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J. Shelley Dornan

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THE USE AND EFFECTIVENESS OF COPING  
MECHANISMS IN PARENTS OF CHILDREN  
WITH TYPE I DIABETES

by

J. SHELLEY DORNAN

A Thesis  
Submitted in Partial Fulfillment of the Requirements  
for the Degree of Master of Science in Nursing  
in the Division of Nursing  
Mississippi University for Women

COLUMBUS, MISSISSIPPI

August 1999

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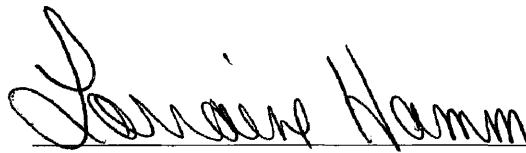
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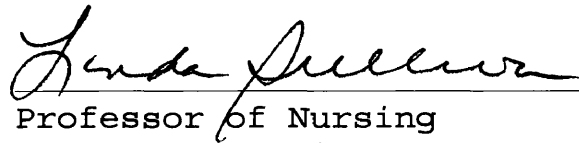
The Use and Effectiveness of Coping  
Mechanisms in Parents of Children  
with Type 1 Diabetes

by

J. Shelley Dornan



Instructor in Nursing  
Director of Thesis



Professor of Nursing  
Member of Committee



Instructor in Nursing  
Member of Committee

  
Director of the Graduate School

## Abstract

Coping with the responsibility of raising a child with diabetes is a serious challenge for parents. The methods parents use to cope can influence the child's future outcome. Therefore, the purpose of this descriptive study was to identify the use and effectiveness of coping mechanisms among parents of children with Type 1 diabetes. A convenience sample of 40 parents with a diabetic child was obtained from a diabetic support group and a pediatric endocrinology clinic in the Southeastern United States. Data were collected using the Jalowiec Coping Scale and the researcher-designed Demographic Survey. Analysis of data was conducted using descriptive statistics to answer the following research questions: What coping mechanisms are most frequently used by parents of children with Type 1 diabetes and what coping mechanisms are most effective for parents of children with Type 1 diabetes? Findings from the data analysis indicated that the most frequently used and most effective coping mechanisms were optimistic and confrontative. Additional coping mechanisms utilized

but not specifically included in the research tool were use of spirituality and use of outdoor recreational activities. Based on the findings from this study, several recommendations including discussion and encouragement of the use of effective coping mechanisms in the care of families with diabetic children were made by the researcher. Other recommendations included replication of a similar study using a larger sample from other geographic areas.

## Dedication

This research is dedicated to my family.

To my wife, Peachie, for your love, encouragement, and unconditional support throughout my graduate studies.

To my children, Sam, Max, Jamie, and especially Shelley Clair who has lived with diabetes for over half of her life.

To my mother, Virginia Dornan, for always being there for my family.

To my father-in-law and mother-in-law, Jon and Dorothy Fortman, for going the extra mile to help me whenever I needed it.

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## Chapter I

### The Research Problem

Type 1 diabetes or insulin-dependent diabetes mellitus (IDDM) is a lifelong, metabolic disorder requiring a complex treatment regimen of insulin by injection, diet, and exercise to approximate a normal metabolic state. Although the disease represents only 5% to 10% of all cases of diabetes in the United States, it affects approximately 800,000 children, some as young as 3 months (Lundstrom & Mordes, 1998). This number represents about 1 in every 600 school-aged children. Incidence of onset is low under the age of 5 years, peaks between the ages of 6 and 11 years, and declines after puberty (Connell & Thomas-Doberson, 1991). Although insulin replacement is the mainstay of treatment for Type 1 diabetes, optimal therapy requires a careful balance of food, insulin, and physical activity. The complexity of disease management puts many stressors on the parents who are usually the primary caregivers; therefore, Type 1 diabetes of children could be classified as a family

health problem. Although current treatment regimens have greatly improved the health status of people with Type 1 diabetes, the condition is still associated with significant morbidity and mortality. Given the seriousness of the illness and the intrusiveness and chronicity of the treatment requirements, it is not surprising that children with diabetes and their families are considered at risk for psychosocial and family dysfunction. Coping with these stressors is paramount, however, to metabolic control of the child as well as normal family function. The exploration of coping mechanisms in parents with a diabetic child was the focus of this study.

#### Establishment of the Problem

Children with Type 1 diabetes face major changes in lifestyle with the possibility of debilitating and life-threatening complications. Beginning with diagnosis, the child and parents become aware that they are entering a new world filled with challenges and constraints. Parents commonly experience bewilderment, shock, fear, depression, and guilt when they first learn of the diagnosis (Gearhart & Forbes, 1995). Such feelings appear to be much like grief reactions, and parents may vary in their ability to accept the diagnosis. Some parents resolve their grief and

cope effectively, while others either deny the disease or become overly preoccupied with it (Gearhart & Forbes, 1995).

When a child is diagnosed with diabetes, both the child and parents become responsible for performing several difficult and painful procedures daily. There is no reprieve from the vigilance necessary to maintain the health and welfare of the diabetic child. Successful diabetes management involves insulin injections which must be administered two to three times per day in amounts tailored each time to the child's caloric intake and physical activity. To evaluate the effectiveness of insulin therapy, up to six fingersticks must be performed for blood sugar monitoring each day. In addition, the treatment regimen requires a low-fat, low-sugar diet with between meal snacks, as well as regular aerobic exercise. Besides medication and nutritional intervention, management also includes continuing diabetes education, family guidance, and emotional support (Gearhart & Forbes, 1995).

Parents worry about short-term complications, such as hypoglycemia and hyperglycemia, as well as long-term complications, such as neuropathy, heart and kidney

disease, blindness, and gangrene (Jacobson, 1996). Additionally, parents must continue to fulfill the tasks associated with family life. These include providing for the family, maintaining social lives, and often caring for other children (Faulkner, 1996). While each of these tasks may be manageable on its own, together they can be overwhelming. Leonard, Burst, and Nelson (1993) studied parents' psychological distress in 57 families in which there was a medically fragile child and found that 59% of mothers and 67% of fathers reported significant levels of distress linked to the number of illness-related parental responsibilities.

Researchers have recognized links between parental and family functioning and metabolic control of diabetes. Children in families characterized by cohesion, emotional expressiveness, lack of conflict, and spouses satisfied with their marriage were found to have better diabetic control than children living in families with opposing characteristics (Gowers, Jones, Kiana, North, & Price, 1995). Martin, Miller-Johnson, Kitzmann, and Emery (1998) reported that parents' and children's self-reported degree of conflict consistently predicted both adherence to treatment and metabolic control. Martin et al. (1998)

concluded that diabetes was better maintained in children whose parents were more emotionally supportive, had better resolved their grief about their child's diabetes, were less sad and angry, and were better able to resolve conflicts.

Health care providers must gain knowledge and understanding of the intricacies involved in the treatment of diabetes as well as the multiple complex familial issues arising from having a diabetic child. Practitioners' awareness of the subtleties in family interactions could serve as a key in recognizing potential problems in diabetic management. Health care providers should explore and identify the means of coping in parents with diabetic children. Emotional support, grief resolution, and conflict resolution all impact the ability to cope with the chronicity of diabetes management. There has been little research specifically examining what coping strategies are used and which are most effective in parents with diabetic children. Thus, the focus of this study was to determine coping mechanisms used by parents and to determine the usefulness of the strategies utilized by parents of children with IDDM.

### Significance to Nursing

This study is significant to nursing in that methods used by parents to cope with raising a child with diabetes and the effectiveness of these mechanisms were identified. Insight into these coping mechanisms can help guide the primary health care provider in attempts to alter family interactions in order to better cope with the management and chronicity of the disease. The ability of the parents, as well as the child, to cope with diabetes may have an impact on significant variations in the disease course and long-term complications.

Understanding that parents of diabetic children have unusual stressors and identifying the strategies they use to cope with these stressors are important for clinical intervention. The practitioner could benefit from this research by identifying the coping mechanisms used by parents which are effective and reinforcing these while discouraging the use of non-effective or maladaptive mechanisms. The practitioner has an excellent opportunity to incorporate adaptive coping mechanisms in the diabetic child's plan of care. This will lead to an increase in physiological control for the child while increasing psychological well-being for the entire family.



The devastating effects that coping with chronic illnesses have on families are difficult to appreciate. Methods of coping vary from person to person. Identifying methods that help parents cope can provide better outcomes for families. This study provided information for nurse practitioners that can help facilitate outcomes for parents and children. In addition, findings may be helpful in teaching nurses, family caregivers, and other support people how to help parents cope. Additionally, awareness about the family dynamics of diabetic children needs to be incorporated into curricula of schools of nursing. Information from this study provides an empirical base from which to develop and teach nursing interventions.

### Conceptual Framework

The conceptual framework for this study is Roy's Adaptation Model (1986). Roy's goal of nursing is to help individuals adapt to changes in (a) physiological needs, (b) self-concept, (c) role function, and (d) interdependent relations during health and illness (Roy, 1986). These four concepts represent the four adaptive modes that make up the person's adaptive system. Ideally, the result is attainment of an optimum level of wellness by the person (Marriner-Tomey, 1994).

The physiologic mode involves the body's basic needs and ways of dealing with adaptation in regard to fluid and electrolytes, exercise and rest, elimination and nutrition, circulation and oxygen, and regulation, which includes endocrine regulation. The self-concept mode is the composite of belief and feelings that one holds about oneself at a given time. It is formed from perceptions, particularly of other's reactions, and directs one's behavior. The role performance mode is the performance of duties based on given positions in society. The major roles can be broken down into developmental levels: primary, secondary, and tertiary. The interdependence mode involves one's relations with significant others and support systems. In this mode, one maintains psychic integrity by meeting needs for nurturance and affection (Roy, 1986).

Roy views adaptation as a constantly changing point affected by focal, contextual, and residual stimuli, which represents the person's own standard of the range of stimuli to which one can respond with ordinary adaptive responses. Upon the diagnosis of diabetes in a child, the parent must make an adaptive response to the focal stimuli of diabetes. These may include the physical demands of

caring for a newly diagnosed child as well as the enormous amount of learning that must take place in order to meet the child's needs. Focal stimuli also include the immediacy of feelings of fear and anger over the diagnosis and a sense of being overwhelmed. The contextual stimuli are all other stimuli that are in the situation which include, but are not limited to, educational level, number, age and health status of other children in the family, the age of the diabetic child, and the stability of the marriage or the status of single parenthood. Residual stimuli are factors that may be affecting behavior, but these effects are not validated. These may include outside support, such as diabetes support groups or community resources available. Residual stimuli may also involve abstract concepts, such as the parents' family of origin issues, including how they were treated by their parents when they were ill as children.

Roy (1986) identified both adaptive responses and ineffective responses in dealing with the set of stimuli. Adaptive responses promote integrity of the person in terms of the goals of survival, growth, reproduction, and mastery. Adaptation occurs when the person responds positively to environmental changes, and all four modes

are in a dynamic equilibrium. Roy's model puts emphasis on identifying and reinforcing positive behavior or positive coping which speeds recovery or maintains equilibrium.

