: I ask my mom if she can get me something to do, and I do that, and I usually forget about it [the headache]. But, if she doesn't have anything for me to do, I try and try and try to forget about it, but I can't.
>
> CG: Does, um, do you ever find your own things to do, or does your mother always have to find something for you to do.
>
> Juan: No, she <u>always</u> has something for me to do.

Robert also was highly dependent upon his mother for distraction, and insisted that he "<u>can't</u> teach myself [to relax]. Usually when I have 'em [headaches], my mom comes in and lays with me and talks to me and gets my mind off of it."

Two of four non-copers mothers mentioned no cognitive coping skills, and Mrs. Smith mentioned only a non-specific thought-stopping effort, "trying to forget about it."

Using resignation coping, Mrs. Braun stated, "I don't think I can ever do enough, but I do the best I can, and I just have to come to terms with myself that is the <u>best</u> and that is <u>all</u> I can do...You've got to determine where you'll draw the line." <u>No</u> other non-coping families used resignation coping, and in fact Mrs. Threadgood was fueled by its opposite, "I'll never surrender" coping. Knowing these mothers' histories, the researcher speculated that the inability of non-copers' parents to discontinue their efforts was a metaphor for their difficulties with separation. Most likely to give up trying to cure the headaches would have resulted in the reduction of the intense affective involvement that these mothers had with their children.

Problem-Focused Coping

Both copers and non-copers identified a wide array of problem-focused coping, especially active coping. The differences among types of problem-focused coping were felt by the researcher to be qualitative rather than quantitative.

The copers used all four types of problem-focused coping. When they used active-coping to terminate or to ward off a migraine headache, they utilized a variety of mechanisms such as taking medications and trying to sleep. Three of the copers consciously worked at differentiating among headache types so that appropriate treatments could be initiated and underscored the importance of learning to identify headaches by type. Identifying his migraine precursors, for example, Kevin clarified, "It's [migraine] usually on this side of my head (rubs left side), and most of my regular headaches are all over my head."

Copers utilized an average of two prevention coping efforts such as taking prophylactic medications, keeping detailed headache charts, and/or identifying and avoiding known headache stimulants such as bright sun, loud noises, chocolate, preservatives, and artifical sweeteners.

Anticipatory coping was evidenced by all but the youngest coper, whose age made self-administration of medications, the most common form of anticipatory coping, contraindicated. All older copers insisted upon having control over their headache medication. They also planned for headache emergencies by having medications readily available at school or camp and carrying necessary phone numbers, ice packs, or sick bags with them.

The copers also used extender coping, e.g., would you get my ice pack, which in all cases was requested in an assertive, directive manner.

The family members of copers used a variety of types of problem-solving coping. As displayed in Table 3, each of the families utilized active-coping measures, prevention coping, and anticipatory coping. _All_ copers were encouraged by their family members to particpate when at all possible in school, family, athletics, and social events. Responsibilities such as chores or homework were rescheduled.

Like the copers, the non-copers used many types of active-coping strategies. However, for two non-copers their efforts were disorganized, e.g., they were non-compliant with medication schedules. These same two children tried a variety of coping strategies that, although difficult for the researcher to describe, were presented as randomly selected and loosely linked to purpose.

The non-copers used prevention coping rarely and without apparent conviction. Juan avoided physical activity which, as noted above, also may have shielded him from stressful peer relationships. Robert occasionally wore a hat in the sun, and Doris reported no attempts to avoid headaches.

None of the non-copers reported anticipatory coping.

Like the family members of copers, non-copers' parents utilized a variety of problem-focused activities, the majority of which were active coping.

Three of the four non-copers' family members used two prevention coping strategies. However, the researcher felt that sometimes these strategies were under-developed. For example, Mrs. Threadgood mentioned trying to teach Robert "to catch it early," but she was unable to operationalize her command. Two non-copers' school and extra-curricular activities were restricted by family members in an effort to prevent headaches. Only one parent mentioned a type of anticipatory coping, which was informing the child's teacher about pediatric migraine.

Copers and Their Family Members Frequently Resorted to Cognitive and Prevention Coping

There were major differences in the prioritization of coping strategies among copers, non-copers, and their respective family members. Using the frequency with which items were mentioned, the researcher found that copers and their family members used cognitive and prevention coping more often than did the non-copers' group. Furthermore, there was a qualitative difference in the the type of active coping utilized.

Whereas non-copers and their family members used cognitive coping relatively infrequently, the copers and their families drew frequently and heavily from a variety of cognitive coping strategies to decrease the stress associated with pediatric migraine. Through spiritual and perspective coping, these informants reduced the threatening aspects of pediatric migraine by perceiving the headaches as more benign, normal, and tolerable events than originally perceived. The children attempted a range of cognitive-behavioral techniques to avoid pediatric migraines or to reduce physiologically their quality and intensity. As noted earlier, an important difference was that all of the copers and their family members expressed use of resignation coping. They accepted the inevitability of pediatric migraine occurences and their limited ability to prevent them. In stark contrast, non-copers and their family members did not mention resignation coping, and, in fact, some refused to discontinue their unending search for a cause or a cure for the headaches.

Prevention coping, as also noted earlier, was used much more frequently and extensively by copers and their family members than by the non-copers and their family members.

The copers expressed genuine investment in minimizing the disruptive impacts of pediatric migraines on their lives. The researcher wondered if the copers' commitment to prevention was, in effect, a confirmation of the diagnosis of pediatric migraine. As stated earlier, pain is a subjective experience. Although the non-copers tended to rank the severity of their migraine pains higher than did the copers, the copers' descriptions of headache symptomatology that were shared with the researcher seemed to be the more painful and incapacitating. Of course, this was the researcher's own subjective impression. Nonetheless, the copers were universally adamant about the severity of migraine symptoms, their inability to function with a migraine, and their unwavering efforts to avert them. At least two of the non-copers, on the other hand, functioned half-heartedly with a pediatric migraine and resisted taking medications.

Another reason why copers and their family members used prevention coping frequently may have to do with self-efficacy. Self-efficacy is one's perception of how well he or she can function in a given situation. Perhaps there is an association between the cognitive and prevention coping strategies of the copers and their families, for if they cognitively alter their perceptions and identify achievable outcomes, they can feel successful and reinforced by their coping efforts when their expectations are met. Thus, they will continue to utilize prevention coping.

There also were significant trends in the priority ascribed to types of problem-focused coping. The copers most frequently mentioned taking medication and going to sleep as essential ways of coping with pediatric migraine. In contrast, non-copers, with the exception of Juan, rarely mentioned pharmacologic treatment.

Initially, it was difficult to discern differences between properties of the active coping of the two groups, copers and non-copers, in regard to sleep. Repeated examinations of the coping actions, however, did reveal a significant difference. Using the number of types of problem-focused coping listed in Table 2, the researcher found that approximately 48% of the types of copers' efforts were intended to facilitate sleep. The copers mentioned going to bed, putting cold cloths on their heads, being quiet, staying in the dark, asking to be left alone, and remaining quiet in order to decrease acute pain, to relax, and eventually to sleep.

