# FAMILY FUNCTIONING AND PSYCHOLOGICAL SYMPTOMATOLOGY IN HELP-SEEKING AND NONHELP-SEEKING UNIVERSITY STUDENTS

BY

CINDY HANNA

A Thesis
Submitted to the Faculty of Graduate Studies
in Partial Fulfillment of the Requirements
for the Degree of

MASTER OF ARTS

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ABSTRACT

Family functioning has been documented to be a particularly important mediator of individual psychological adjustment. Numerous studies have demonstrated associations between lower levels of family functioning and higher levels of psychological symptomatology. This study used the Family Environment Scale (FES) and the Family Hardiness Index (FHI) to examine the role of family functioning variables as mediators of psychological symptomatology in a clinical group and a nonclinical group. The clinical group comprised 14 female and 12 male students age 18 to 39 attending counselling/therapy at either the University Counselling Service or the Psychological Service Centre at the University of Manitoba. The non-clinical group comprised an equal number of female and male introductory psychology students age 19 to 24. Subjects in the clinical group scored significantly higher on the depression subscale of the Symptom Checklist 90-Revised (SCL-90-R) than those in the nonclinical group. Subjects in the clinical group rated their families as less cohesive, less expressive, less independent, more conflictual and more controlling on the FES than did subjects in the nonclinical group. Subjects in the clinical group rated their families as lower on Commitment on the FHI than did subjects in the nonclinical group. Family functioning predicted moderate to high amounts of symptomatology in both the clinical and nonclinical groups. Analyses were also conducted to investigate gender differences in

symptomatology and family functioning. Females in the nonclinical group rated their families as more controlling on the FES than did males. A further purpose of the study was to describe trauma characteristics and posttraumatic stress disorder symptomatology in subjects who had experienced trauma. A total of 19 subjects in each group had experienced a traumatic event at some time in their lives. Implications of the results for counsellors and therapists are discussed.

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# DEDICATION

To my family and friends.

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# INTRODUCTION

The study of family functioning has been informed by the perspectives of family sociology and family systems theory. Family sociology and family systems theory conceptualize families as dynamic and interactive. The behaviour of individual family members impacts upon the family system; the reverse is also true. The study of the family life cycle has developed from family systems theory. It underscores the need to consider the developmental stages of families under study.

Research has established that there are a number of factors that interact to mediate psychological symptomatology in individuals. Family functioning has been documented to be a particularly potent mediator of psychological symptomatology both in help-seeking and in nonhelp-seeking individuals. This study reviews both past and current literature in the area of family functioning to determine which variables are likely to be associated with adaptive and maladaptive psychological adjustment in the individual.

The experience of trauma, such as physical or sexual abuse, is associated with the development of psychological symptomatology in individuals. However, not all individuals who experience trauma develop such symptoms. The effects of trauma are thought to be mediated by a number of factors, including characteristics of the individual, characteristics of the trauma, and characteristics of the systemic context in which the

individual develops. This study uses the comprehensive model of trauma impact (Koverola, 1992) to provide a context for understanding how such variables may mediate the development of psychological symptomatology in individuals who have experienced trauma.

## Family Sociology

One of the earliest contributions to the study of the family was made by sociologists. A foundational paper in this area was Ernest Burgess's "The Family as a Unity of Interacting Personalities," published in 1926. Burgess viewed the family as an interactive unit of personalities that is constantly living, changing, and growing. Burgess's focus on the family has been described as "... a unified psychological approach in which the intrapsychic processes and personality structures of family members are considered in conjunction with the interrelations among the members" (Handel, 1965, p.21). This viewpoint led to a shift in focus away from studying family members in isolation or in dyads and toward studying the family as a whole. By emphasizing the dynamic and interactive nature of families, Burgess anticipated one of the central perspectives of family systems theory.

Burgess (1926) also focused on the importance of roles within the family, with particular reference to each member's conception of her or his role within the family. He stated that "...it is in his social images, his memories, his wishes, his dreams, his illusions, his faiths that a human

being really lives" (p.9). Burgess anticipated many of the theoretical and research issues that required attention in the study of families. Many of these issues continue to be addressed in the current literature.