Parents of diabetic children must continually adapt to focal, contextual, and residual stimuli as new situations arise in the course of their children's growth, development, and disease process. Roy's concepts support the phenomenon of coping as central to the ability to adapt to the demands of parental caregiving for a child with diabetes. Development of useful and effective coping mechanisms appears to occur within each adaptation mode. The physiological mode might include coping by use of relaxation techniques while the self-concept mode could cope by thinking about the positives in life. In terms of role function, positive coping could manifest as accepting responsibility for the child's care; whereas, in the interdependent mode, coping would include relationships with significant others or talking things out with a friend (Jaloweic, 1987; Roy 1986). Thus the adaptation model was deemed an appropriate framework within which to conduct the current study.

The nurse practitioner's responsibility is to promote adaptation with interventions aimed at managing the

stimuli. If positive coping mechanisms can be identified, nurse practitioners may be able to promote those adaptive responses to other parents who are not coping effectively.

### Statement of the Problem

Parents of children diagnosed with diabetes experience grief, fear, depression, and denial. Some parents resolve their grief and cope effectively while some do not. The parental coping ability impacts management of the child's diabetes and future outcomes (Martin et al., 1998). Therefore, the researcher sought to determine the use and effectiveness of coping mechanisms among parents of children with Type 1 diabetes.

### Research Questions

The following two research questions were generated for this study:

1. What coping mechanisms are most frequently used by parents of children with Type 1 diabetes?
2. What coping mechanisms are most effective for parents of children with Type 1 diabetes?

### Definition of Terms

For the purpose of this study, the following terms were defined:

1. Coping mechanisms: physiological or psychological method by which an individual adapts or adjusts to a challenge. For the purpose of this study, a physiological method used by a parent to adapt or adjust to a challenge as operationalized by the Jalowiec Coping Scale.

2. Parents of children with Type 1 diabetes: a natural or adoptive mother or father living in the same household with a person under the age of 18 years who has Type 1 diabetes.

3. Effectiveness of coping mechanisms: those methods used to adapt or adjust to a challenge which parents found helpful as operationalized by the Jalowiec Coping Scale.

### Assumptions

The assumptions for this study were as follows:

1. The parents and entire family units are affected when a child has diabetes.

2. Coping and the effectiveness of coping are phenomena that exist in parents of diabetic children and can be empirically measured.

3. Human beings utilize a variety of coping mechanisms to adapt to stressful focal, contextual, and residual stimuli in the environment.

4. Some coping mechanisms are perceived by individuals to be more effective than others.

## Chapter II

### Review of Literature

The literature reviewed for this study related to the impact of a child's diabetes on the parents, family, and the children themselves, as well as the concerns and challenges facing the parents and the family unit. The review of literature suggested a correlation between control of a child's diabetes and family functioning. It is important to examine both variables because the disease can strain family relationships and because family relationships may influence the management of the disease over time. The manner in which parents cope with raising a diabetic child, therefore, can have profound effects on the child and family unit.

This review included studies on diabetes and family functioning (Gowers et al., 1995) and two studies on diabetic children and parental relationships (Martin et al., 1998; Miller-Johnson et al., 1994). The ways family relations relate to self care by the child (Faulkner, 1996), and the role family stress and resources play in



newly diagnosed diabetic children (Auslander, Bubb, Rogge, & Santiago, 1993) were also included as well as how children who actually have diabetes cope (Grey, Cameron, & Thurber, 1991).

Gowers et al. (1995) identified in the literature a connection between family functioning of children with Type 1 diabetes and diabetic control. Children who lived in families that exhibited qualities, such as cohesiveness, emotional expressiveness, and lack of marital conflict, were better controlled than children in families with opposite characteristics. Additional findings in the literature were that children with Type 1 diabetes suffer a higher incidence of emotional disorders than the general population.

Intrigued by these discoveries, Gowers et al. (1995) sought to further clarify whether families of adolescents with diabetes rated themselves differently in terms of family functioning than families with non-diabetic adolescents. Parental involvement in the diabetic treatment and how this involvement related to blood glucose control and family functioning were explored.

Gowers et al. (1995) employed a nonexperimental, quantitative, survey design. A convenience sample of 78

adolescents aged 12 through 16 years who attended diabetic clinics at two large pediatric hospitals in Manchester, Great Britain, was obtained. Those diabetics who had been diagnosed for less than one year were excluded. A control group of 38 non-diabetic adolescents of similar ages, sex, and social class were randomly selected from a computerized list of general practice patients at the two hospitals.

The researchers first contacted the families by mail, then by phone for an appointment. Data were collected during meetings with the families, usually at home. The adolescents and parents independently completed the McMaster Family Assessment Device. Adolescents additionally completed the Birleson Depression Inventory and also were questioned about parental involvement in their diabetic treatment regimen. The Family Assessment Device consisted of 60 questions in seven categories: problem solving, communication, roles, affective responsiveness, affective involvement, behavioral control, and general family functioning. Each question was then ranked on a four-point scale from strongly agree to strongly disagree. Mean scores for each category were then

computed on a scale between (1) extremely healthy and (4) extremely unhealthy.

Hemoglobin A1C ( $HgA_{1c}$ ) values, a measure of overall diabetic control for the prior 2 to 3 months, were obtained from the two to three most recent clinic visits. A cutoff level of 10.0 was used to differentiate between well-controlled and poorly controlled diabetes. Using these criteria, 40 subjects were well-controlled while 38 rated poorly controlled with no statistically significant differences with regard to age or sex.

Gowers et al. (1995) determined that mean  $HgA_{1c}$ , considered as a continuous variable, had no significant association with Family Assessment Device score. This implied that there was no relationship between diabetic control and family functioning. Gowers et al. (1995) found that all three groups (well-controlled diabetics, poorly controlled diabetics, and community control) rated family functioning slightly worse than the parents ( $p > 0.10$ ). The group of well-controlled diabetics rated family functioning poorest in the areas of communication, roles, affective responsiveness, and affective involvement, while poorly controlled diabetics rated family functioning above accepted levels in communication and roles. The control

group, as well, rated family functioning poorly in roles and affective involvement. The parental groups all rated family functioning less critically. Parents of the well-controlled group were only above accepted levels in communication and roles, whereas parents of the poorly controlled adolescents, as well as of the control group, rated unacceptably in only roles. These scores, translated into general family functioning on the Family Assessment Device, showed that 70% and 54% of subjects in the well-controlled and poorly controlled groups, respectively, rated family functioning in the unhealthy range. These findings compared to only 40% in the community control group.

With respect to depression, only two adolescents in each of the diabetic groups scored above the cutoff level in the Birleson Depression Scale. This finding reflects significantly lower levels of depression ( $p > .05$ ) than the mean community control score. However, all three groups' mean scores were well below the cutoff level indicating no substantial level of depression.

The researchers reported a significant difference in parental involvement between the well- and poorly controlled groups. Forty-four percent of the parents of

the well-controlled group assisted with daily injections and other treatment, while only 15% of parents in the poorly controlled group expressed involvement ( $p < .05$  with Yates correction).

Gowers et al. (1995) drew several inferences from the research. In this sample, good metabolic control of diabetes was significantly associated with degree of parental involvement ( $p < .05$  with Yates correction). Additionally, both diabetic groups rated poorly in role performance on the Family Assessment Device. The authors believed this finding could be construed as arising from conflict and uncertainty over whether the child or parent is ultimately responsible for management of the disease.

Overall, the families of both diabetic groups rated general family functioning worse than community controls. Gowers et al. (1995) assumed this result was due to the stressful impact of a chronic disease of a family member on the family at large. Inexplicably, however, families of the well-controlled group perceived the greatest stress. The authors further concluded that, in terms of family functioning, families with diabetic children are simply more self-critical.

The Gowers et al. (1995) study has several pertinent connections with the current study. First, the current study had in its sample parents of diabetics, some of whom were parents of adolescents. Second, although coping was not specifically measured in the Gowers study, family functioning may be a reflection of the effectiveness of coping mechanisms which is a primary variable of interest in the current study. Finally, while not a specific variable of interest in the current study, the issue of their children's perceptions of parental involvement in their care may be a reflection of the use and effectiveness of coping strategies used by parents.

In another study focusing on family issues, Martin et al. (1998) identified through prior research several factors related to insulin-dependent diabetes treatment and parent-child relationships. Existing research correlated such measures as parental support and parent-child conflict with diabetic treatment adherence and metabolic control. Martin et al. (1998) sought to extend previous research by developing and utilizing observational methods to obtain additional information about parent-child interactions in families of children with Type 1 diabetes.

The concepts of family systems theory, specifically enmeshment, rigidity, and lack of conflict resolution, along with acceptance of the diagnosis and parental support, were of particular interest to the researchers (Martin et al., 1998). Additionally, the relationship between diabetes management and expressed effect were studied.

Martin et al. (1998) developed an observational rating system for constructs of interest and enhanced theoretical external validity. Much of the observed parent-child interaction was in the form of a structured interview. The observational rating system was guided by clinically relevant constructs important for familial adjustments.

The authors used a descriptive design to examine 88 children and adolescents with Type 1 diabetes and one parent of each child from two outpatient pediatric endocrinology clinics in Virginia. All participants in the convenience sample were white children, aged 8 to 18 years, and diagnosed with diabetes for at least 15 months. The sample included 43 males and 45 females with a mean age of 13 years. Sixty-four of the parents were mothers, and the remaining 24 were fathers. Most parents were in

their first marriage with only 19% being remarried, widowed, or single.

Potential parent participants were sent letters and subsequently were contacted by telephone prior to regular clinic visits. Eighty-four percent agreed to participate and were paid \$25 each. After the scheduled medical appointments, participants completed self-report questionnaires including the Parental Discipline Scale, the Behavioral Support and Warmth Scale, and the Conflict Scale. After consent was obtained, videotaped interviews were conducted. The videotaping was designed in two segments, an unstructured interaction without the interviewer present, followed by a structured clinical interview. The session included questions such as reactions to the diagnosis, how worries and fears have changed over time, and general feelings about the disease. Parental-child conflicts related to diabetes, and preferential treatment over siblings also were explored.

Only 74 of the 88 interviews were coded due to technical difficulty. The Systems Analysis of Parent-Child Interaction (SAPCI) coding system, developed by the researchers, was used to rate 11 observational measures from 1 to 5. Two observers, a criterion rater and a



reliability rater, coded the sessions. The observational variables were emotional support, flexibility, emotional involvement, acceptance, conflict resolution, warmth of the parent/child, anger of the parent/child, and sadness of the parent/child.