Importantly, the copers and their family members emphasized the benefits of the copers being <u>left alone</u> when they had a migraine headache. Not only did the copers generally wish to be left alone so that they could sleep, but some were <u>angered</u> by inquiries about their conditions. It appeared that the well-intentioned solicitations of parents and others disrupted the copers' attempts to use cognitive-behavioral strategies such as thought-stopping by re-focusing the child's thoughts on the headache pain.

In contrast to the copers, only 16% of the non-copers' activities attempted to enhance sleep. Instead, these children engaged in such activities as sitting up, walking around, or placing their heads on cooling vents. Robert even went on a nocturnal car ride to cure a disorder that, ironically, can be precipitated by motion sickness. To the researcher these activities sounded like half-hearted, aimless attempts to obtain relief. Yet, these coping efforts, which most likely were at best minimally effective in reducing migraine headache pain, did permit the children to cope in the presence of others and to continue their connectedness with them.

This contrast raises an interesting puzzlement, for migraine headaches are rather medically unique in that they tend to be relieved by sleep. Yet, if one envisions coping to be on a continuum anchored by dependence and independence respectively, one can see the the migraine headaches could be used by children either to pull family members closer or to push them farther away. If the non-copers' avoided situations of being alone in a dark, quiet room in order to sleep, one might conclude either that the headaches themselves are not severly migrainous or that children's needs for attachment to family members are greater than their needs for somatic relief. This distinction is important diagnostically, for the appropriate type of intervention is dependent upon accurate problem definition.

Copers and Their Family Members Stressed Autonomy of Children

Copers were encouraged and supported by family members to be responsible for the management of their headaches. The children were actively engaged in medication management and problem solving, e.g., identifying stimuli that precipitated migraine onset. The copers were permitted to enjoy or to suffer the consequences of their decisions, e.g., to partake of a forbidden food or activity, and presumably to learn from the law of natural consequences.

The non-copers, on the other hand, frequently relied on extender coping that was provided by family members. The non-copers appeared passively involved in the management of their headaches, and several of them claimed to be unable to cope independently. Furthermore, there was an expressed attitude among the non-copers' family members such as Mrs. Threadgood of doing "to" rather than "for" the patient. In Robert's situation, it appeared that Mrs. Threadgood was so enmeshed with him that she was unable to recognize his efforts to cope or to hear his views about what seemed efficacious to him; her responses seemed to arise from her own needs.

There appeared to be diffuse boundaries between the non-copers and their family members, specifically their mothers. For various reasons suggested in the vignettes, these mothers tended to view the identified child as a "life line" and to be extremely controlling in regard to them.

Furthermore, several of these mothers appeared to use their children's pediatric migraines as "somatic complaints by proxy." For example, the researcher suspected that Mrs. Smith primarily took a leave of absence in order to avoid her stressful job and to cope with her own medical problems rather than to stay at home with Doris; these diagnostic hunches were later confirmed by the mother.

Copers and Their Family Members Appraised the Child as Healthy and Competent

Although they suffered from pediatric migraine and had experienced other significant medical events, both the copers and their family members perceived their children as healthy. Furthermore, they believed that their offspring were competent to manage the migraine disorder even though the headaches were painful and disruptive.

On the other hand, the non-copers were repeatedly described as pitiful, victimized children who often were unable to cope with their headaches. Often the family members themselves also felt helpless to cope with the migraines; the overall mood was one of vulnerability.

Summary of Findings

Analysis of data identifies differences between copers and non-copers in their coping thoughts and behaviors. Copers and their family members tended to have a wide range of coping efforts that utilized affective, cognitive, and problem-solving abilities. Furthermore, within each of these conceptual categories, copers used two or more of the sub-types, which have been defined earlier. Copers also used cognitive, anticipatory, and prevention strategies more than did non-copers. Specifically, all of the copers and their family members stated or implied use of resignation coping. Copers and their family members appraised the children as healthy and competent whereas non-copers were perceived as unfortunate and vulnerable. Lastly, copers exercised more autonomy in coping with their headaches.

CHAPTER 7: IMPLICATIONS FOR PRACTICE

The findings of this ethnographic investigation of how children with pediatric migraine and their family members cope with this painful disorder have numerous practice implications for social workers. Although the study population was limited to children with a headache disorder, it is believed that many of the findings will generalize to other forms of recurrent pain.

This study reveals the important roles of family members in a child's ability to cope with pediatric migraine. To a clinician, this finding underscores the importance of evaluating the family context--not just the child and mother--when evaluating the coping behaviors of a child with migraines. Although a family assessment is almost always important, it is crucial when a child complains of frequent migraines, e.g., more than 1 or 2 per month, and/or significant disturbances in areas of social competence such as family relationships, school attendance, and peer interactions. Unfortunately, professional assessment of a child's coping routinely occurs in the health care provider's office with only the child and mother present. This restrictive situation rarely permits the clinician to get an accurate impression of the overall atmosphere of the home, the structure of the family as an organization, the degree of separation-individuation, and the roles of parents, siblings, and significant others. An interview with one child and one family member prohibits direct observation of influential communication patterns and dynamic interchanges within the family unit. Furthermore, limited access to sources tempts the clinician to make judgments based on material gained from only a few of the involved family members.

Assessment and treatment of the child's coping behaviors within the family context also are crucial because family members both reward and punish the child's pain coping behaviors, whether they are adaptive or maladaptive. Their antecedents and consequences to the child's coping efforts both shape and maintain them. Conversely, the child's coping efforts impact on family members' psychological, social, and physiological functioning in a circular feedback loop.

As the case vignettes and research findings imply, the social worker also is warned not to attribute behavior problems, diminished school attendance, and social incompetencies too quickly to pediatric migraine. In these cases, which this researcher has scrutinized, other factors such as short stature and ADHD became known and implicated. Thus, it is quite possible that the thoughts and behaviors readily linked to coping with pediatric migraine may, in fact, be multifactorial.

Assuming that cognitive processes inform the child's and family members' responses to pediatric migraines, the social worker must assess to what degree clients' perceive the migraines as threats. In addition, the social worker must assess the clients' perceptions of available resources. These two assessments, primary and secondary appraisals respectively, are the basis for determining the levels of anxiety that the child and family members experience. In this study, copers were appraised by themselves and their family members as being healthy, competent, and normal. In contrast, when a child was perceived as vulnerable, family members believed that neither they nor the child could be protected from real or potential harm because none of them could garner sufficient resources to ward off threats. This sense of vulnerability is increased by cognitive processes that lead persons to underestimate positive aspects of personal resources, to overestimate their weaknesses, and to see the headaches as harbingers of grave events. Children are at risk of being identified as vulnerable when they have special meaning to the family members, e.g., the child is a survivor of a previous life-threatening illness or is led to feel inadequate because of the parent's projective identification.