## Family Systems Theory

Many of the central tenets of family systems theory have their roots in family sociology. The systems theory of family functioning has at its basis the Gestalt principle that "the whole is greater than the sum of its parts" (Matlin, 1983, p.3). According to this viewpoint, the family system is more than merely the sum of its parts, and cannot be completely understood by using a reductionist approach. Rather, the family is characterized by a uniqueness that results from the integration of its structures and functions into a whole (Steinglass, 1987). The particular focus of the systems approach is on the patterns of interaction between the component parts of the family system; these patterns of interaction make it possible to sustain the complexity and constancy of the system (Steinglass, 1987). The behaviour of individuals within the family system is constrained by, and shaped by, the nature of their relationships with other elements in the system. These other elements may be individuals or behaviours. According to systems theory, individual dysfunction does not occur in isolation, but may be contributed to and maintained by the systemic properties of the family.

It is important to note that although the family can contribute to

individual psychopathology, it can also contribute to individual mental health. Barnhill (1979) integrated key concepts of family systems theory and isolated eight dimensions of family health and pathology. These eight basic dimensions are grouped into four themes: identity processes, change, information processing, and role structuring.

The theme of identity processes comprises the dimensions of (a) individuation vs. enmeshment and (b) mutuality vs. isolation. Individuation refers to the ability of family members to experience independence of thought, feeling, and action. In order to achieve such independence, it is necessary for the individual to develop a firm sense of autonomy, self-identity, and personal boundaries. Enmeshment, in contrast, refers to the process by which family members are poorly differentiated, self-identity is dependent on others, and boundaries of self are poorly delineated. Satir (1972) distinguishes the differences between individuation and enmeshment as follows: The individuated person "has faith in her own competence. She is able to ask others for help, but she believes she can make her own decisions and is her own best resource. Appreciating her own worth, she is ready to see and respect the worth of others ..." (p. 27). However, an enmeshed person would say "be like me; be one with me. You are bad if you disagree with me. Reality and your differentness are unimportant" (Satir, 1972, p. 13).

Mutuality refers to the ability of family members to experience a

sense of intimacy, joining, and emotional closeness with one another. This is only possible for people who have a sense of self that is well-defined and differentiated from others. Isolation refers to a sense of alienation or disengagement from others. Isolation can either occur with enmeshment when identities are fused and mutuality is not possible, or with isolated withdrawal from other family members.

The second theme concerns the family's capacity for change, and comprises the dimensions of (c) flexibility vs. rigidity and (d) stability vs. disorganization. Flexible families are able to adjust appropriately to varied conditions and to the process of change. In contrast, rigid families have a low tolerance for change, such as illness, death, or the development of children. Stability in a family is evident in consistency, responsibility, and security in family interactions. Disorganization refers to a lack of consistency or stability in family relations, and includes a lack of predictability and clear responsibility.

The third theme involves the family's ability to process information, and includes the dimensions of (e) clear vs. unclear perception and (f) clear vs. unclear communication. At a perceptual level, information can be processed by family members either clearly or unclearly. This refers to the degree to which shared events are perceived in a consensual way. Unclear perceptions may be confusing, vague, or even distorted. Information is further processed by communication, which may also be clear or unclear.

Unclear communication may include vague, confusing exchanges and paradoxical messages.

The fourth theme of family interaction concerns the role structures within the family. This theme involves the dimensions of (g) role reciprocity vs. unclear roles and role conflict and (h) clear vs. diffuse or breached generational boundaries. Families characterized by role reciprocity have clearly defined role expectations in which members' roles complement one another. In contrast, poorly defined role behaviour leads to confusion and conflict over roles. Specific types of role reciprocity among family members are evidenced in generational boundaries. In families with clear generational boundaries, members of each generation are allied more closely with each other than with members of other generations. In families with diffuse or breached generational boundaries, there are usually alliances between members of two different generations against a member of a peer generation. For example, one parent may be allied with a child against the other parent.

It must be noted that these eight dimensions of family functioning are interrelated (Barnhill, 1979). For example, individuation and mutuality are most successfully achieved together; this involves flexibility in the relationships as well as shared role expectations.