Emotional support was determined by the degree to which the parent displayed empathy, made statements of concern, or showed physical comforting. The rated mean for this measure was 3.54. Flexibility measured adaptability of the parent and child to produce answers jointly. The mean score was 3.84. Emotional involvement was measured on a U-shaped scale with low rating, indicating emotional disengagement, to high rating, indicating too little autonomy. The mean was 3.08. Acceptance gauged degree of diagnosis resolution. The mean for this measure was 3.81. Conflict resolution measured the degree to which conflict could be tolerated and resolved. The mean was 3.59. Warmth rated the amount of spontaneous physical affection and good-humored interaction. Warmth-child was measured as 3.60 while warmth-parent was 3.67. Anger, expressed by nagging, criticalness, sarcasm, or stubborn silence, was rated as 1.70 and 1.62 for the child and parent, respectively. Sadness was judged on the basis of

exhibiting depression, a flat affect, loneliness, or crying. Mean sadness of the children was 1.98 and 1.78 for the parents.

Martin et al. (1998) employed self-report measures to determine many of the same behaviors that were observed. The Parental Discipline Scale was a 24-question item that assessed parental monitoring of the child's activities, attempted control, and actual control over the child. The Behavioral Support and Warmth Scale included 26 questions that assessed the frequency of behaviors in the prior month, such as giving praise or helping with schoolwork, as well as subjective perceptions of parental support, such as closeness and open communication. The Conflict Scale consisted of 32 items that assessed frequencies of disagreements in areas such as chores, homework, and sibling behavior.

Diabetes management was measured by using ratings of adherence to 12 aspects of the treatment regimen and, additionally, HgA<sub>1c</sub> values from blood tests at the clinics that serve as an overall indicator of metabolic control for the prior 60 to 90 days. The mean HgA<sub>1c</sub> for the subjects was 7.84.

Examination of the data included a reliability analysis of the observational rating system. The researchers determined that the variables indicating health correlated well with each other ( $p < .05$ ) and were negatively correlated with the variables which indicated dysfunction ( $p < .10$ ). Next, relations between background characteristics and observation ratings were examined. All of the observational ratings were found to be minimally or unrelated to puberty status, family income, gender, and age. Age of the child correlated with children's warmth, and gender correlated with emotional involvement with girls rating higher than boys ( $p < .05$ ). Parent's level of education was significantly associated with ratings of emotional support, flexibility, acceptance/resolution, conflict resolution, child/parent warmth, and child/parent anger. Parents with higher education levels showed more adaptive levels of functioning.

Relations between the self-respect measures and observational measures were examined. Observational warmth, support, and conflict resolution were all significantly related to self-reports of those measures ( $p < .10$  to  $p < .001$ ). Other interrelations seemed to support consistency of how the constructs were conceptualized.

The outcome variables of treatment adherence and HgA<sub>1c</sub> levels also were examined with regard to the observational variables. Ratings of adherence of the parent were positively correlated with support, acceptance, conflict-resolution, and parent/child warmth. Child adherence ratings were significantly associated only with acceptance ( $p < .05$ ). Metabolic control was associated positively with emotional support, acceptance, conflict-resolution and child warmth. Higher levels of HgA<sub>1c</sub> or poor metabolic control were correlated with parent anger ( $p > .05$ ) and sadness ( $p > .001$ ).

Martin et al. (1998) concluded that the primary contribution of this research was the observational methodology, which did not rely solely on self-reporting. These researchers suggested a complex relationship between diabetes management and family functioning. Parental acceptance of the chronicity of the disease, grief resolution, and sadness were all key factors in effective metabolic management of the children's diabetes. Additionally, parents' emotional support, empathy, and encouragement to their children may have improved the overall disease management. Martin et al.'s (1998) findings were supported by previous research relating

self-reports of parent-child relationship and adherence to metabolic control. Their use of additional observational measures showed a high degree of correlation with self-reports of similar measures.

The study by Martin et al. (1998) is pertinent to the current research because the ways in which parents cope and accept the disease and cope with grief and resolve these measures all impact disease management. Although parental coping was not specifically examined, its impact on how the parents come to terms with the treatment regimen and the coping methods they use in order to provide support, acceptance, and warmth all are contributory to family functioning and disease control and management.

Past research on the functioning of families with a diabetic child have primarily focused on evaluating family behaviors and blood glucose control. Faulkner (1996) discovered that little prior research had focused on the strategies used by family members to involve the diabetic child in the daily diabetes regimen. The purpose of Faulkner's study was to describe the experiences of parents, the child with diabetes, and his or her siblings

in relation to managing a chronic disease and the ways family members encouraged self-care by the child.

The conceptual framework utilized in Faulkner's (1996) study was Orem's Self-Care Deficit Theory. The theory was applicable as the diabetic child began to view himself or herself as a self-care agent. Parents and siblings served as dependent care agents to assist the child in meeting his or her own health care needs. Self-care and family theories provided a basis for data collection in the study.

Methodology of the qualitative study included self-reports through interviews with all family members to more accurately reflect the complete family unit. Three research questions were addressed: How do parents respond to school-age children with diabetes? How do siblings respond to school-age children with diabetes? And how do parents and siblings influence self-care activities of school-age children with diabetes?

The convenience sample (N = 27) included individuals from seven white families from rural southeastern Missouri or southern Illinois. The children with diabetes ranged in age from 9 to 12 years and included 4 males and 3 females who had been diagnosed from 1 to 9 years prior.

Additionally, six siblings (4 male, 2 female) from 9 to 18 years old were interviewed. The 14 parents' mean ages were 36.7 years for the mothers and 39.4 years for the fathers. Five of the seven families were connected to a diabetic support group and went to a pediatric endocrinologist for diabetic care.

After parental consent and child assent were obtained, private, semi-structured tape-recorded interviews of the family members were conducted in the home. The parents, siblings, and diabetic child were all interviewed separately. Demographic data were obtained from the parents and included the age of the child at diagnosis, educational level and occupation of the parents, family members' ages, support group participation, insulin dosage and type, and frequency of injections. Two interview guides were used, one related to family activities and relationships and the effects on self-care and one specific to self-care practices. Content validity was verified from family research experts.

The children with diabetes were asked to tell about how they took care of themselves on a daily basis and if they gave themselves insulin injections. Additionally, there was a focus on the insulin dosage, blood glucose

monitoring, exercise activities, and diet. A hypothetical story about how the child would prepare for an overnight camping trip provided information about the child's decision-making. Siblings and parents were asked about the effect of the child's diabetes on the family, topics of communication, roles and responsibilities, socialization and interaction within the community, and influence on self-care practices. Triangulation was used to compare the responses of the parents to the same question in order to identify common themes.

Faulkner (1996) reviewed the transcriptions of the taped interviews for accuracy, and content analysis was used to identify common categories in the interviews. A computer software program was used to code the data initially, then comparisons of responses were completed using three types of data matrices: the conceptually clustered matrix, the role-ordered matrix, and the effects matrix. Responses regarding self-care of the diabetic child, including insulin injections, blood testing, and diet, were placed in the conceptual clustered matrix for comparisons. Questions about the family and views by members of the family were examined using the role-ordered matrix to identify similarities among parents and



siblings. The effects matrix was used for evaluation of positive or negative influences of family members on the self-care activities of the diabetic child.

In general, parents discussed how life within the family unit had changed since the diagnosis of their child. Parents, and to a lesser extent siblings, encouraged the child to become involved in his or her diabetic treatment regimen. The children differed, however, in the specific tasks performed and the degree of involvement. Effects on the family identified by parents most often were reminiscing, changing the diet, scheduling, coping, having insulin reactions, and managing the diabetes.

Stressors and sources of strength also were discussed. Reminiscing about the actual time of diagnosis and the surrounding events, including hospitalization experiences and emotional reactions, were commonly discussed. The second most frequently identified theme was dietary changes. Several mothers no longer measured servings but instead estimated them based on experience. Some families still included sugar in the household menus while some did not and opted for artificial sweeteners.

The scheduling of family activities also was important. Meals, snacks, insulin injections, and glucose testing all had to be timed, adding stress to the family unit. Coping mechanisms and sources of strength were discussed frequently, although none of the parents viewed the stress associated with having a diabetic child to be overwhelming. Parents did, however, express great concern over the possibility of insulin reactions and admitted that managing diabetes and the decision-making involved was difficult at times.

Characteristic roles of mothers and fathers emerged during the interviews. Fathers were typically the breadwinner, leader, and disciplinarian while the mother functioned as manager, teacher, and caregiver. Day-to-day management of the child's diabetes and family nurturing responsibilities were usually the mother's.

None of the siblings interviewed indicated that having a brother or sister with diabetes posed a major change for the family. The main difference was having fewer foods with sugar in the household. Siblings did identify a responsibility of watchfulness over their brother or sister for possible insulin reactions.

Activities of self-care included learning about diabetes, knowing insulin dosages, drawing up and administering injections, monitoring glucose levels, maintaining dietary practices, exercising, and assuming a degree of responsibility and decision-making ability. Five diabetic children identified their mothers as an influence on learning about diabetes while two had attended a diabetes camp and learned more about diabetes. Two children said talking to their doctor helped them learn more about self-care. Two children identified the nurse at the clinic as having influence on self-care. Two children cited diabetes publications as teaching them about new equipment and other children's experiences.

All seven subjects knew when their injections should be given, and five knew the correct dosages. All knew the steps of drawing up the insulin; however, only three were routinely responsible for drawing up the insulin. All children were capable of performing self-injections, but none were consistently doing it, except occasionally on weekends or evenings. The youngest age of the children when they started giving their own injections was 7 years. Most of the children performed their own fingersticks for

glucose monitoring and could describe symptoms of hypoglycemia.

The responsibility for maintaining dietary practice was primarily the mother's responsibility, although the children were responsible for eating snacks at school at the appropriate time. The children also could identify foods from the diabetic exchange list, and some knew the number of calories in their diet. All the children knew about exercise and its importance. Some were involved in organized sports. In response to the hypothetical camping trip, all the children would inform the scout leader about their diabetes and bring their insulin supplies. Parents influenced self-care activities by reminding the child about fingersticks, snacks, and meals and also by checking insulin dosages and glucose values.

Orem's framework was supported in the Faulkner (1996) study by the fact that all of the children shared responsibility with parents for carrying out the treatment regimen and also by exhibiting beginning decision-making skills of diabetes management. The children were not outwardly vocal about dislike of injections and dietary control. Additionally, none reported that parents were overprotective. Most parents did not perceive the stress

associated with having a diabetic child to be unbearable, but did indicate the necessity of better organization and more family structure.

Dealing with the day-to-day diabetic regimen is unending and can be, at times, overwhelming. The results of Faulkner's (1996) study indicated the need to individualize the child's self-care based on his or her knowledge and readiness to learn. Encouraging and teaching the child are important aspects for the primary caregiver.

This study is pertinent to the research on parental coping by the current researcher because caring for a diabetic child is taxing on the entire family unit. Coping, or adaptation to stressful events, begins with the onset of the disease and continues throughout the life of these children. The ability of the parents to cope with a long-term illness may be responsible for significant variations in the disease course, response to the treatment regimen, and involving the children in their own self-care.

Another study regarding how the context of the family system, family life, and the relationship of Type 1 diabetes to these variables was conducted by Miller-Johnson et al. (1994). Several dimensions of parent-child

relationships were examined as predictors of adherence to treatment and metabolic control in a study of 88 children and adolescents with Type 1 diabetes and their parents.