To assess coping skills, it is first necessary for the clinician to develop a framework that enables him or her to assess systematically the strengths and limitations in the clients' coping repertoires. Using categories that emerged from these data and adapting from conceptualizations of others (Carver, Scheier, & Weintraub, 1989; Lazarus & Folkman, 1984; Pearlin & Schooler, 1978), the researcher presents such a framework. This framework identifies three broad areas of coping--affective, cognitive, and problem-solving--according to coping functions, and then it classifies coping thoughts and behaviors into discrete sub-types within these three areas. Sub-types of cognitive coping include (a) spiritual coping, (b) cognitive-behavioral coping, (c) perspective coping, (d) resignation coping, and (e) "I'll-never-surrender" coping. Sub-types of problem-focused coping are (a) active coping, (b) prevention coping, (c) anticipatory coping, and (d) extender coping. In assessing coping skills, the clinician can use this framework of coping to identify treatment goals and objectives.

As the findings indicate, a broad repertoire of coping behaviors is vital to successful coping. Therefore, the social worker should determine whether the clients utilize each of the broad areas of affective, cognitive, and problem-solving coping. Furthermore, clients are more likely to cope successfully if they utilize two or more of the sub-types of coping.

The social worker should be especially cognizant of the clients' use of cognitive, prevention, and anticipatory coping, for in this study these types of coping are associated with successful copers. If these types of coping are not in the clients' repertoires, the social worker should assess reasons, e.g, dependency or vulnerability, for their absence and, when appropriate, facilitate their development.

The use of cognitive-behavioral interventions, which modify feelings and behaviors by changing patterns of thinking, are likely to be a very effective treatment approaches for children with pediatric migraine. Because cognitive-behavioral treatment usually is brief, problem specific, and based upon a collaborative relationship between the social worker and client, it is especially compatible with the consumer-oriented, financially prudent, and results-driven culture that currently dominates health care. Furthermore, cognitive-behavioral interventions are highly compatible with the education and prevention goals that are likely to flow from the health care reforms of President Clinton's administration.

Lastly, this research demonstrates the usefulness of using qualitative methods to inform clinical practice. A vast amount of expert knowledge was gained from these eight in-depth case studies that in all probability would have been inaccessible through other methodological approaches. For example, how could the wisdom of the illiterate Mr. Threadgood been captured by a survey instrument? Important nuances of the social context could not have been identified with the use of questionnaires. A researcher would not have the opportunity to clarify or to probe important issues, especially those that are signalled by non-verbal communications, in highly structured interviews.

Implications for Future Research

Although this exploratory research does identify some coping behaviors of children with pediatric migraine, there are still many unanswered questions. The Child Behavior Checklist and school absenteeism were imperfect measures of coping competence. The definition of "successful coping" remains elusive, and ways to measure it continue to be challenging. It is also important to refine discrete categories of coping by doing research with large samples and different populations; the researcher continues to face difficulty in categorizing types of affective coping. How does one quantify the subjective impressions that non-copers are passive, half-hearted, and aimless in many of their efforts. The multiple functions of religion and spirituality also defy easy assignment to either affective, cognitive, or problem-solving coping. Lastly, in the case of pediatric migraine, there is a desire to associate coping efforts with physiological, psychological, and social consequences.

In addition to assessment, however, strategies of intervention for these children and their family members must be designed and evaluated. Helping clients to develop self-awareness regarding their thought processes and then to utilize techniques of cognitive restructuring is presumed to be an effective approach. It would be especially beneficial to develop family models of intervention.

The findings of this research project suggest that there may be an association between pediatric migraine and learning disabilities. It would be very useful to children, family members, school personnel, and health care professionals to answer this question. For example, the researcher wonders if the extra mental effort required of a child with learning disabilities can sometimes precipitate a migraine headache. On the other hand, if a child with learning disabilities complains of a headache, is the complaint interpreted as resistance to academic work rather than a legitimate medical problem? If there is an unrecognized association between learning disabilities and pediatric migraine, are these children being undertreated pharmacologically?

This study also reinforced the researcher's opinion that for too long social workers have largely ignored the importance of religion and spirituality in practice, research, and professional education. Given the importance of spirituality in the lives of many clients, particularly those who face health problems, the use of prayer and spiritual beliefs as coping efforts needs further study by social workers.

In summary, this exploratory study has identified ways in which children with pediatric migraine and their family members cope with this disorder. This investigation also has identified areas for future study that presumably will benefit children and their families.

CASE	AGE	GENDER	CBCL SCORE	SCHOOL ABSENCE DUE TO MIGRAINE	AGE ONSET	MIGRAINE PATTERN	MIGRAINE FREQUENCY	MIGRAINE DURATION	MIGRAINE SEVERITY ON TEN-POINT SCALE	MIGRAINE SYMPTOMS	FAMILY CURRENT COMPOSITION
NON - COPERS											
Doris Smith	9	F	Clinical Range by mother	30+	8	Early Morning, Evening	5 x/week	"Days"	8-10	Nausea; headache; pain with steady pressure	Mother: 30 Brother: 12 Live-in boyfriend: 27
Juan Sanchez	11	M	Clinical Range by mother and father	0	6	After School, Early Morning	3 x/week during school months	1-2 hours	10	Hammering on right frontal areas	Mother: 35 Father: 34 Sister: 9
Robert Threadgood	12	M	Clinical Range by mother	30+	3	Late afternoon, Evening, Occasional morning	1-2 x/week	4-18 hours	9	Steady, burst of headache pain on right; vomiting; nausea; dizziness; difficulty walking; weakness	Mother: 32 Stepfather: 45
Jason Braun	9	M	Clinical Range by mother Non-clinical Range by step-father	10	6	Afternoon	1 x/month	2-3 days	10	Unilated steady throbbing tight pain; nausea; vomiting; light sensitivity; abdominal pain; visual problems with focusing	Mother: 39 Stepfather: 40
COPERS											
Jeffrey Graham	6	M	Non-clinical Range by mother	0	4	3-5 P.M.	1-2 x/month	3-4 hours	10	Sharp pain on right; vomiting; light sensitivity	Mother: 28 Brother: 1
Kevin Nordstrom	12	M	Non-clinical Range by mother and father	6	10	4-6 A.M.	1-3 x/month	6-10 hours	7	Sharp pain; nausea; vomiting; visual problems of seeing "stars"	Mother: 38 Father: 38 Sister: 9
Ellen Fitzgerald	11	F	Non-clinical Range by mother	0	8	2-4 P.M.	1 x/week	6-7 hours	8	Throbbing intense eye pain; nausea; vomiting, paleness; light sensitivity	Mother: 45 Father: 44 Brother: 21 -- (attending college)
Timothy Brigham	12	M	Non-clinical Range by mother and father	0	10	2-4 P.M.	2-3 x/month	5-6 hours	7-9	Unilateral aching; pressure; head pain; "drained of energy"; light sensitivity	Mother: 48 Father: 44 Sister: 18

Table 1: Summary of migraine characteristics and psychosocial data of eight informants.