## The Family Life Cycle

The family is not a static entity. A family negotiates several

developmental stages during its lifetime; each stage involves specific psychological tasks. A number of different stage theories have been developed to conceptualize the family life cycle. The model put forth by Carter and McGoldrick (1989) has appeal for clinicians because it focuses on the issue of developmental transitions. Rather than assuming that a developmental event (such as the birth of a child) moves the family automatically from one stage to another, this model allows for families that are unable to successfully negotiate stage transitions.

Carter and McGoldrick (1989) have conceptualized the traditional North American family life cycle as involving the negotiation of six stages. These are: (1) launching of the young adult; (2) the new marital system; (3) families with young children; (4) families with adolescents; (5) launching children and moving on; and (6) families in later life. For the purposes of this study, individuals in the population being sampled were primarily concerned with negotiating stages 4 and 5.

The transition from childhood to adolescence is challenging not only for the individual but also for the family system. Families with adolescents require the flexibility to make the necessary shifts in the parent-child relationship that allow the adolescent to develop a sense of autonomy and individual identity. It is necessary for the boundaries between parents and children during this stage to undergo qualitative transformations. More flexible boundaries enable adolescents to seek support within the family and

to be dependent when they cannot handle things alone, and to move out into the world and seek new experiences when they are ready.

Problems arise during this stage when "... families continue to reach for solutions that used to work in earlier stages. Parents often try to tighten the reins or to withdraw emotionally to avoid further conflict. Or they either blindly accept or reject the adolescent" (Preto, 1989, pp. 257-258). In addition, during this stage parents often find themselves refocusing on midlife marital and career issues at the same time that they are becoming responsible for caring for their own aging parents.

During the stage when children leave home, one of the major tasks to be accomplished is the development of adult relationships between parents and children. This involves a shift away from a hierarchical relationship to one that places adults and children on a more equal footing. Simultaneously, the parents attempt to negotiate the transition back to the marital system as a dyad. The primary challenge for families at this stage is to be able to separate without breaking. Aylmer (1989) states that this challenge involves continuing the process of letting go of power and control. Issues that arise during this stage include the handling of financial support, respecting residential boundaries, and enabling the young adult to make independent choices of careers and relationships.

Two of the themes of family functioning proposed by Barnhill (1979) are particularly salient during the life cycle phases of adolescence and

launching. These are the themes that concern identity processes and the family's capacity for dealing with change. During these phases, adolescents and young adults are concerned with issues of identity and individuation as they work toward defining themselves as autonomous individuals within their family and moving out into the world. These phases challenge the family's capacity to assimilate change in a healthy and adaptive manner without breaking apart.

A family's ethnic and cultural background can introduce considerable variation in the stages of its life cycle. For instance, common issues faced by families with adolescents include separation and openness to new values. Some ethnic groups are quite open to new values, whereas others are more oriented toward tradition. McGoldrick (1989) notes that daughters may have a particularly difficult time in adolescence if their parents adhere to rigid cultural rules that restrict female independence. Cultural norms that affect young adults include different expectations about separating from the family and moving on. In some cultures, families do not expect to launch their children at all; the norm is to welcome newcomers into the family. If family members are expected to remain in the same community, the adult child's ambitions for independence may be seen as a threat to the family (McGoldrick, 1989).

In addition to the standard difficulties faced by families as they progress through the life cycle, some families experience traumatic events.

The experience of trauma by one or more family members can disrupt a family's progress through the life cycle.

## The Comprehensive Model of Trauma Impact

The comprehensive model of trauma impact proposed by Koverola (1992) delineates the variables thought to be important mediators of adjustment in survivors of trauma. The model integrates many of the elements of the family systems and family life cycle perspectives. First, the model describes the interactive areas of development within the individual; these are the affective, cognitive, interpersonal, moral, sexual, and physical realms. These areas are viewed as integrally related and as continuously interacting with each other. Within the cognitive and affective realms, the presence of psychological symptomatology may indicate distress. Examples of such symptomatology include depression, anxiety, somatization, and posttraumatic stress disorder.