Parent-child scales (PCS) were used to measure parent-child relationships in order to reflect three broad-based dimensions of parent-child warmth, discipline, and conflict. Parental discipline was measured on a 24-item scale with five response choices ranging from always (1) to never (5) for specific topics of discipline. Warmth was measured on a 6-item scale with five responses from extremely (1) to not much (5) for general topics of warmth. Behavioral support was a 20-item scale with seven responses ranging from more than once a day (1) to not at all in last month (7) for specific forms of parental support. Conflict was a 32-item scale with seven responses ranging from more than once a day (1) to not at all in last month (7) for specific areas of conflict.

Additionally, pubertal status was rated by physicians during medical appointments by using the five Tanner stages. Adherence to treatment was rated by the children, parents, and nurse coordinators across 12 specific aspects of the treatment regimen on a scale of 0 to 100. These areas of adherence included injections, blood testing,

diet, and exercise with an average adherence score then computed. Glycosylated hemoglobin (H<sub>gA<sub>1c</sub></sub>) was also measured at clinic appointments indicating degree of metabolic control over the past 2 to 3 months.

Results were then divided into four sections. Background characteristics, including age and pubertal status, were examined and the relation to parent-child and diabetes outcome measured. Secondly, inter-correlations between parents' and children's global ratings of their relationship and between adherence measures and H<sub>gA<sub>1c</sub></sub> were studied. Third, parent-child relationship measures were examined as predictors of adherence. Finally, whether the parent-child relationship was related to metabolic control beyond that attributable to adherence. Findings were that overall metabolic control was not related to age or pubertal status, but age was inversely related to ratings of adherence by parents, children, and nurses. Also, children in mid-puberty reported significantly lower adherence than pre- or post-adolescent children. Other findings were that gender was not significantly related to any of the variables considered. Various indicators of the family's socioeconomic status were correlated with the measures of parent-child relationships and diabetes

management. In general, lower socioeconomic status was related to poorer adherence and metabolic control and, to a lesser extent, to lower parental discipline, warmth, behavioral support, and more conflict.

The most important finding of the study was the consistent relation between both parent and child ratings of conflict and measures of diabetes management with conflict correlating with disease outcome independent of all other aspects of the parent-child relationship. Evidently the strain of increased responsibilities and demands of the treatment regimen provide fertile ground for parent-child disagreements to arise.

The prominence of conflict in these families is important when examining how parents are coping with the disease and other parental duties. If positive coping mechanisms could be implemented, the parent-child relationship could be improved and, in turn, metabolic control and overall family function would potentially be more normative. The current study provides information on styles of coping that, if utilized by parents, might be beneficial and less confrontational to the parent-child relationship.



Adaptation of the family during the first year after diagnosis may reduce future family problems and disease complications according to Auslander et al. (1993). Although it is generally accepted that family adaptation to diabetes influences the medical status of the diabetic child, few studies have identified the demands and capabilities families experience during the year following diagnosis and their relationship to the child's metabolic control.

Auslander et al. (1993) examined family capabilities, family resources, and disease-related knowledge at exactly one year following diagnosis in the initial phases of disease adaptation. The study evaluated what family capabilities (defined as coping efforts, resources, and disease-related knowledge) and stressors are associated with metabolic control in children and what direct and indirect links exist among family capabilities, stress, and metabolic control.

The sample included 53 families who attended the outpatient diabetes clinic at Washington University Medical Center in St. Louis. All children and their parents were interviewed one year after diagnosis of IDDM. The family's socioeconomic status was determined by the

Hollingshead (1975) Index and considered educational, occupational, marital, and wage earning status to create a measure of socioeconomic status. Fifty-five and three/tenths per cent ( $N = 29$ ) of the families in the sample had socioeconomic status values above the mean.

Parents and children completed standardized questionnaires and structured interviews that assessed their perspectives on the family and knowledge of diabetes during the previous year. In addition, two blood samples were obtained from each child to determine metabolic control ( $HgA_{1c}$ ). Stimulated plasma C-Peptide levels were also obtained which assessed how much, if any, endogenous insulin the child was still producing in order to control for these confounding effects on the level of metabolic control.

The Family Inventory of Life Events was completed by mothers and fathers separately to record normative and non-normative family demands over the previous year. The parents' perception of family resources was measured by the Family Inventory of Resources for Management). Family coping behaviors were measured by the Coping Health Inventory for Parents. Additionally, disease related knowledge was assessed with general information and

problem-solving questionnaires related to managing diabetes.

The level of metabolic control, determined by the HgA<sub>1c</sub>, ranged from 5.4 to 15.7%, with a mean of 8.16%. No differences were found according to the children's age, gender, race, or family socioeconomic status levels. The mean C-Peptide level for the subjects was 0.19 pmol/ml (SD  $\pm$  0.17). As predicted, diabetic children with higher levels of C-Peptide were in significantly better control than those with lower C-peptide levels.

Results also indicated that, as a group, knowledge levels were slightly higher than the mean and levels of family resources and coping were similar to the normative sample of families with a chronically ill child. Whereas, mothers reported higher use of all coping behaviors, both parents similarly ranked the order in which each coping pattern and coping behaviors were helpful during the year following diagnosis.

The coping pattern used most often by fathers (47%) and mothers (65%) was "maintaining family integration and an optimistic viewpoint," whereas the coping behaviors used most often were (1) "believing that the child is getting the best medical care possible", (2) "trusting my

spouse to help support me and my child", and (3) "being sure prescribed medical treatment for the child is carried out at home daily."

Auslander et al. (1993) concluded that family resources indirectly relate to metabolic control, whereas family stress is directly linked to the child's health status. Parental coping behaviors were not associated with indexes of the child's health status contrary to other research that found significant associations between coping behaviors and health status in diabetic children.

The results implied that, in order to regain a sense of equilibrium, newly diagnosed families might need to focus their energies on the family unit before they respond to other demands or develop external resources. Clinically, the main focus in medical settings of the newly diagnosed child with diabetes and his or her families is on treatment-related knowledge. However, data suggested that intervention efforts also should be directed at helping families reduce or manage stress and increase interfamily resources.

Identification of positive coping measures in the current research could be utilized in the vulnerable early stages of the disease in order to set the stage for more

positive future outcomes. Coping and the management of stress by the parents are seemingly a precursor to better metabolic control and positive family and child outcome.

Grey et al. (1991) sought to describe the adaptation of preadolescents and adolescents themselves with IDDM. Research has shown that preadolescent children tend to manage the self-care regimen of diabetes well, but rebellious feelings in adolescents may lead to neglect of self-monitoring, dietary recommendations, and insulin injections. The literature also suggests that the child's ability to cope with a chronic illness may be affected by the way the family copes with the illness. Several researchers have concluded that the family has a profound effect on adaptation to diabetes. Grey et al. (1991) examined the comparison of preadolescents and adolescents in adaptation factors by stage of sexual maturation, correlation of coping behaviors with adaptation, and the relative influence of these factors on adaptation.

The sample consisted of 103 patients between the ages of 8 and 18 years ( $M = 12.9$  years) from three diabetes clinics who had no other health problems and were in a school grade appropriate to age. Metabolic and psychosocial data were collected during routine clinic

visits. The families' socioeconomic status ranged from low to high, with the majority in the middle range. Most of the children were taking two injections of insulin per day. The level of metabolic control based on the history and physical exam ranged from poor to excellent with the majority rating fair to good. Subjects had diabetes for an average of 5.3 years (range 6 months to 16 years).

Social adaptation was determined with the Child and Adolescent Adjustment Profile and the Self-Perception Profile for Children. The Child and Adolescent Adjustment Profile is a 20-item inventory which measures social role performance of children and adolescents in five areas: productivity, peer relations, dependency, hostility, and withdrawal. Higher scores indicate poor adaptation. The Self-Perception Profile for Children is a 36-item consisting of six subscales measuring five specific domains of competence, scholastic, social acceptance, athletic competence, physical appearance, and behavioral conduct, and global self-worth. Higher scores indicate higher perceived competence. Psychological adaptation was measured by the State-Trait Anxiety Inventory for Children and the Children's Depression Inventory. Physiological

adaptation was assessed by metabolic control as measured by HgA<sub>1c</sub>.

Coping, self-care, and recent stressors were measured with the Coping Orientation for Problem Experiences (A-COPE), the Coping Health Inventory for Parents, the Self-Care Questionnaire, and the Life Events Checklist, respectively. A-COPE was designed to identify behaviors children and adolescents find helpful in coping with problems or difficult situations. Each of 10 behavioral categories was rated as to how often it was used with higher scores indicating more use of the behavior. The Coping Health Inventory for Parents assessed parents' perceptions of their coping styles in response to having a chronically ill child utilizing self-reports of three factors; family integration, maintaining social support, and understanding the health care situation through communication. The Self-Care Questionnaire was a self-report inventory measuring self-care activities performed in managing diabetes, such as insulin administration and blood glucose testing. Higher scores indicated a higher degree of compliance. The Life Events Checklist was a semi-structured interview and was pre-tested with healthy and chronically ill children and adolescents.

Additionally, demographic variables, such as age, sex, and socioeconomic status, were recorded, and sexual maturation was assessed with the five Tanner Stages of Secondary Sexual Maturation.

While specific values were not reported in the published version of the study, results showed that older adolescents (Tanner Stage 5) reported significantly higher anxiety and depression than younger children. Metabolic control also worsened with increasing maturity. Younger children also reported significantly better peer relations than those in Tanner Stages 2 through 4. There were also significant differences in the types of coping behaviors used. Ventilating feelings was more common in younger children, whereas adolescents used avoidance behaviors (smoking, drinking) and relaxation behaviors (daydreaming, listening to music) more. Parents of pre-adolescents reported that family integration was more important and was used more often than the parents of adolescents. Poorer metabolic control (i.e., higher  $HgA_{1c}$ ) was associated with coping behaviors such as investing in close friends, avoidance behaviors, and daydreaming. Better metabolic control was weakly associated with seeking professional support from a teacher, counselor, or



health professional and with the use of humor. Parental coping styles, in this study, had no relationship to the children's coping or their adaptation. It is not clear whether this finding was an artifact or valid for this population.

Clearly, however, pre- and post-adolescent patients differ in psychological, social, and physiological adaptation to diabetes in childhood and the manner in which they cope with the illness. This study suggested that approaches to management must be age-appropriate, both from the standpoint of parents and health care providers.

The literature revealed that a chronically ill child has an impact on the entire family unit. Obviously, many challenges are faced by the parents of diabetic children and the goal of promoting the child's well-being while preventing complications requires a treatment approach that incorporates an understanding of the social, psychological, and psychiatric ramifications of Type 1 diabetes.

The need for this study was evidenced by the lack of literature available specifically on the use and effectiveness of coping styles utilized by the parents of

these children. A home setting that provides a sense of support even in the darkest hours and moments of greatest despair and the methods parents use to cope with the tremendous stresses are the fundamental basis of successful medical care and psychological well-being.