AGE NSET	MIGRAINE PATTERN	MIGRAINE FREQUENCY	MIGRAINE DURATION	MIGRAINE SEVERITY ON TEN-POINT SCALE	MIGRAINE SYMPTOMS	FAMILY CURRENT COMPOSITION	HIGHEST PARENT LEVELS OF EDUCATION	PARENTS' OCCUPATION	RELEVANT PATIENT INFORMATION
NON - COPERS									
8	Early Morning, Evening	5 x/week	"Days"	8-10	Nausea; headache; pain with steady pressure	Mother: 30 Brother: 12 Live-in boyfriend: 27	Mother: Attended one year of college Boyfriend: Completed 11th grade	Mother: Full-time secretary, Part-time cashier Boyfriend: House painter	
6	After School, Early Morning	3 x/week during school months	1-2 hours	10	Hammering on right frontal areas	Mother: 35 Father: 34 Sister: 9	Mother: Attended three years of college Father: Attended three years of college	Mother: Cashier Father: Computer programmer, U.S. Army	Height < 5th percentile
3	Late afternoon, Evening, Occasional morning	1-2 x/week	4-18 hours	9	Steady, burst of headache pain on right; vomiting; nausea; dizziness; difficulty walking; weakness	Mother: 32 Stepfather: 45	Mother: Attended two years of college Stepfather: Completed 8th grade	Mother: Textile mill weaver Stepfather: Textile mill weaver	
6	Afternoon	1 x/month	2-3 days	10	Unilated steady throbbing tight pain; nausea; vomiting; light sensitivity; abdominal pain; visual problems with focusing	Mother: 39 Stepfather: 40	Mother: Completed high school Stepfather: Completed high school	Mother: Office Manager Stepfather: Surveyor	Attention Deficit Hyperactivity Disorder
COPERS									
4	3-5 P.M.	1-2 x/month	3-4 hours	10	Sharp pain on right; vomiting; light sensitivity	Mother: 28 Brother: 1	Mother: Attended two years of college	Mother: Personnel/ Payroll Manager	
10	4-6 A.M.	1-3 x/month	6-10 hours	7	Sharp pain; nausea; vomiting; visual problems of seeing "stars"	Mother: 38 Father: 38 Sister: 9	Mother: Completed undergraduate degree Father: Completed doctoral degree	Mother: Teacher Father: School Administrator	
8	2-4 P.M.	1 x/week	6-7 hours	8	Throbbing intense eye pain; nausea; vomiting, paleness; light sensitivity	Mother: 45 Father: 44 Brother: 21 -- (attending college)	Mother: Completed undergraduate degree Father: Completed medical degree	Mother: Teacher's aid Father: Physician	
10	2-4 P.M.	2-3 x/month	5-6 hours	7-9	Unilateral aching; pressure; head pain; "drained of energy"; light sensitivity	Mother: 48 Father: 44 Sister: 18	Mother: Attended two years of college Father: Completed undergraduate degree	Mother: Secretary & bookkeeper Father: Real estate manager	Specific Learning Disability

psychosocial data of eight informants.

	Emotion-Focused Coping		Problem-Focused Coping	Consequences of Emotion-Focused Coping	
Patient Names	Affective Coping	Cognitive Coping		Affective Coping	Cognitive C
			NON - COPERS		
Doris Smith	Cried because it hurt so bad Cried even though I did not always need to "cry, cry" Sought mother at night Slept with dolls and stuffed animals		Always told mother (5) Laid down (3) Fixed an ice pack (2) Sat/put head on air conditioning vent (2) Told teacher Obeyed teacher's command to wipe face with wet towel Put head on school desk Was quiet Helped myself to the floor (to avoid falling) Made a headache chart		
Juan Sanchez	Moaned and groaned Viewed mother as only person who comforted because she knew what it felt like Avoided telling friends of headache to avoid teasing	Tried to ignore or forget about headache (4) Listened to relaxation tapes Hoped pain would go away Went to play in order to avoid attending to headache	Took medications (6) Tylenol (4)/Inderal (2) Always asked mother to get him something to do (2) Laid down Avoided being physically active	Felt better after moaning and groaning	Relieved of headach xation tape resulte Inconsistently reliev headache from pla Relieved of headach ignored it
Robert Threadgood		Took a shower (2) Identified certain types of (white noise) sounds e.g., rain, hair blower, wind machines, washing machine (2) Thought of how headache hurts Listened to mother talk to get my mind off headache	Avoided telling others he was beginning to get a headache (5) Stayed in darkened room, usually not by choice (4) Took medication Tylenol/Alka Seltzer (3) Drank something -- milk (3) Showered (2) Occasionally wore hat for sun protection (2) Sought folk remedies from other headache sufferers Put hot wash rag on forehead Ate something Vomited by self-induction Watched TV in order to distract Sat up Walked around		Terminated headach e.g., walked aroun
Jason Braun	Avoided telling friends because they would laugh at me	Engaged in activities to avoid thinking about headache, e.g., rode bike, played ball, shot marbles, hiked, play Nintendo (6) Focused on knee pain to avoid thinking about headache Tried not to think about it	Took medications Told my mother Wrote my telephone number on my hand Went to bed Made room dark Slept Wore a baseball cap in the sun		Sometimes avoided h engaged in distracti

Table 2: Patient's Self-Statements About Their Ways of Coping with Migraine Headaches

ing	Problem-Focused Coping	Consequences of Emotion-Focused Coping		Consequences of Problem-Focused Coping
Cognitive Coping		Affective Coping	Cognitive Coping	
	NON - COPERS			
	Always told mother (5) Laid down (3) Fixed an ice pack (2) Sat/put head on air conditioning vent (2) Told teacher Obeyed teacher's command to wipe face with wet towel Put head on school desk Was quiet Helped myself to the floor (to avoid falling) Made a headache chart			Accused by mother of not informing her of headaches Disregarded headache chart because mother forgot to record on it
o ignore or forget about ache (4) ed to relaxation tapes pain would go away o play in order to avoid ding to headache	Took medications (6) Tylenol (4)/Inderal (2) Always asked mother to get him something to do (2) Laid down Avoided being physically active	Felt better after moaning and groaning	Relieved of headache when relaxation tape resulted in sleep (3) Inconsistently relieved of headache from play (2) Relieved of headache when ignored it	Sometimes relieved of headaches from taking medications (4) episodically relieved by Tylenol (1) decreased frequency from Inderal (3) Failed to ignore headache if mother unable to provide something to do
shower (2) ied certain types of (white) sounds e.g., rain, hair er, wind machines, washing ine (2) ht of how headache hurts ed to mother talk to get my off headache	Avoided telling others he was beginning to get a headache (5) Stayed in darkened room, usually not by choice (4) Took medication Tylenol/Alka Seltzer (3) Drank something -- milk (3) Showered (2) Occasionally wore hat for sun protection (2) Sought folk remedies from other headache sufferers Put hot wash rag on forehead Ate something Vomited by self-induction Watched TV in order to distract Sat up Walked around		Terminated headache if active, e.g., walked around, sat up (2)	Sent to bed if admits to headache Stressed by not telling parents of headache Made mother more attentive by not telling of headache Felt better to drink something Felt better to vomit Messed up hair to wear hat Failed to be distracted by TV viewing Felt calmed by taking shower Felt relaxed by (white noise) sounds, e.g., rain, hair dryer
ed in activities to avoid ing about headache, e.g., bike, played ball, shot les, hiked, play Nintendo ed on knee pain to avoid ing about headache not to think about it	Took medications Told my mother Wrote my telephone number on my hand Went to bed Made room dark Slept Wore a baseball cap in the sun		Sometimes avoided headache if engaged in distracting activity	Relieved of headache with sleep (2) Taken from school by mother after teacher called Helped by medication Dialed telephone number when unable to think secondary to headache