Second, the model considers characteristics of the trauma. Such characteristics include the type of trauma, its duration and frequency, whether violence or force was involved, and the age of the individual at the onset of trauma. Trauma is believed to impact upon the interactive areas of the individual's development. The severity of the trauma is a mediator variable that determines the nature of adjustment problems an individual may manifest. In this study, a broad range of traumatic events were considered. These included physical and sexual abuse and assault or an

equivalent threat to life or health, involvement in a natural, accidental, or deliberately caused disaster, or witnessing a person seriously injured or killed.

Third, the model considers the successively wider, systemic contexts in which the individual develops; these include the family, the community, and the larger society. In each of these systemic contexts there are identifiable variables that interact with aspects of the individual's development and thus mediate the impact of trauma on the individual's adjustment.

Examples of mediating variables at the individual level may include factors such as intellectual functioning and coping style. At the interpersonal level they may include the amount and quality of social support the individual receives. At the family level they include family functioning variables such as the quality of relationships within the family, the degree to which open communication is encouraged, and the amount of conflict between family members. Additional variables of interest include the degree of organization and control present in the family, and the family's ability to mobilize its resources to deal adaptively with crises.

At the community level, examples of mediating variables may include the amount and quality of assistance available to individuals and families dealing with stress or trauma. At the societal level, mediating variables may include prevailing beliefs and attitudes concerning the particular type

of trauma involved. This study focused specifically on the role of family functioning variables as mediators of psychological symptomatology.

The final component of the model addresses the context of time. The individual is seen as continuously changing across time. Therefore, it is important to consider whether the individual is in the pretrauma, trauma, or posttrauma stage at the time of evaluation and how the passage of time may impact on the individual's adjustment (Koverola, 1992).

In summary, the comprehensive model of trauma impact posits the interrelatedness of the personal realms impacted by trauma. The nature of the trauma interacts with areas of individual functioning, the systemic contexts of the individual and the trauma, and changes in these over time. Each of these areas subsumes a number of interactive variables that impact on the individual and so mediate the individual's adjustment to the trauma. This model serves as a useful organizational format from which to consider variables that impact on the psychological health of the individual. This study investigated the role that family functioning plays as a mediator of individual psychological symptomatology. Psychological symptomatology was measured using indices of symptomatology in the cognitive, affective, and physical realms of development.

## Trauma

A number of different types of trauma have been documented to result in psychological symptomatology in individuals. These include sexual

abuse, sexual assault, and physical abuse, as well as other life threatening events. The process involved in the development of psychological symptomatology following the experience of trauma has not yet been elucidated, although many models have been proposed. Such models involve psychodynamic (Lyons, 1987), behavioural (Keane, Zimmering, & Caddell, 1985), cognitive behavioural (Foa & Kozak, 1986), and biological formulations (Van der Kolk, 1989).

Sexual Abuse and Assault

For the purposes of this study, child sexual abuse was defined as one or more sexual acts involving physical contact between a child under the age of 16 with an individual more than five years older. Peer sexual abuse was defined as one or more sexual acts involving physical contact between a child under the age of 16 with an individual less than five years older. Adult sexual assault was defined as unwanted sexual acts involving physical contact with an individual of any age occurring after the subject's 16th birthday.

Although prevalence statistics vary, there are indications that as many as one-third to one-half of children are sexually abused (Bagley & Ramsay, 1986). Sexual abuse in childhood is associated with the development of a number of long-term sequelae in 80-85% of victims (Finkelhor, 1990; Russell, 1986). These long-term effects may involve the cognitive, affective, and interpersonal realms of functioning in the

individual.

Cognitive effects of sexual abuse include memory impairment, changes in perception, and distrust of others. It is thought that some sexual abuse survivors repress their memories of abuse, and that this may happen to a greater or lesser degree depending on the individual and the nature of the trauma (Briere, 1989). The concept of repression of memories of abuse has come under attack by Loftus (1993), who contends that repression should be viewed with skepticism until it has been empirically demonstrated. Perceptual alterations may include an increase in negative self-evaluation and feelings of guilt and self-blame (Briere, 1989; Briere & Runtz, 1986; Janoff-Bulman, 1979). Low self esteem is also common in survivors of child sexual abuse (Bagley & Ramsay, 1986; Briere, 1989; Dyck, Proulx, Quinonez, Chohan, & Koverola, 1991). Long-term emotional effects of sexual abuse include anxiety, depression, emotional withdrawal, and dissociation (Bagley & Ramsay, 1986; Briere & Runtz, 1986; Browne & Finkelhor, 1986). Sexual abuse survivors frequently also have interpersonal problems that may stem from feelings of anger and mistrust toward others (Browne & Finkelhor, 1986). These emotions result from a betrayal of trust in childhood, when adults victimized or failed to protect the child.