The review of literature indicated a recurrent theme of the complex nature of parenting a diabetic child and the stress associated with it. The literature reviewed supported the need for further research on how parents cope with raising a child with diabetes. Clinicians might benefit from routine screening of parental coping of parents with diabetic children. Understanding what these parents find stressful and identifying the strategies they use to cope with these stressors are vital for clinical intervention.

## Chapter III

### The Method

The purpose of this study was to determine the use and effectiveness of coping mechanisms used by parents of children with Type 1 diabetes. In Chapter III the methodology of the study is described.

#### Design of the Study

A descriptive research design was employed to identify the use and effectiveness of coping mechanisms among parents of children with Type 1 diabetes. This design is appropriate because the researcher identified the use and effectiveness of coping mechanisms, which was the variable of interest. No manipulation of variables occurred nor was causation implied (Polit & Hungler, 1995).

#### Variables

The variables of interest were effective coping mechanisms and ineffective coping mechanisms as measured by the Jalowiec Coping Scale. Having a child with Type 1

diabetes was the controlled variable. The mediating variables may have included the length of time since diagnosis, age of the child, family makeup, and the truthfulness of participants in answering the questionnaire.

#### Setting, Population, and Sample

The setting for the study was a pediatric endocrinology clinic in an urban city in Tennessee and a support group for parents of juvenile diabetics in a small Mississippi town. The population consisted of parents of children with Type 1 diabetes. The convenience sample consisted of 40 parents whose children attended the clinic or were support group members, who met the criteria, and were willing to participate in the study.

#### Methods of Data Collection

Instrumentation. Two instruments were used to collect data for the study. The first instrument was a researcher-designed Demographic Survey that was utilized to assess the characteristics of the sample (see Appendix A). The survey contained 14 items for which participants were instructed to check or fill in the most appropriate responses. Items were constructed to elicit information

which might be pertinent to coping among parents with diabetic children but which were not included in the main research instrument. Estimated time to complete the instrument was 5 minutes.

The second research instrument for the study was the Jalowiec Coping Scale (see Appendix B), which was used to measure the use and effectiveness of 60 coping strategies. Developed and modified by Anne Jalowiec (1987), the survey reads on a sixth-grade level and was designed for use with all ages from adolescents to elders. The 60-item Jalowiec Coping Scale is divided into eight coping styles including Confrontative, Evasive, Supportant, Optimistic, Fatalistic, Emotive, Palliative, and Self-Reliant. The coping styles are surmised to be distinctive and may be measured independently as well as combined to assess total coping scores. The use of coping mechanisms on the Jalowiec Coping Scale was graded on a 4-point Likert scale with 0 = never used, 1 = seldom used, 2 = sometimes used, and 3 = often used. The effectiveness of each coping mechanism was defined as how helpful the coping mechanism is to the individual. Effectiveness was assessed on a 4-point Likert scale with 0 = not helpful, 1 = slightly helpful, 2 = fairly helpful, and 3 = very helpful. Thus,

scoring of the tool took into consideration two parameters. The process of scoring the coping mechanisms of the Jalowiec Coping Scale was the mean score of the mechanisms used and the mean score of the effectiveness of the coping mechanisms used. Participants scoring high demonstrated the highest use and effectiveness of a coping style; therefore, participants who scored lower demonstrated the least effective coping style.

The empirical construct validity study on the 1987 Jalowiec Coping Scale was conducted to examine the dimensions of the tool. This was determined by 25 nurse researchers across the Midwest who were familiar with coping and stress literature. The researchers were asked to classify each of the 60 coping strategies into eight subscales. Jalowiec provided each subscale with a definition, and the nurse researcher could classify the coping mechanism in more than one subscale. The final subscales that were defined included Supportant, Confrontative, Evasive, Palliative, Optimistic, Fatalistic, Self-Reliant, and Emotive.

Supportant was the first subscale that was defined. Supportant can be described as the use of support systems, personal, professional, and spiritual. Five of the 60

items on the Jalowiec Coping Scale relate to the Supportant coping scale. These items include numbers 11, 15, 17, 42, and 59. Examples of these items that concern the Supportant coping mechanisms include talking the problem over with family or friends, praying or putting trust in God, and depending on others to help.

The second subscale was Confrontative. Confrontative coping style was described as confronting the situation, facing up to the problem, and constructive problem solving. There are 10 items out of the 60 that are considered Confrontative. They are items 4, 13, 16, 25, 27, 29, 33, 38, 43, and 45. Examples of these items include using different ways to handle the situation, looking at the problem objectively, finding out more about the problem, and setting up a plan of action.

Evasive was the third subscale that was defined. Evasive is avoidance activities used in coping with a situation. This subscale consists of 13 items (7, 10, 14, 18, 20, 21, 28, 35, 40, 48, 55, 56, and 58). Examples of this type of coping include getting away from the problem, putting the problem out of your mind, getting out of the situation, and letting time take care of the problem.

The fourth subscale was Palliative. Palliative coping is described as trying to reduce or control distress by making the person feel better. Seven items of the 60 are included in this subscale: 3, 6, 26, 34, 36, 44, and 53. Examples of these coping mechanisms include eating or smoking too much, using relaxation techniques, drinking more to feel better, and taking medications to reduce stress.

Optimistic coping was the fifth subscale that includes positive thinking, positive outlook, and positive comparisons. The nine items are numbers 2, 5, 30, 32, 39, 47, 49, 50, and 54. These coping mechanisms include such items as hoping that things would get better, trying to keep life as normal as possible, and not letting problems interfere.

The sixth subscale was Fatalistic. The Fatalistic subscale is described as pessimism, hopelessness, and the feeling of little control over the situation. Four items in the Jalowiec Coping Scale were listed in this subscale: 9, 12, 23, and 60. Examples of this subscale-scale include expecting the worst to happen, telling yourself that you were just having bad luck, and accepting the situation because very little could be done about it.



The seventh subscale identified was Self-Reliant. Self-Reliant subscale is described as depending on yourself rather than on others in dealing with the situation. The seven items included in this subscale are 19, 22, 31, 37, 41, 52, and 57. Self-Reliant examples include keeping feelings to self, wanting to be alone, and keeping your feelings under control.

The Emotive subscale was the last subscale to be described. Jalowiec describes it as expressing and releasing emotion and ventilating feelings. Items on the Jalowiec Coping Scale included under Emotive are 1, 8, 24, 46, and 51.

An empirical construct validity study was conducted for the purpose of examining dimensionality of the Jalowiec Coping Scale by determining agreement among 25 nurse researchers with the author's classification of the 60 items into the eight subscales. Agreement ranged from 94% on the Supportant subscale to 54% on the Emotive subscale with a mean agreement on all subscales of 75%. The content validity index for the eight subscales was .85 which demonstrated support for the relevance of items in each subscale. Homogeneity reliability based on mean Cronbach alphas from 24 unpublished studies was .86 for

total use and .91 for total effectiveness. Stability reliability of the total use score ranged from .56 to .69, and the total effectiveness ranged from .48 to .82. Estimated time to complete the scale is 15 to 20 minutes (Jalowiec, 1987).

### Procedures

The researcher initially contacted Dr. Anne Jalowiec to obtain permission to use her instrument in the study. Permission was granted to use the Jalowiec Coping Scale (see Appendix C). Permission was obtained from Mississippi University for Women's Committee on Use of Human Subjects in Experimentation and the UT Memphis IRB to conduct the study in an endocrinology clinic in Tennessee (see Appendix D). Additional data were collected from parents who were members of a support group for parents of juvenile diabetics in a small Mississippi town.

Questionnaire packets were collated and consisted of a letter of introduction and consent (see Appendix E), the Demographic Survey, and the Jalowiec Coping Scale. The letter of consent stated that there were no identified risks in participating in the study and informed the subjects that confidentiality would be maintained. The subjects were made aware that completion of the Jalowiec

Coping Scale and the Demographic Survey would indicate their permission to participate in the study.

The researcher spent 2 days at the pediatric endocrinology clinic and solicited parents of diabetic patients in the waiting room and asked them to participate in the study. The participants were given the option of answering the Demographic Survey and the Jalowiec Coping Scale while waiting for the physician or taking the packet home and mailing it to the researcher. Additionally, individuals who were members of a support group for parents of juvenile diabetics in a small Mississippi town were mailed packets with a stamped, self-addressed envelope for return of the questionnaires.

#### Method of Data Analysis

Data from this study were analyzed to answer the following research questions:

1. What coping mechanisms are most frequently used by parents of children with Type 1 diabetes?
2. What coping mechanisms are most effective for parents of children with Type 1 diabetes?

Data from the Demographic Survey were tabulated using descriptive statistics, such as measures of central tendency and frequency of distributions. Individual scores

on the Jalowiec Coping Scale were calculated by summing the use ratings for all items within a given coping style. Mean use scores were determined by dividing the use scores for a given coping style by the total number of items possible for that coping style. Individual effectiveness scores were determined by summing the effectiveness ratings for all items within a given coping style. Mean effectiveness scores were determined by dividing the effectiveness scores for a given coping style by the total number of items possible for that coping style. Group scores were calculated by summing each participant's mean use and effectiveness scores, and then dividing the scores by the total number of participants, yielding overall mean use scores and mean effectiveness scores.

## Chapter IV

### The Findings

The purpose of this study was to identify the use and effectiveness of coping mechanisms of parents of children with Type 1 diabetes. The Jalowiec Coping Scale was utilized to determine the use and effectiveness of the coping mechanisms employed by the parents who participated in the study. A descriptive design was utilized for the research. Data were analyzed using descriptive statistics. In this chapter results of data analysis are presented.

#### Description of the Sample

The sample for this study consisted of 40 parents of diabetic children who were patients at an urban Tennessee pediatric endocrinology clinic or were members of a support group for parents of juvenile diabetics in a small Mississippi town and who completed and returned the Jalowiec Coping Scale and the Demographic Survey. The subjects consisted of 22 mothers (55%) and 18 fathers (45%). The ages ranged from 27 to 56 years ( $M = 35.5$ ).

The ethnic distribution, marital status, and educational level of the participants were examined and are presented in Table 1.

Table 1

Demographics by Ethnicity, Marital Status, and Educational Level by Frequency and Percentage

Variable	f <sup>a</sup>	%
Ethnicity		
Caucasian	28	70.0
African American	12	30.0
Marital status		
Married	32	80.0
Single/divorced	8	20.0
Educational level		
Less than Grade 12	4	10.0
High school	12	30.0
Some college	10	25.0
College graduate	14	35.0

<sup>a</sup>N = 40.

The 40 parents who responded represented 30 children in this study, since both mothers and fathers of some children took part in the surveys.

Demographics relating to age of the 30 diabetic children, year since diagnosis, and number of siblings are depicted in Table 2.

Table 2

Demographics of the Diabetic Child Regarding Age, Years Since Diagnosis, and Number of Siblings by Frequency and Percentage

Variable	f <sup>a</sup>	%
Age (years)		
< 2	4	10.0
2 to 3	4	10.0
4 to 5	6	15.0
6 to 7	6	15.0
8 to 9	6	15.0
10 to 12	4	10.0
13 to 14	6	15.0
15 to 18	4	10.0
Years since diagnosis		
0 to 1	10	25.0
1 to 3	14	35.0
3 to 5	12	40.0
5 to 7	4	20.0
Number of siblings		
0	8	20.0
1	14	35.0
2	8	20.0
3	4	10.0
> 4	6	15.0

<sup>a</sup>N = 40.