ays of Coping with Migraine Headaches

	Emotion-Focused Coping		Problem-Focused Coping	Consequences of Emotion-Focused Coping	
Patient Names	Affective Coping	Cognitive Coping		Affective Coping	Cognitive C
			NON - COPERS		
Doris Smith	Cried because it hurt so bad Cried even though I did not always need to "cry, cry" Sought mother at night Slept with dolls and stuffed animals		Always told mother (5) Laid down (3) Fixed an ice pack (2) Sat/put head on air conditioning vent (2) Told teacher Obeyed teacher's command to wipe face with wet towel Put head on school desk Was quiet Helped myself to the floor (to avoid falling) Made a headache chart		
Juan Sanchez	Moaned and groaned Viewed mother as only person who comforted because she knew what it felt like Avoided telling friends of headache to avoid teasing	Tried to ignore or forget about headache (4) Listened to relaxation tapes Hoped pain would go away Went to play in order to avoid attending to headache	Took medications (6) Tylenol (4)/Inderal (2) Always asked mother to get him something to do (2) Laid down Avoided being physically active	Felt better after moaning and groaning	Relieved of headac xation tape result Inconsistently relie headache from pl Relieved of headac ignored it
Robert Threadgood		Took a shower (2) Identified certain types of (white noise) sounds e.g., rain, hair blower, wind machines, washing machine (2) Thought of how headache hurts Listened to mother talk to get my mind off headache	Avoided telling others he was beginning to get a headache (5) Stayed in darkened room, usually not by choice (4) Took medication Tylenol/Alka Seltzer (3) Drank something – milk (3) Showered (2) Occasionally wore hat for sun protection (2) Sought folk remedies from other headache sufferers Put hot wash rag on forehead Ate something Vomited by self-induction Watched TV in order to distract Sat up Walked around		Terminated headac e.g., walked aroun
Jason Braun	Avoided telling friends because they would laugh at me	Engaged in activities to avoid thinking about headache, e.g., rode bike, played ball, shot marbles, hiked, play Nintendo (6) Focused on knee pain to avoid thinking about headache Tried not to think about it	Took medications Told my mother Wrote my telephone number on my hand Went to bed Made room dark Slept Wore a baseball cap in the sun		Sometimes avoided engaged in distrac

Table 2: Continued

g	Problem-Focused Coping	Consequences of Emotion-Focused Coping		Consequences of Problem-Focused Coping
gnitive Coping		Affective Coping	Cognitive Coping	
NON - COPERS				
	Always told mother (5) Laid down (3) Fixed an ice pack (2) Sat/put head on air conditioning vent (2) Told teacher Obeyed teacher's command to wipe face with wet towel Put head on school desk Was quiet Helped myself to the floor (to avoid falling) Made a headache chart			Accused by mother of not informing her of headaches Disregarded headache chart because mother forgot to record on it
gnore or forget about e (4) to relaxation tapes ain would go away play in order to avoid g to headache	Took medications (6) Tylenol (4)/Inderal (2) Always asked mother to get him something to do (2) Laid down Avoided being physically active	Felt better after moaning and groaning	Relieved of headache when relaxation tape resulted in sleep (3) Inconsistently relieved of headache from play (2) Relieved of headache when ignored it	Sometimes relieved of headaches from taking medications (4) episodically relieved by Tylenol (1) decreased frequency from Inderal (3) Failed to ignore headache if mother unable to provide something to do
ower (2) l certain types of (white ounds e.g., rain, hair wind machines, washing e (2) of how headache hurts to mother talk to get my f headache	Avoided telling others he was beginning to get a headache (5) Stayed in darkened room, usually not by choice (4) Took medication Tylenol/Alka Seltzer (3) Drank something – milk (3) Showered (2) Occasionally wore hat for sun protection (2) Sought folk remedies from other headache sufferers Put hot wash rag on forehead Ate something Vomited by self-induction Watched TV in order to distract Sat up Walked around		Terminated headache if active, e.g., walked around, sat up (2)	Sent to bed if admits to headache Stressed by not telling parents of headache Made mother more attentive by not telling of headache Felt better to drink something Felt better to vomit Messed up hair to wear hat Failed to be distracted by TV viewing Felt calmed by taking shower Felt relaxed by (white noise) sounds, e.g., rain, hair dryer
in activities to avoid g about headache, e.g., e, played ball, shot , hiked, play Nintendo on knee pain to avoid g about headache to think about it	Took medications Told my mother Wrote my telephone number on my hand Went to bed Made room dark Slept Wore a baseball cap in the sun		Sometimes avoided headache if engaged in distracting activity	Relieved of headache with sleep (2) Taken from school by mother after teacher called Helped by medication Dialed telephone number when unable to think secondary to headache

Family Members	Emotion-Focused Coping		Problem-Focused Coping	Consequences of Emotion-Focused Coping	
	Affective Coping	Cognitive Coping		Affective Coping	Cognitive Cop
NON - COPERS' FAMILY MEMBERS					
Ms. Smith	Took a leave of absence from work because felt child wanted mother to be at home before and after school	Tried to forget about it Doris' headache disorder	Contacted physician, e.g., telephoned went to clinic, or emergency room (3) Sought medical information, e.g., looked up medications (3) Got time-released pills because I forgot to give medication Asked patient if she wanted aspirin Put ice in water bottle Gave suppositories Looked at migraine diet Told the teacher about patient's migraines Tried to entertain patient, e.g., rocked her, rubbed forehead		
Ms. Smith's Boyfriend			Asked her if she wanted anything Told her to get on couch		
Mrs. Sanchez	Went into psychotherapy (2)		Checked on patient, e.g., every ten minutes (2) Put cold water or wash clothes on patient's head (3) Told patient to write down Took patient into shower		
Mr. Sanchez		Focused my mind on work	Took to physician Were careful about taking medications, e.g., Inderal		
Sister Sanchez			Got mother		
Mrs. Threadgood	Got upset, e.g., "lost it", panicked, screamed, hit wall (5) Got angry, e.g., threw a chair at physician, refused to return to hospital, let teachers "have it" (4) Felt helpless	Refused to give up, e.g., will make it, we're willing to pay the price (3)	Tried others' remedies (4) Restricted physical activities, e.g., skating (4) Put hot rags on his forehead (3) Researched medication in PDR (3) Laid down with patient, e.g., talked to him, stayed up with him (3) Kept house quiet, e.g., caught the telephone, lowered television volume (3) Tried to teach him to catch it (3) Took to physician (2) Told or made patient shower (2) Used headache diet (2) "Rode" him around in the car at night (2) Made him drink coffee (2) Stayed home at night Avoided light Used vibrator on neck Complained to hospital administration Changed hospitals		