Several studies have also found that childhood sexual abuse and adult sexual assault may lead to the development of posttraumatic stress disorder (PTSD; Deblinger, McLeer, Atkins, Ralphe, & Foa, 1989;

Greenwald & Leitenberg, 1990; Hanna, Koverola, & Proulx, 1992; Koverola, Foy, & Heger, 1991; Russell, 1986). PTSD is an anxiety disorder that develops after experiencing a traumatic event that is outside the range of normal human experience (American Psychiatric Association [APA], 1987). Characteristic features of this disorder involve reexperiencing the traumatic event, such as through flashbacks or hallucinations, avoidance of stimuli that remind the person of the event, and increased arousal.

Physical Abuse

Since the publication of "The Battered Child Syndrome," the landmark article by Kempe and colleagues, an increasing amount of public concern has been focused on the plight of physically abused children (Kempe, Silverman, Steele, Droegemueller, & Silver, 1962). Despite the amount of attention that this problem has received in the last three decades, there continues to be disagreement among researchers and within society over the definition of child physical abuse. Physical punishment of children is widely accepted in North American society; Straus (1983) reported that 97% of American children are physically punished. For research purposes, it is often difficult to differentiate between behaviours that constitute physical punishment and those that are abusive. Injury is often used by researchers as the main criterion of physical abuse (e.g., Green, 1988). However, other researchers have included behaviours that are highly likely to result in injury in their criteria for physical abuse

(Briere & Runtz, 1988; Straus, Gelles, & Steinmetz, 1980). For the purposes of this study, child physical abuse was conceptualized as a continuous rather than a dichotomous variable that included, but was not limited to, acts that caused physical injury. Child physical abuse was defined as frequent or severe physical punishment at the hands of a parent, guardian, or step-parent that occured before age 17.

The incidence of child physical abuse is difficult to accurately determine, as it likely remains underreported. Straus and Gelles (1986) found that 55% of subjects in a national probability sample reported being slapped or spanked by their parents; 31% of subjects reported being pushed, grabbed, or shoved. In a study Runtz (1991) conducted with 653 male and female university students, 66% of respondents acknowledged having been physically struck at least once during childhood, and 24% of respondents reported having been injured by parental physical maltreatment. A study by Berger, Knutson, Menm, and Perkins (1988) of middle class young adults found that 12.1% of respondents reported being injured by their parents. Interestingly, less than 3% of respondents labeled themselves as having been physically abused in childhood. Hanna, Koverola, Proulx, and Battle (1993) found that although 38.9% of their sample of 833 female undergraduate students met the criteria for child physical abuse, only 8.3% of them endorsed having been physically abused.

A number of long term effects are associated with child physical

abuse. These include bulimia (Bailey & Gibbons, 1989), dissociation (Chu & Dill, 1990, Sanders & Giolas, 1991), borderline personality disorder (Brown & Anderson, 1991), suicidal behaviour (Briere & Runtz, 1988; Brown & Anderson, 1991), aggressive behaviour (Graybill, MacKie, & House, 1985), substance abuse (Brown & Anderson, 1991; McCord, 1983), and alcoholism (Schaefer, Sobieraj, & Hollyfield, 1988). Research has also demonstrated an association between childhood physical abuse and high levels of psychological symptomatology in adulthood (Briere & Runtz, 1988; Chu & Dill, 1990; Runtz, 1991; Schaefer et al., 1988; Swett, Surrey, & Cohen, 1990).