Demographics relating to diabetes management, including number of injections per day, number of times per day blood sugar monitored, last two HgA<sub>1c</sub> levels (if known), and whether insurance assists with payment of doctors' visits and diabetic supplies are depicted in Table 3.

Table 3

Demographics of Diabetes Management by Frequency and Percentage

Variable	f <sup>a</sup>	%
No. of insulin injections per day		
1	2	5.0
2	32	80.0
3	6	15.0
No. of times blood sugar monitored per day		
0 to 1	0	0.0
2 to 3	10	25.0
4 to 5	14	35.0
> 5	16	40.0

(table continues)



Table 3 (continued)

Variable	f <sup>a</sup>	%
Insurance assistance with supplies/office visits		
Yes	40	100.0
No	0	0.0
Last 2 HgA <sub>1c</sub> levels (Average)		
6.0 - 7.9	4	N/A
8.0 - 10.0	6	N/A
> 10	2	N/A
Unknown	28	N/A

Note. N/A = Not applicable.

<sup>a</sup>N = 40.

### Results of Data Analysis

Data were analyzed in order to answer the following research questions:

1. What coping mechanisms are most effective for parents of children with Type 1 diabetes?
2. What coping mechanisms are most effective for parents of children with Type 1 diabetes?

The Jalowiec Coping Scale was utilized to determine the use and effectiveness of coping mechanisms used by the participants. The Jalowiec Coping Scale's 60 questions

were divided into eight subscales that described different methods of coping. The use of the coping mechanisms by the participants was determined, and the percentage use, mean use, and standard deviations of the scales representing the various types of coping mechanisms utilized are presented in Table 4.

Table 4

Coping Mechanisms by Rank Order of Percentage, Use, and Mean Use

Variable	%	M	SD
Optimistic	71.48	2.14	0.44
Confrontative	66.80	2.00	0.33
Self-Reliant	55.71	1.67	0.73
Supportant	50.00	1.42	0.55
Palliative	32.14	0.96	0.64
Emotive	27.33	0.80	0.62
Fatalistic	24.17	0.73	0.63
Evasive	20.90	0.63	0.50

Note. N = 40.

These findings mean that the most common style of coping used by parents of diabetic children is Optimistic, used by 71.48% of the participants and holding a mean ranking of 2.14 on a use scale of 0-3. The Evasive style was used least, only by 20.90% of the participants and had a mean ranking of 0.63.

The Jalowiec Coping Scale was also utilized to determine the effectiveness of the coping mechanisms by the participants. The percentage effectiveness, mean effectiveness, and the standard deviations are presented in Table 5.

Table 5

Coping Mechanisms by Rank Order of Percentage Effectiveness and Mean Effectiveness

Variable	%	M	SD
Optimistic	62.59	2.88	0.49
Confrontative	61.90	1.83	0.36
Supportant	48.00	1.44	0.50
Self-Reliant	44.76	1.30	0.61
Palliative	25.24	0.76	0.49
Fatalistic	15.83	0.48	0.55

Table 5 (continued)

Variable	%	M	SD
Evasive	12.05	0.36	0.41
Emotive	8.00	0.25	0.36

Note. N = 40.

The most commonly identified effective coping mechanism used by parents of diabetic children is Optimistic, identified as effective by 62.59% of the participants with a mean effectiveness of 1.88 on a scale of 0 to 3. The least effective coping mechanism identified was Emotive, judged effective by 8.00% of respondents. The Emotive coping style had a mean effectiveness of 0.25 on a scale of 0 to 3.

#### Additional Findings

If a subject used only a few of the coping strategies in a given coping style, then the mean and percentage effectiveness scores for that particular coping style would be lowered. In other words, a person might use only a few of the coping strategies under a given coping style,

but may find those strategies are very helpful; therefore, the coping style is still very effective for them.

Therefore, in an effort to determine the most effective and most frequently used coping mechanism, a combined use times effectiveness score was used in the data analysis producing only one score. The results of the combined use times effectiveness scores is depicted in Table 6.

Table 6

Coping Mechanisms According to Combined Use Times Effectiveness in Rank Order

Coping style	M	SD
Optimistic	4.43	2.15
Confrontative	3.76	1.29
Self-Reliant	2.43	1.92
Supportant	2.23	1.43
Palliative	1.00	1.03
Fatalistic	0.66	1.19
Evasive	0.41	0.69
Emotive	0.31	0.64

Note. N = 40.

These findings reflect that overall combined use times effectiveness scores identified the Optimistic style of coping as both highly used and highly effective, with a mean score of 4.43 on a scale of 0 to 9. The least used and effective style of coping for parents of diabetic children was the Emotive style, with a mean of 0.31 on a 0 to 9 overall scale.

The Jalowiec Coping Scale also provided an area for the participant to write in coping mechanisms that were used but were not included in the 60 coping mechanisms identified on the instrument. Eight participants wrote responses in this section of the Jalowiec Coping Scale.

Spirituality was a common theme among three respondents. The following are responses which reflected the theme of spirituality:

Went to the word of God and found healing scriptures.

. . .

Taught my son scriptures.

. . .

Pray aloud daily and don't give up.

Use of outdoor recreation was another theme identified. Three participants responded with the following:

Riding horses.

. . .

Go hunting/fishing.

. . .

Work in my yard and garden.

The two other responses could be considered Confrontative and Optimistic, respectively. These responses involved cognitive strategies and were as follows:

Use "stop, think, options" plan.

. . .

Take one day at a time. Be happy with the time you have.

### Summary

The results of this study revealed that parents of diabetic children experience stress and utilize coping mechanisms in an attempt to manage stress. The coping styles that were used most frequently by the participants were Optimistic, Confrontative, and Self-Reliant; the least used coping mechanisms were Evasive, Fatalistic, Emotive, and Palliative. The coping mechanisms that were identified by the participants as being the most effective were Optimistic, Confrontative, and Supportant; the least

effective coping mechanisms were Emotive, Evasive, Fatalistic, and Palliative. The highest ranked combined use times effectiveness coping mechanisms were Optimistic, Confrontative, and Self-Reliant. In addition, common themes identified to responses of the open-ended section of the scale were spirituality and use of outdoor recreation.



## Chapter V

### The Outcomes

The purpose of this descriptive study was to determine the use and effectiveness of coping mechanisms in parents of diabetic children. The Roy Adaptation Model (Roy, 1986) was the theoretical framework for this study. This chapter presents a discussion of the findings in relation to the research questions. Also included are conclusions, implications for nursing, and recommendations derived from this study.

The research questions of this study were as follows:

1. What coping mechanisms are most frequently used by parents of children with Type 1 diabetes?
2. What coping mechanisms are most effective for parents of children with Type 1 diabetes?

The sample consisted of 40 individuals whose children were patients at an urban endocrinology clinic or were members of a support group for parents of juvenile diabetics in a small Mississippi town and who completed the Demographic Survey and the Jalowiec Coping Scale.

Descriptive data were collected utilizing the Demographic Survey. Descriptive statistics were used to analyze the demographic characteristics of the participants answering the research questions. The Jalowiec Coping Scale was utilized to determine the use and effectiveness of coping mechanisms in parents of children with diabetes.

#### Summary of Findings

The sample (N = 40) included 22 mothers (55%) and 18 fathers (45%) between the ages of 27 and 56 years with a mean age of 35.5 years. The majority of the individuals were married (n = 32, 80%) and had at least some college or were college graduates (n = 24, 60%). Most were also Caucasian (n = 28, 70%).

The ages of the diabetic children ranged from 14 months to 16 years, and 60% had been diagnosed with diabetes less than 3 years while 40% had been diagnosed from 3 to 7 years. Most of the children (n = 32, 80%) had at least one sibling.

Additionally, most children received two insulin injections per day (n = 32, 80%) while only 6 received 3 shots per day. The majority of the children had their

blood sugar monitored at least 4 times per day (n = 30, 75%).

The findings indicated that the most frequently utilized coping mechanism for parents of diabetic children as demonstrated by mean scores were as follows:

Optimistic, 2.14 (SD = 0.44); Confrontative, 2.00 (SD = 0.33), and Self-Reliant, 1.67 (SD = 0.73). The lowest scores related to use were as follows: Emotive, 0.80 (SD = .62); Fatalistic, 0.73 (SD = 0.63); and Evasive, 0.63 (SD = 0.50).

The findings indicated that the most effective coping mechanism used by parents of diabetic children as demonstrated by the mean scores were as follows:

Optimistic, 1.88 (SD = 0.49); Confrontative, 1.83 (SD = 0.36); and Supportant, 1.44 (SD = 0.50). The lowest mean scores related to effectiveness of coping mechanisms were as follows: Fatalistic, 0.48 (SD = 0.55); Evasive, 0.36 (SD = 0.41); and Emotive, 0.25 (SD = 0.36).

Additional findings included the combined score of use multiplied by effectiveness which was calculated to determine which coping mechanisms were both effective and used frequently by the subjects. The highest mean scores related to use multiplied by effectiveness were as

follows: Optimistic, 4.43 (SD = 2.15); Confrontative, 3.76 (SD = 1.29); and Self-Reliant, 2.43 (SD = 1.92). The lowest mean scores related to use multiplied by effectiveness were as follows: Fatalistic, 0.66 (SD = 1.10; Evasive, 0.41 (SD = 0.69); and Emotive, 0.31 (SD = 0.64).

In addition, two common themes were identified in an open-ended response to coping mechanisms that were used by some participants and not listed in the Jalowiec Coping Scale. The two themes that emerged were spirituality and use of outdoor recreation.

## Discussion

In this study, the use and effectiveness of coping mechanisms in parents of children with diabetes were identified using the results of the Jalowiec Coping Scale. The findings of this study indicate that the coping mechanism that was utilized most frequently was the Optimistic method. Optimistic coping was also identified as the most effective coping mechanism used by the participants. Optimistic coping, according to the Jalowiec Coping Scale, includes positive thinking, positive outlook, and positive comparisons. The two individual responses in the Jalowiec Coping Scale within the

Optimistic subscale which received the highest use and effectiveness ratings were as follows: "Thought about the good things in your life" (M = 2.65) and "Tried to think positively" (M = 2.75).

These two responses in particular were identified as highly used by the 10 parents of children who had been diagnosed for less than one year. This finding is congruent with those of Auslander et al. (1993) who reported that the most helpful coping pattern and behavior used by parents during the first year following diagnosis of diabetes was maintaining family integration and an optimistic viewpoint. The time immediately following diagnosis is a critical point for nursing intervention with families because during this phase new patterns of coping and interaction must be learned to successfully integrate the diabetic treatment regimen into daily routines. Moreover, successful adaptation during the early phases of the disease may reduce future family problems and disease complications (Auslander et al., 1993).