Table 3: Family Members' Self-Statements About Their Ways of Coping with Children's Migraine

oping	Problem-Focused Coping	Consequences of Emotion-Focused Coping		Consequences of Problem-Focused Coping
Cognitive Coping		Affective Coping	Cognitive Coping	
NON - COPERS' FAMILY MEMBERS				
to forget about it Doris' ache disorder	Contacted physician, e.g., telephoned went to clinic, or emergency room (3) Sought medical information, e.g., looked up medications (3) Got time-released pills because I forgot to give medication Asked patient if she wanted aspirin Put ice in water bottle Gave suppositories Looked at migraine diet Told the teacher about patient's migraines Tried to entertain patient, e.g., rocked her, rubbed forehead			Vomited after suppositories Relieved headache with sleep Worsened headache if held Refused mother's offer of aspirin Did not receive prescribed medication because contraindicated by reference book Received wrong medication from local physician Required by teacher to have physician authorize absences
	Asked her if she wanted anything Told her to get on couch			
	Checked on patient, e.g., every ten minutes (2) Put cold water or wash clothes on patient's head (3) Told patient to write down Took patient into shower			Was unable to make patient write down Was unable to tell if shower helped
sed my mind on work	Took to physician Were careful about taking medications, e.g., Inderal			Decreased frequency of headaches Said "ugh" (attention-getting behavior) when reminded to take pill
	Got mother			Attended to by mother, who got relaxation tape for patient, prepared bed
sed to give up, e.g., will e it, we're willing to pay the e (3)	Tried others' remedies (4) Restricted physical activities, e.g., skating (4) Put hot rags on his forehead (3) Researched medication in PDR (3) Laid down with patient, e.g., talked to him, stayed up with him (3) Kept house quiet, e.g., caught the telephone, lowered television volume (3) Tried to teach him to catch it (3) Took to physician (2) Told or made patient shower (2) Used headache diet (2) "Rode" him around in the car at night (2) Made him drink coffee (2) Stayed home at night Avoided light Used vibrator on neck Complained to hospital administration Changed hospitals			Got a headache after 2 weeks of no restrictions (2) Received medications, including those requested by mother Helped most of time when sent to bed "Killed" by vibrator Checked out of hospital by mother when unable to get medication

ir Ways of Coping with Children's Migraine

Mr. Threadgood	Sat in the room with him	Tried to talk him out of it (2)	Got his rags (2) Turned off his lights (2) Refused to call mother at work (2) Went "in and out" to check on him Refused to stay in his room when he cried Avoided taking chances by permitting activites Called mother at work	Did not help to sit in there	
Mrs. Braun	Sat with patient Tried to stay calm Quit job to avoid feeling guilty when absent to care for patient	Decided rest was up to God when I couldn't take anymore worry, helplessness (2) Told myself to let go of past experiences and not let them control me yet learn from them Came to terms with myself that I have done the <u>best</u> and <u>all</u> I can do (2) Determined where to "draw the line" Prayed	Picked up patient at school Gave medications Left him alone Identified academic performance situations as a stressor Avoided stimulus of loud music Quit job so he could be picked up from school or stay home when sick		
Mr. Braun	Sat with him, touched him until he fell asleep (2) Held or rocked patient	Served as role model, e.g., functioned on job and at home despite pain	Helped patient to get still Left him alone (3) Tried to establish a pattern, e.g., of stressful stimuli (2) Put a pillow over his head to increase darkness Turned off television Engaged in quiet activities		
			COPERS FAMILY MEMBERS		
Mrs. Graham	Felt helpless (2)	Told myself that everything happens for a reason, e g , God always took care of you, God wants life to be that way (3) Thought headache wouldn't be a bad one when I found drug store closed	Gave medication e g , Tylenol (7) Contacted physician, e g., asked question, scheduled brain scan (5) Gave a suppository (2) Called physician (2) Helped him to be still, e.g., talked to patient, held patient's hand (2) Provided regular meals and avoided snacks (2) Got a wash cloth (2) Asked maternal grandmother to help (2) Intervened with school, e.g., sent medication to teacher, informed teacher of headaches Went to store when forgot medication on vacation Made him lie down on couch/bed	Calmed patient when mother talked to him	

Table 3: Continued

alk him out of it (2)	Got his rags (2) Turned off his lights (2) Refused to call mother at work (2) Went "in and out" to check on him Refused to stay in his room when he cried Avoided taking chances by permitting activites Called mother at work	Did not help to sit in there		Calmed down and went to sleep when mother layed with him (3) Went to sleep if calmed and subsequently is relieved of headache (2) Calmed down and slept when I refused to go into his room (2) Got angry when I would not call mother Calmed by aspirin Done good with fewer restrictions on activities
rest was up to God when 't *take anymore worry,* ness (2) elf to let go of past ices and not let them me yet learn from them terms with myself that I ne the <u>best</u> and <u>all</u> I can ed where to "draw the	Picked up patient at school Gave medications Left him alone Identified academic performance situations as a stressor Avoided stimulus of loud music Quit job so he could be picked up from school or stay home when sick			Helped patient to be left alone, sleep Made appointment to have get additional academic testing
s role model, e.g., ed on job and at home pain	Helped patient to get still Left him alone (3) Tried to establish a pattern, e.g., of stressful stimuli (2) Put a pillow over his head to increase darkness Turned off television Engaged in quiet activities			Helped patient to get still, go to sleep, and get headache relief Failed to identify psychosocial stressors
COPERS FAMILY MEMBERS				
self that everything s for a reason, e g , God took care of you, God ife to be that way (3) headache wouldn't be a when I found drug store	Gave medication e g , Tylenol (7) Contacted physician, e g., asked question, scheduled brain scan (5) Gave a suppository (2) Called physician (2) Helped him to be still, e.g., talked to patient, held patient's hand (2) Provided regular meals and avoided snacks (2) Got a wash cloth (2) Asked maternal grandmother to help (2) Intervened with school, e.g., sent medication to teacher, informed teacher of headaches Went to store when forgot medication on vacation Made him lie down on couch/bed	Calmed patient when mother talked to him		Stopped throwing up with suppository, which often enabled patient to "ingest" medication (5) Vomited medication and thus was unable to get headache relief (4) Relieved headache w/medication (3) Vomited when forced to eat