Other Trauma

In addition to the sexual and physical abuse and assault, other types of traumatic experiences have been shown to lead to posttraumatic stress disorder. According to the revised third edition of the Diagnostic and Statistical Manual of Mental Disorders, the traumatic stressor must be outside the range of normal human experience and would be "markedly distressing to almost anyone" (APA, 1987, p. 247). Such stressors include natural disasters such as earthquakes or floods, accidental disasters such as car accidents with serious physical injury, or deliberately caused disasters such as bombing or torture.

Saunders, Arata, and Kilpatrick (1990) investigated crime-related posttraumatic stress disorder in a community sample of 355 adult women.

Of these women, 266 (74.9%) had been victims of at least one violent crime during their lifetimes; violent crime included sexual assault, physical assault, robbery, and burglary. Of the crime victims, 7.5% met the criteria for posttraumatic stress disorder.

In a study of 833 female undergraduates, Hanna, Koverola, and Proulx (1992) found that 50 students (6%) could be classified with posttraumatic stress disorder using the Trauma Sequelae (Koverola, Proulx, Hanna, Battle, & Chohan, 1992a), a questionnaire instrument based on DSM-III-R criteria (APA, 1987). Of these subjects, 12% reported physical abuse as a precipitating traumatic event, 42% reported sexual abuse, 12% reported another event such as witnessing a fatal car accident or having a close relative commit suicide, and 34% reported having experienced more than one traumatic event.

Experiencing trauma can impact individuals in a number of different ways. The effect of trauma may be mediated by characteristics of the individual, characteristics of the trauma, and characteristics of the systemic contexts in which the individual develops. Not all individuals exposed to trauma develop psychological symptomatology.

## Psychological Symptomatology

The present study focused on five types of psychological symptomatology: depression, anxiety, post-traumatic stress disorder, somatization, and general distress.

Depression

Depression is a mood disorder that can be conceptualized along a continuum ranging from dysthymia (a consistently depressed state lasting more than two years) to major depression. The primary features of a major depressive episode are depressed mood or loss of interest or pleasure in most activities. Associated symptoms of major depression include appetite disturbance, weight gain or loss, sleep disturbance, psychomotor agitation or retardation, decreased energy, feelings of worthlessness or guilt, difficulty thinking or concentrating, recurrent thoughts of death, and suicidal ideation or suicide attempts (APA, 1987). Further, depression is characterized by maladaptive cognitions, such as pervasive thoughts and images of loss or failure (Clark & Beck, 1989).

Depression is one of the most common symptoms reported among college and university students. Lester (1990) administered the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) to 616 male and female college students with a mean age of 22.1 years. Using a clinical cutoff score of 14 (range= 0-63), 8.7% of the students were categorized as depressed.

In two studies conducted with male and female university students, Andersen (1990) also used the BDI to assess depression. Using a clinical cutoff score of 14, 11% of the students in Study 1 and 10% of those in Study 2 were judged to be depressed.

Bosse, Croghan, Greenstein, Katz, Oliver, Powell, and Smith (1975) used a retrospective version of the BDI to measure depression in a sample of 158 university students. They categorized 41% of subjects as having experienced moderate or severe depression.

In a study of 905 female undergraduates, 43.9% of subjects tested with the BDI were found to be depressed (Proulx, Dyck, Quinonez, Chohan & Koverola, 1991). A subsequent study with 833 female undergraduates found that 23.7% of the subjects met the criteria for depression using the BDI (Koverola, Proulx, Hanna, Battle, & Chohan, 1992b). The incidence of depression in university students in the studies cited ranges from 9-44%. A possible explanation for this wide range was suggested by Gotlib (1984), who proposed that the BDI may be a better measure of general distress than of depression in nonclinical samples such as university students.

Anxiety

Anxiety can also be conceptualized along a continuum, ranging from relatively mild forms of anxiety that everyone experiences to some degree, to the debilitating anxiety characterizing posttraumatic stress disorder. Anxiety is characterized by excessive and unrealistic worry and apprehension (APA, 1987). Signs of generalized anxiety disorder include motor tension, autonomic hyperactivity, vigilance, and scanning (APA, 1987). Motor tension may be manifest as trembling, twitching, or shakiness, along with muscle tension and aches, restlessness, and fatigue.