Family functioning and its relationship with metabolic control received substantial attention in the review of literature. Some studies of families with diabetic children indicate that illness-specific family

behavior and functioning, such as family cohesion, communication, and adaptability, are associated with better metabolic control (Faulkner, 1996; Miller-Johnson et al., 1994). These researchers link increased family conflict and higher divorce rate with poor adherence to treatment. Other investigators (Gowers et al., 1995) determined that good metabolic control, evidenced by a mean HgA<sub>1c</sub> value of less than 10.0, had no significant association with family functioning.

Results of the current study loosely support the link between good metabolic control and family functioning. Of the 12 respondents who reported HgA<sub>1c</sub> values on the Demographic Survey, all 10 of the children who exhibited good metabolic control (HgA<sub>1c</sub> < 10.0) were from families where both the mother and father lived in the household. Of the two respondents whose child exhibited poor metabolic control, both were from single-parent families. This reciprocal relationship between family functioning and metabolic control is important to examine, both because the disease can strain family relationships and because family relations may influence the management of the disease over time (Miller-Johnson et al., 1994).

Other trends associated with metabolic control were recognized in the current study. Both children who had not exhibited good metabolic control were adolescents, ages 13 and 16 years. Only one of the 10 children in good metabolic control was an adolescent (age 14 years) with the remainder being younger than 12 years. Grey et al. (1991) found that adolescents have more problems with metabolic control than younger patients, partly due to the hormonal storm of puberty. Grey et al. (1991) also found that adolescents with diabetes utilize avoidance coping behaviors which are significantly correlated with poorer adaptation and metabolic control. Interestingly, the parents of the poorly controlled children in the current study utilized the Evasive coping style which includes avoidant activities in the Jalowiec Coping Scale ( $M = 2.40$ ). These parents' evasive scores were substantially higher than the overall use of the style ( $M = .63$ ).

Also of interest was the finding that the two children in poor metabolic control both had parents with less than a 12<sup>th</sup> grade education and neither of the parents were members of a diabetes support group. All 10 of the children in good metabolic control came from families where both parents had a college education. Also, 8 of

these 10 children's parents identified themselves as members of a diabetic support group on the Demographic Survey. This finding is consistent with those of Auslander et al. (1993) who found that metabolic control was significantly associated with total family resources, which included financial resources and social support resources. Furthermore, the Supportant coping style of the Jalowiec Coping Scale, which includes using personal, professional, and spiritual support systems, was more highly utilized in the group with good control ( $M = 2.20$ ) than by the total sample ( $M = 1.44$ ).

The overall use of positive coping mechanisms (Optimistic, Confrontative, Supportant, and Self-Reliant) among the parents in this study generally bodes well from the children represented. The ability of families and parents to cope positively with the illness may be responsible for the course of the disease process for the child, both physically and psychologically. Most families with diabetic children used and found effective positive coping strategies in dealing with the children's illness (Grey et al., 1991). The current researcher asserts that optimism can rarely be harmful, and, based on the



literature and conventional wisdom, generally leads to better outcomes when illness is an issue.

The results of this study are reflective of Roy's Adaptation Model (Roy, 1986) whereby the parent of a diabetic child must make an adaptive response to the stimulus of diabetes. Adaptive responses promote integrity of the person and a dynamic equilibrium. Roy's model emphasizes the identification and reinforcement of positive coping mechanisms as prerequisites for successful adaptation in the physiologic, self-concept, role function, and interdependence modes. Parents adapted optimistically in the physiologic mode by seeking active outdoor activities as a stress reduction method. Maintenance of positive thinking, positive outlook, and positive comparisons of self as opposed to the fate of others facilitate adaptation in the self-concept and role function modes. Adaptation in the interdependence mode was expressed as participation in support groups and relying on spirituality for strength.

This researcher identified coping styles that are useful and effective for parents of diabetic children. Adaptive resources in this study can be used by nurse

practitioners to promote adaptation in other parents who are not coping effectively.

### Limitations

In the course of conducting this research, there were limitations encountered with the setting, the population, and the collection of data. The convenience sample chosen may not have adequately represented the characteristics of the population of parents of diabetic children. The small sample size and the homogeneity of the sample may limit the generalization of the findings to other populations and settings. The sample also was predominantly white and highly educated.

Additionally, the Jalowiec Coping Scale was reported to be written on a fifth-grade level of education. However, some of the participants had difficulty understanding the instrument even after explanation from the researcher and, therefore, left entire sections blank or failed to respond to some questions.

The use of HgA<sub>1c</sub> values in the Demographic Survey to infer trends for the entire sample was limited by the parents' lack of knowledge regarding the levels. Only 12 respondents included values on this section of the Demographic Survey.

The utilization of two different methods of data collection, mail-out and personal distribution by the researcher, may have presented a threat to the validity of the study. It is possible that the researcher's presence in the room may have influenced parents in the endocrinology clinic to participate, and conversation with the researcher may have impacted the respondents' answers.

### Conclusions

The researcher concluded from the data that various adaptive coping styles are utilized by parents of diabetic children. The positive or adaptive coping styles of Optimistic and Confrontative were both identified as the most used and the most effective.

The negative coping styles of Fatalistic, Evasive, and Emotive were used least and also identified as being the least effective styles of coping by parents of diabetic children.

Additional coping mechanisms utilized, but not specifically included in the research tool, were use of spirituality and use of outdoor recreational activities.

### Implications for Nursing

Findings from this study have a number of implications for nursing science. Implications for nursing research, practice, and education are addressed.

Research. The lack of research in the area of use and effectiveness of coping mechanisms supports the need for further research in this area. Studies indicate that it may be possible to reinforce the positive coping mechanisms. Research regarding the development of interventions for reinforcing adaptive coping needs to be conducted. Many studies have been conducted in which children's coping mechanisms have been evaluated, but none were discovered that identified specific coping mechanisms used by parents of diabetic children. Research needs to be continued in an effort to help the parents of diabetic children cope with the stressors of their children's condition.

Practice. In order to prevent the use of negative coping mechanisms by parents of diabetic children, the nurse practitioner must implement positive means of coping into the plan of care. With reinforcement of positive coping means, the parents can learn to cope without actions that are harmful to self, the diabetic child, or

the family unit. The nurse practitioner can teach the parents positive coping mechanisms to prevent further stressors from affecting the long-term outcome of the child.

Education. Information about the diagnosis and management of diabetes mellitus occupies a substantial portion of undergraduate and advanced practice textbooks and class time. While the importance of good nursing care for the physical ramifications of diabetes is well-recognized, education regarding the emotional impact of diabetes, especially on the parents' juvenile diabetics, has been given little attention. Findings from this study indicate that the presence of effective coping mechanisms in the lives of these parents may be related to better diabetic control in their children. Nurses at all levels of educational preparation need to be prepared to help parents of diabetic children identify and foster positive ways of coping. Student nurses, graduate nurses, and experienced nurses need educational opportunities to stay abreast of the latest information about diabetes technology, available support systems, and stress management techniques to help parents cope with the demands of caring for a diabetic child.

## Recommendations

Based on the findings of this study, the following recommendations are made for nursing research and nursing practices:

### Research.

1. Replication of a similar study using a larger, more representative sample.
2. Replication of a similar study in other geographic regions.
3. Replication of a similar study utilizing qualitative methodology that would explore additional feelings, fears, and coping methods.
4. Conduction of a study using the Jalowiec Coping Scale to determine which coping mechanisms in parents are associated with good glycemic control in diabetic children.
5. Further use of the Roy Adaptation Model as a framework for guiding research about coping.

### Practice.

1. Discussion and encouragement by nurse practitioners of the use of effective coping mechanisms in parents of diabetic children.

2. Identification by family nurse practitioners of maladaptive coping styles and provision for intervention to avoid or rectify the use of such mechanisms in parents of diabetic children.

3. Education by nurse practitioners for parents of diabetic children which promotes a sense that Type 1 diabetes is compatible with a positively adaptive, happy life.

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APPENDIX A  
DEMOGRAPHIC SURVEY

## Demographic Survey

1. Age of your diabetic child: \_\_\_\_\_
2. Race: \_\_\_\_\_
3. Sex: \_\_\_\_\_
4. Number of times per day blood sugar checked: \_\_\_\_\_
5. Number of insulin injections per day: \_\_\_\_\_
6. Member of diabetes support group  
\_\_\_\_ Yes                      \_\_\_\_ No
7. Siblings  
Age: \_\_\_\_\_                      Sex: \_\_\_\_\_  
Age: \_\_\_\_\_                      Sex: \_\_\_\_\_  
Age: \_\_\_\_\_                      Sex: \_\_\_\_\_  
Age: \_\_\_\_\_                      Sex: \_\_\_\_\_
8. Highest grade in school of  
Mother: \_\_\_\_\_  
Father: \_\_\_\_\_
9. Age of child at diagnosis: \_\_\_\_\_
10. Do mother and father both live in household?  
\_\_\_\_ Yes                      \_\_\_\_ No
11. Does insurance help pay for doctors' visits and  
diabetic supplies?  
\_\_\_\_ Yes                      \_\_\_\_ No
12. Last two HgA<sub>1c</sub> levels (if known): \_\_\_\_\_
13. Are you the \_\_\_\_ Mother \_\_\_\_ Father \_\_\_\_ Other caregiver
14. Your age: \_\_\_\_\_

APPENDIX B  
JALOWIEC COPING SCALE

## JALOWIEC COPING SCALE

This questionnaire is about how you cope with stress and tension, and what you do to handle stressful situations. In particular, I am interested in how you have coped with the stress of:

Having a child with Diabetes

This questionnaire lists many different ways of coping with stress. Some people use a lot of different coping methods; some people use only a few.