Mrs. Nordstrom	Made self calm at times of stress Got organized to deal with stress	Used humor Told patient about mother's CAT scan (imagery)	Got patient into a dark room (5) Checked on patient from work, e.g., telephoned, visited on lunch hour (5) Got organized, e.g., used mental blackboard to make lists, dealt slowly and systematically (4) Systematically figured things out with patient, e.g., determined if headache symptoms were migranous, identified what made patient comfortable (3) Kept patient still (2) Helped patient to sleep (2) Gave him medication, e.g., aspirin Kept patient on regular sleep schedule Put cold cloth on forehead Gave patient something to eat Stayed home with patient Sent patient to school Went to physician Tried things		Decreas know headac with th
Dr. Nordstrom	Avoided getting overly sympathetic	Accepted fact that I cannot do anything about patient's headaches (3) Had a healthy, positive approach to his headache	Gained information about headaches, e.g., talking to social worker (2) Saw the <u>right</u> physician Removed patient from school when he was sick Questioned patient about symptoms Sent patient to school with headache prior to pre-diagnosis		Became from s headac Made p doubti Fostere patient
Sister Nordstrom			Left patient alone		
Mrs. Fitzgerald	Ventilated with friends Supported emotionally when husband at home	Accepted reality of the headache disorder, e.g., it was not a brain tumor (2) Encouraged patient to look for the positive Resigned myself to the fact that there is nothing to do but cope Had confidence in physician	Gave medications, e.g., Medrin & suppositories (2) Discussed with teacher to identify patterns (2) Kept a headache calendar Left patient alone when she was in bed Kept house quiet Carried Tupperware in car for vomiting Gave patient mouthwash Asked how patient felt	Felt positive about self	
Dr. Fitzgerald		Hoped patient would outgrow headaches Believed positive thinking might make migraines go away Told self others have worse things, e.g., cancer	Sought medical information e.g., about beta blockers (2) Administered medication Encouraged patient to go on and to deal with things when in pain Held patient's hair back when she vomited		

Table 3: Continued

out mother's CAT y)	*Got patient into a dark room* (5) Checked on patient from work, e.g., telephoned, visited on lunch hour (5) Got organized, e.g., used mental blackboard to make lists, dealt slowly and systematically (4) Systematically figured things out with patient, e.g., determined if headache symptoms were migranous, identified what *made patient comfortable* (3) Kept patient still (2) Helped patient to sleep (2) Gave him medication, e.g., aspirin Kept patient on regular sleep schedule Put cold cloth on forehead Gave patient something to eat Stayed home with patient Sent patient to school Went to physician Tried things		Decreased patient's anxiety to know that we knew what headaches are and how to deal with them	Became sick after taking aspirin Relieved headache best when patient slept Was diagnosed with migraine after visiting physician Became sick and was dismissed early after being sent to school with headache Vomited after eating Was helped by Inderal
that I cannot do out patient's 3) , positive approach che	Gained information about headaches, e.g., *talking to social worker* (2) Saw the right physician Removed patient from school when he was sick Questioned patient about symptoms Sent patient to school with headache prior to pre-diagnosis		Became sick and was dismissed from school when sent with a headache Made patient upset (angry) by *doubting his complaints* Fostered positive attitude in patient because of our attitude	Was helped by learning more about headaches, e.g., from social worker Quit suspecting patient of secondary pain
	Left patient alone			
lity of the headache g., it was not a brain patient to look for self to the fact that ing to do but cope nce *in physician*	Gave medications, e.g., Medrin & suppositories (2) Discussed with teacher to identify patterns (2) Kept a headache calendar Left patient alone when she was in bed Kept house quiet Carried Tupperware in car for vomiting *Gave patient mouthwash* Asked how patient felt	Felt positive about self		Vomited after taking oral medications (2) Irritated by need to respond to parents' questions Failed to identify a predictable headache pattern by keeping calendar Helped by Medrin
nt would outgrow itive thinking might ines go away ers have worse , cancer	Sought medical information e.g., about beta blockers (2) Administered medication Encouraged patient to go on and to deal with things when in pain Held patient's hair back when she vomited			

Mrs. Brigham	Avoided over-reacting Backed off when patient got aggravated Avoided worrying	Told myself to look at the bright side Told myself to take one day at a time, avoided worrying down the line (2) Told myself patient must learn to deal with headaches on his own, let him suffer consequences of his choices (2) Reminded myself that no matter how bad it is, somebody's got it worse Avoided worrying Told myself roll with it, do what you must	Kept a list of foods that he ate to identify causes (3) Fixed foods without preservatives (3) Picked at him to see if he had headache (2) Told him to take medicine at onset of headache (2) Took him to school late after morning migraine Let him deal with it		
Mr. Brigham	Focused on controlling my emotional reaction when I don't have control Believed that one can control attitudes even when one can't control actions	Believed God allows each situation, e.g., aneurysm and headaches, and they are equally severe Viewed headache as neither blessing nor adversity Was more aware of God in life	Kept a log on foods, frequency and duration of headaches (3) Stayed home (one adult) with him while others continued with planned activity Avoided talking to him Let him deal with headache Put him in a dark room Took to physician		

Table 3: Continued

self to look at the bright self to take one day at a /oided worrying down (2) self patient must learn to th headaches on his own, suffer consequences of ices (2) :d myself that no matter d it is, somebody's got it worrying self roll with it, do what st	Kept a list of foods that he ate to identify causes (3) Fixed foods without preservatives (3) Picked at him to see if he had headache (2) Told him to take medicine at onset of headache (2) Took him to school late after morning migraine Let him deal with it			Identified some headache triggers, e.g., Nutrasweet, hot dogs, by keeping food chart (2) Was told "I'll be all right" or "don't tell me" when mother urged him to take medications (2) Was told of patient's <u>bad</u> headache after inquiring about headache (2) Received patient's irritation if mother inquired about headache when he was trying to "shove it aside" Unable to identify headache pattern by keeping chart Reassured of headache diagnosis after physician ordered MRI
l God allows each n, e.g., aneurysm and nes, and they are equally headache as neither g nor adversity re aware of God in life	Kept a log on foods, frequency and duration of headaches (3) Stayed home (one adult) with him while others continued with planned activity Avoided talking to him Let him deal with headache Put him in a dark room Took to physician			Identified headache frequencies by keeping log Failed to identify headache pattern by keeping log

Figure Caption

Figure 1. Conceptual framework of factors that affect coping behaviors of patient with pediatric migraine