Symptoms of autonomic hyperactivity include shortness of breath or sensations of smothering, accelerated heart rate or palpitations, sweating, dry mouth, dizziness or lightheadedness, abdominal distress, including nausea or diarrhea, flushes or chills, frequent urination, and trouble swallowing. Vigilance and scanning are exhibited through feelings of being on edge, intense startle reactions, lack of concentration, irritability, and difficulty sleeping.

Two studies with female undergraduates using the Symptom Checklist 90-Revised (SCL-90-R; Derogatis, 1977) to measure anxiety indicate that the prevalence of anxiety in this population is fairly high. The first study, conducted by Proulx et al. (1991), found that 20.7% of the sample of 905 female university students obtained scores in the clinical range on the anxiety subscale of the SCL-90-R. The second study of 833 female university students found that 18.9% of subjects fell in the clinical range of the anxiety subscale (Koverola et al., 1992b).

Posttraumatic Stress Disorder

Posttraumatic stress disorder (PTSD) is a sub-type of anxiety disorder that involves the appearance of specific symptoms after experiencing a traumatic event that is outside the range of normal human functioning (APA, 1987). In order to be considered a traumatic event, the experience must be outside the range of such common experiences as simple bereavement, chronic illness, business losses, and marital conflict.

Examples of traumatic experiences include a threat to one's life or health such as sexual or physical abuse or assault, involvement in a disaster such as an earthquake or plane crash, or seeing another person seriously injured or killed. Experience of the stressor usually involves intense fear and helplessness. Characteristic symptoms of this disorder include reexperiencing the traumatic event, avoidance of stimuli associated with the event or numbing of general responsiveness, and hyperarousal. In order for a diagnosis to be made, symptoms must last at least a month.

Hanna, Koverola, Proulx, and Battle (1992) investigated the incidence of PTSD in a sample of 833 female university students. Using the Trauma Sequelae, a questionnaire measure of PTSD based on DSM-III-R criteria (Koverola et al., 1992a), 6% of the sample met the criteria for PTSD. These results were validated by administering the Structured Clinical Interview for the DSM-III-R - Nonpatient Edition (SCID-NP; Spitzer, Williams, Gibbon, & First, 1990) to a subset of 45 subjects. There were no significant differences in the way that the Trauma Sequelae and the SCID-NP classified individuals as either PTSD positive or PTSD negative.

Somatization

Somatization, like depression and anxiety, can be conceptualized along a continuum that ranges from a mild preoccupation with bodily functions to the debilitating symptoms associated with somatization disorder. Somatization disorder is characterized by recurrent, multiple

somatic complaints that appear to be due to psychological rather than organic causes. Symptoms include gastrointestinal complaints such as nausea and abdominal pain, cardiopulmonary complaints such as shortness of breath or palpitations, pseudoneurologic symptoms such as fainting, and pain. Somatic symptoms usually begin during adolescence and afflict females at a much higher rate than males (APA, 1987). It is theorized that somatization symptoms develop as a physical expression of emotional distress.

Somatization symptoms have been documented to occur in university populations. Proulx and colleagues (1991) found that 8.5% of their sample of 905 female university students fell in the clinical range on the somatization subscale of the SCL-90-R. In a subsequent study, Koverola et al. (1992) found that 9.7% of their sample of 833 female university students fell in the clinical range on the somatization subscale of the SCL-90-R.

## Family Assessment

There are numerous approaches to the assessment of family functioning. These include structured and unstructured interviews, projective tests, performance on experimental tasks, and self-report instruments (Skinner, 1987). The wide range of family assessment methods reflects the diversity of the field. This diversity is due to the multitude of theories of family functioning as well as to the number of disciplines that have contributed to their development. Unfortunately, the extent of

disagreement on concepts and definitions of family functioning has made the concurrent validity of assessment instruments difficult to establish.

Two self-report measures were used in this study to assess family functioning. Self-report instruments were chosen because of their demonstrated psychometric properties and ease of administration and scoring. The primary instrument used to assess family functioning was the Family Environment Scale (FES), which has been used extensively in research and has demonstrated reliability and validity (R. H. Moos & B. S. Moos, 1981; Skinner, 1987). Family functioning was also assessed using the Family Hardiness Index (FHI; M. McCubbin, H. McCubbin, & Thompson, 1987). The FHI was chosen as an adjunct to the FES because it is a measure of adaptive family functioning. Although the FHI is a relatively new instrument, preliminary evidence indicates that it may be a useful measure of family functioning because it accounted for significant amounts of variance in psychological symptomatology in a study conducted by Koverola and colleagues (1992b).