You will be asked two questions about each different way of coping with stress:

### Part A

**How often have you used that coping method to handle the stress listed above?**

For each coping method listed, circle one number in Part A to show how often you have used that method to cope with the stress listed above. The meaning of the numbers in Part A is as follows:

- 0 = never used
- 1 = seldom used
- 2 = sometimes used
- 3 = often used

### Part B

**If you have used that coping method, how helpful was it in dealing with that stress?**

For each coping method that you have used, circle a number in Part B to show how helpful that method was in coping with the stress listed above. The meaning of the numbers in Part B is as follows:

- 0 = not helpful
- 1 = slightly helpful
- 2 = fairly helpful
- 3 = very helpful

**If you did not use a particular coping method, then do not circle any number in Part B for that coping method.**

COPING METHODS	Part A How often have you used each coping method?				Part B If you have used that coping method, how helpful was it?			
	Never Used	Seldom Used	Sometimes Used	Often Used	Not Helpful	Slightly Helpful	Fairly Helpful	Very Helpful
1. Worried about the problem	0	1	2	3	0	1	2	3
2. Hoped that things would get better	0	1	2	3	0	1	2	3
3. Ate or smoked more than usual	0	1	2	3	0	1	2	3
4. Thought out different ways to handle the situation	0	1	2	3	0	1	2	3
5. Told yourself that things could be much worse	0	1	2	3	0	1	2	3
6. Exercised or did some physical activity	0	1	2	3	0	1	2	3
7. Tried to get away from the problem for a while	0	1	2	3	0	1	2	3
8. Got mad and let off steam	0	1	2	3	0	1	2	3
9. Expected the worst that could happen	0	1	2	3	0	1	2	3
10. Tried to put the problem out of your mind and think of something else	0	1	2	3	0	1	2	3
11. Talked the problem over with family or friends	0	1	2	3	0	1	2	3
12. Accepted the situation because very little could be done	0	1	2	3	0	1	2	3
13. Tried to look at the problem objectively and see all sides	0	1	2	3	0	1	2	3
14. Daydreamed about a better life	0	1	2	3	0	1	2	3
15. Talked the problem over with a professional person (such as a doctor, nurse, minister, teacher, counselor)	0	1	2	3	0	1	2	3
16. Tried to keep the situation under control	0	1	2	3	0	1	2	3
17. Prayed or put your trust in God	0	1	2	3	0	1	2	3
18. Tried to get out of the situation	0	1	2	3	0	1	2	3
19. Kept your feelings to yourself	0	1	2	3	0	1	2	3
20. Told yourself that the problem was someone else's fault	0	1	2	3	0	1	2	3
21. Waited to see what would happen	0	1	2	3	0	1	2	3
22. Wanted to be alone to think things out	0	1	2	3	0	1	2	3
23. Resigned yourself to the situation because things looked hopeless	0	1	2	3	0	1	2	3

COPING METHODS	Part A How often have you used each coping method?				Part B If you have used that coping method, how helpful was it?			
	Never Used	Seldom Used	Sometimes Used	Often Used	Not Helpful	Slightly Helpful	Fairly Helpful	Very Helpful
24. Took out your tensions on someone else	0	1	2	3	0	1	2	3
25. Tried to change the situation	0	1	2	3	0	1	2	3
26. Used relaxation techniques	0	1	2	3	0	1	2	3
27. Tried to find out more about the problem	0	1	2	3	0	1	2	3
28. Slept more than usual	0	1	2	3	0	1	2	3
29. Tried to handle things one step at a time	0	1	2	3	0	1	2	3
30. Tried to keep your life as normal as possible and not let the problem interfere	0	1	2	3	0	1	2	3
31. Thought about how you had handled other problems in the past	0	1	2	3	0	1	2	3
32. Told yourself not to worry because everything would work out fine	0	1	2	3	0	1	2	3
33. Tried to work out a compromise	0	1	2	3	0	1	2	3
34. Took a drink to make yourself feel better	0	1	2	3	0	1	2	3
35. Let time take care of the problem	0	1	2	3	0	1	2	3
36. Tried to distract yourself by doing something that you enjoy	0	1	2	3	0	1	2	3
37. Told yourself that you could handle anything no matter how hard	0	1	2	3	0	1	2	3
38. Set up a plan of action	0	1	2	3	0	1	2	3
39. Tried to keep a sense of humor	0	1	2	3	0	1	2	3
40. Put off facing up to the problem	0	1	2	3	0	1	2	3
41. Tried to keep your feelings under control	0	1	2	3	0	1	2	3
42. Talked the problem over with someone who had been in a similar situation	0	1	2	3	0	1	2	3
43. Practiced in your mind what had to be done	0	1	2	3	0	1	2	3
44. Tried to keep busy	0	1	2	3	0	1	2	3
45. Learned something new in order to deal with the problem	0	1	2	3	0	1	2	3
46. Did something impulsive or risky that you would not usually do	0	1	2	3	0	1	2	3



COPING METHODS	Part A How often have you used each coping method?				Part B If you have used that coping method, how helpful was it?			
	Never Used	Seldom Used	Sometimes Used	Often Used	Not Helpful	Slightly Helpful	Fairly Helpful	Very Helpful
47. Thought about the good things in your life	0	1	2	3	0	1	2	3
48. Tried to ignore or avoid the problem	0	1	2	3	0	1	2	3
49. Compared yourself with other people who were in the same situation	0	1	2	3	0	1	2	3
50. Tried to think positively	0	1	2	3	0	1	2	3
51. Blamed yourself for getting into such a situation	0	1	2	3	0	1	2	3
52. Preferred to work things out yourself	0	1	2	3	0	1	2	3
53. Took medications to reduce tension	0	1	2	3	0	1	2	3
54. Tried to see the good side of the situation	0	1	2	3	0	1	2	3
55. Told yourself that this problem was really not that important	0	1	2	3	0	1	2	3
56. Avoided being with people	0	1	2	3	0	1	2	3
57. Tried to improve yourself in some way so you could handle the situation better	0	1	2	3	0	1	2	3
58. Wished that the problem would go away	0	1	2	3	0	1	2	3
59. Depended on others to help you out	0	1	2	3	0	1	2	3
60. Told yourself that you were just having some bad luck	0	1	2	3	0	1	2	3

If there are any other things you did to handle the stress mentioned at the beginning, that are not on this list, please write those coping methods in the spaces below. Then circle how often you have used each coping method, and how helpful each coping method has been.

61.	1	2	3	0	1	2	3
62.	1	2	3	0	1	2	3
63.	1	2	3	0	1	2	3

APPENDIX C

PERMISSION TO USE THE  
JALOWIEC COPING SCALE

## PERMISSION FOR USE OF JCS

PERMISSION IS HEREBY GRANTED TO:

*J. Shelley Dornan*

TO USE THE JALOWIEC COPING SCALE  
IN A STUDY OR PROJECT

IF REQUESTED, PERMISSION IS ALSO GRANTED TO:

<i>NA</i>	TRANSLATE THE JCS INTO ANOTHER LANGUAGE
<i>NA</i>	MODIFY THE JCS AS DESCRIBED IN THE REQUEST
<p>FOR TRANSLATED OR MODIFIED VERSIONS OF THE JCS, THE COPYRIGHT NOTATION ON THE NEW VERSION SHOULD READ AS FOLLOWS:</p> <p>COPYRIGHT DR ANNE JALOWIEC, USA, 1987 TRANSLATED BY [OR MODIFIED BY]: [YOUR NAME, COUNTRY, YEAR]</p>	

*Anne Jalowiec*

DR ANNE JALOWIEC

*6-9-99*

DATE

APPENDIX D

APPROVAL OF COMMITTEE ON USE OF HUMAN  
SUBJECTS IN EXPERIMENTATION OF  
MISSISSIPPI UNIVERSITY FOR  
WOMEN AND UT MEMPHIS IRB



**THIS FORM MUST BE TYPED**

FORM 5

Date: June 2, 1999UT MEMPHIS IRB  
REQUEST FOR EXEMPTION FORMPROPOSAL TITLE: The Use and Effectiveness of Coping Mechanisms in Parents  
of Children With Type 1 DiabetesINVESTIGATOR: John Shelley Dornan B.S.R.N.DEPARTMENT & SCHOOL: MS Univ. for Women TELEPHONE #: (601) 329-7373 FAX #: \_\_\_\_\_ADDRESS: P.O. Box W-910, Columbus, MS 39701 (Nursing) E-MAIL: \_\_\_\_\_FUNDING SOURCE (SPONSOR): SelfSTUDY SITE(S): The clinical office of Dr. George Burghen-LeBoneur Hospital

(Answer all items, attach separate sheets as necessary)

## 1. PURPOSE OF THE STUDY:

The purpose of this study is to determine the use of and the effectiveness of coping mechanisms used by parents of children with Type 1 Diabetes. The parental coping ability impacts management of the child's diabetes and future outcomes.

## 2. DESCRIPTION OF SUBJECT POPULATION AND METHOD(S) OF SUBJECT RECRUITMENT:

Subject population are parents living in the same household with children with Type 1 Diabetes. The researcher plans to spend two days at the U.T. pediatric endocrinology clinic in Memphis and solicit parents in the waiting room and asking them to participate in the study by completion of questionnaires.

## 3. DESCRIPTION OF PROCEDURES:

Two instruments will be used to collect the data. The first instrument is a researcher designed demographic survey (see attached) and the second instrument is the Jalowiec Coping Scale (JCS). The time estimated to complete both is approximately 10 minutes. The names or addresses of all participants will not be asked for or revealed to the researcher. A descriptive research design will be employed to identify use and effectiveness of coping mechanisms.

## 4. Explain the rationale for the exemption of this research (UT Memphis IRB Policies and Procedures):

~~Exemption due to being a graduate student in another university~~ *CFC*

5. Indicate (check) the appropriate exemption category (categories) applicable to the research: 1 \_\_\_\_; 2 ; 3 \_\_\_\_; 4 \_\_\_\_; 5 \_\_\_\_; 6 \_\_\_\_ (UT Memphis IRB Policies and Procedures).

## 6. INFORMED CONSENT: Some exempt research projects ethically require informed consent. If, in the investigator's opinion, the study requires informed consent, the method used to obtain informed consent should be described and the proposed consent form submitted. If the study does not require consent, it should be so stated and justified.

Signature of Investigator

John Shelley Dornan

Date:

6/2/1999

Signature of Department or Program Chairman

George A. Burghen

Date:

6/30/99

Typewritten Name of Department or Program Chairman

George A. Burghen

(The IRB reserves the right to request the investigator to provide additional information concerning the proposal.)

FORM 5

UT MEMPHIS IRB  
REQUEST FOR EXEMPTION FORM

PROPOSAL TITLE: The Use and Effectiveness of Coping Mechanisms in Parents  
of Children with Type 1 Diabetes

INVESTIGATOR: John Shelley Dornan

DO NOT WRITE BELOW THIS LINE

IRB ACTION:      Approved       Approved w/proviso(s) \_\_\_\_\_      Referred For Board Review \_\_\_\_\_

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Consent Required:      No \_\_\_\_\_ Yes       Not Applicable \_\_\_\_\_      Written       Signed \_\_\_\_\_

IRB Reviewer: CECOR      Title Chair IRB      Date 7/2/99

APPENDIX E  
LETTER OF INTRODUCTION AND  
INFORMED CONSENT



Dear Survey Participant,

My name is Shelley Dornan. I am a registered nurse working on my master's degree in nursing at Mississippi University for women. For my master's thesis, I am researching the coping mechanisms of parents with diabetic children. As a parent of a 6-year-old with diabetes, I am personally interested in the results of this research, and, as a health care provider, these data will be used to help other parents with diabetic children.

There are two forms that you are asked to complete which will require approximately 15 minutes. Please understand that your participation is voluntary and that there are no identified risks in participating in this study. The Jalowiec Coping Scale is a widely used questionnaire designed by a nurse to inquire about means of coping. The Demographic Survey is a brief summary of individual characteristics. Completion of the Demographic Survey, the Jalowiec Coping Scale, and your signature on this form will indicate your permission to participate in this research. Confidentiality will be maintained and only group scores will be reported. You will not be identified in any way in the research.

Thank you for taking time to read and answer the questionnaires.

Sincerely,

J. Shelley Dornan, RN

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I, \_\_\_\_\_, agree to participate in this study. I understand the terms of the consent.

Date: \_\_\_\_\_