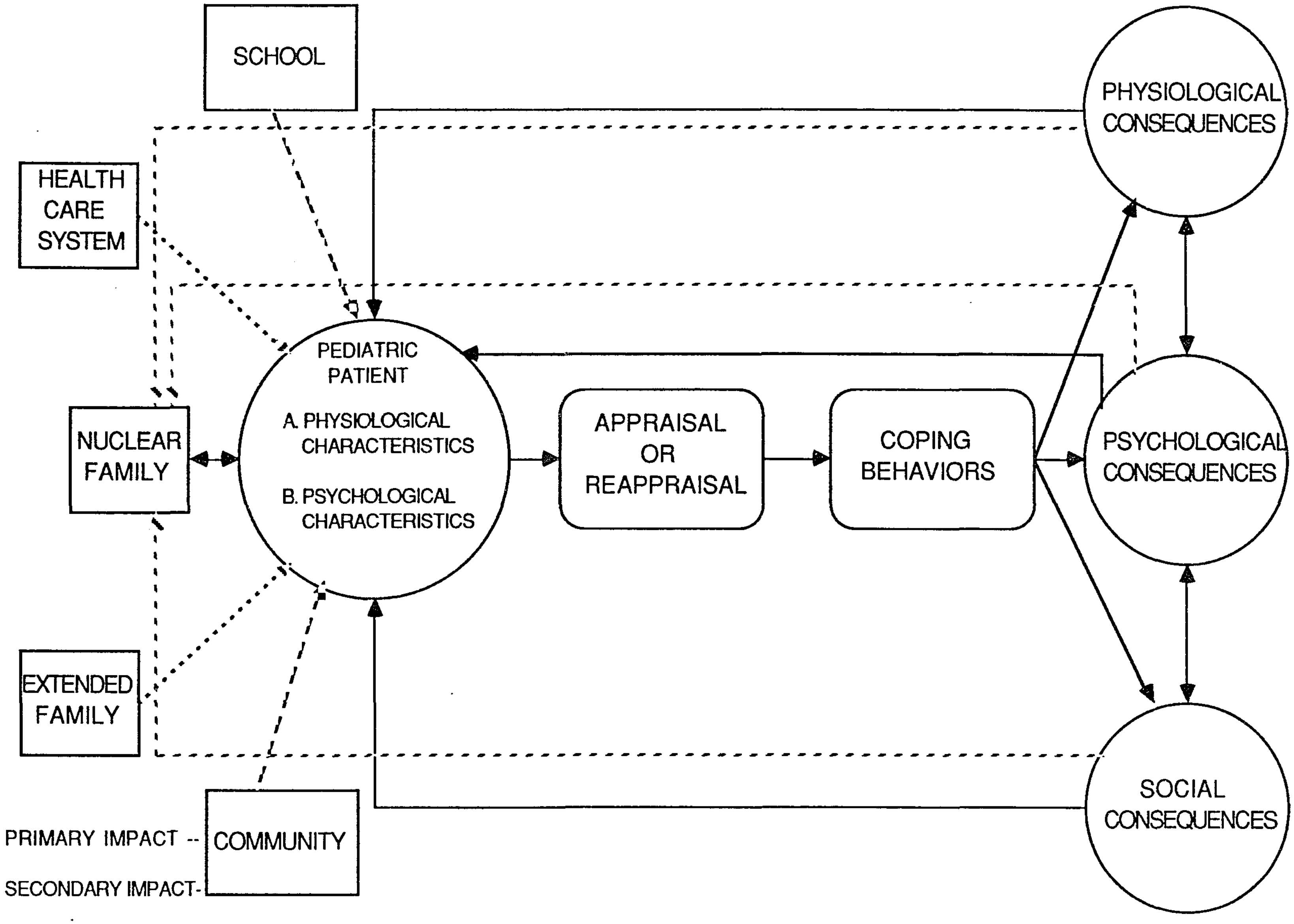

FIGURE 1. CONCEPTUAL FRAMEWORK OF FACTORS THAT AFFECT COPING BEHAVIORS OF PATIENT WITH PEDIATRIC MIGRAINE.

Figure Caption

Figure 2. Conceptual framework for study of consequences of patient's coping behaviors

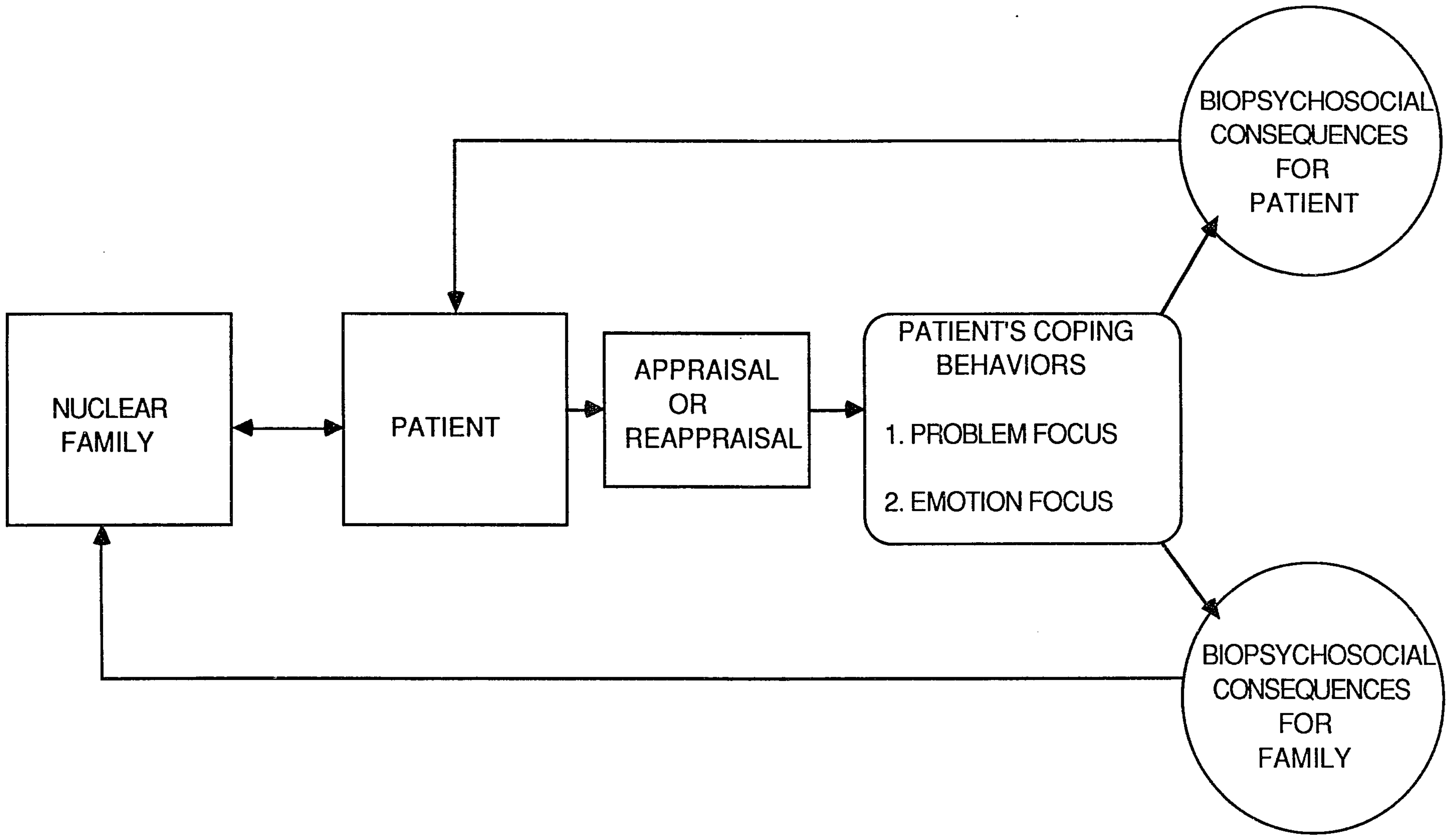

FIGURE 2. CONCEPTUAL FRAMEWORK FOR STUDY OF CONSEQUENCES OF PATIENT'S COPING BEHAVIORS

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