Family Environment Scale

The Family Environment Scale (FES), developed by R. H. Moos and B. S. Moos (1981) has its theoretical basis in the interactionist viewpoint that characterizes family systems theory. Within this perspective, behaviour is believed to be a joint function of the person and the environment (Bowers, 1973; Endler & Magnusson, 1976; Mischel, 1973).

The FES is also rooted in the family sociology perspective, which assumes that environments have unique personalities as do individuals (Skinner, 1987). In keeping with this perspective, the FES attempts to describe "normal" family functioning and identify the boundaries that signal "atypical" or pathological functioning (Krauss & Jacobs, 1990). The FES is a 90-item self-report measure that assesses the family's social environment. The FES has three forms: the Real Form (Form R), which evaluates individuals' perceptions of their current nuclear family environments; the Ideal Form (Form I), which measures individuals' conceptions of ideal family environments; and the Expectations Form (Form E), which measures individuals' expectations about possible changes in the family environment. The Real Form was used in this study to assess present family environment.

The FES has ten subscales designed to measure the social climate of the family with respect to three dimensions: relationship, personal development, and system maintenance. The Relationship dimension is measured by the Cohesion, Expressiveness and Conflict subscales. The Cohesion subscale is a measure of a family's support of its members, its commitment to the family, and its level of affiliation. High scores on this subscale indicate a high degree of affiliation and are considered positive. The Expressiveness subscale assesses the degree to which members are encouraged to individuate, as well as the degree to which open

communication is fostered in the family. High scores on this subscale indicate healthy communication, which is a positive family dimension. The Conflict subscale assesses the amount of openly expressed anger, aggression, and conflict between family members. This dimension assesses more problematic communication, and high levels on this subscale are indicative of high levels of friction within the family.

The Personal Growth Dimension is measured by the Independence, Achievement-Orientation, Intellectual-Cultural Orientation, Active-Recreational Orientation, and Moral-Religious Emphasis subscales. The Independence subscale assesses the degree to which family members are assertive, self-sufficient, and individuated. Extremely high scores on this subscale suggest disengagement, while extremely low scores suggest enmeshment. The Achievement-Orientation subscale indicates the extent to which family members are competitive or achievement oriented. Extreme scores on this subscale indicate potential problems with over- or underachievement. The Intellectual-Cultural Orientation is a measure of the family's interest in political, intellectual, social, and cultural activities. High scores on this subscale are considered positive, and suggest a sharing of interests within the family. The Active-Recreational Orientation assesses the extent to which family members take part in family-oriented activities. Extremely high or extremely low scores on this subscale could suggest enmeshment or disengagement. Alternatively, such scores could suggest

that boundaries around the family are either excessively open or excessively closed. The Moral-Religious subscale measures the degree of emphasis in the family on ethical and religious issues and values. Extremely high scores could suggest authoritarian family functioning. Extremely low scores could suggest an absence of guidance on moral issues.

The System Maintenance Dimension is measured by the Organization and Control Subscales. The Organization subscale assesses the importance of predictability, structure, and clear expectations in a family. Although high scores on this subscale are generally positive, extremely high scores could suggest a rigid, overcontrolling environment in which individuation is discouraged. Extremely low scores on this subscale indicate a chaotic family environment characterized by difficulties with role structures. The Control subscale measures the extent to which rules and procedures are used to run family life. In contrast with the Organization subscale, this subscale assesses more problematic, authoritarian functioning. High scores on the subscale indicate high levels of unhealthy control.

Research Using the Family Environment Scale

The Family Environment Scale has been used in numerous studies of adolescents and young adults to assess perceptions of family functioning. A number of these studies offer support for the belief that perceptions of family functioning can act as a mediating variable on individuals' psychological adjustment to traumatic life events. Of particular relevance

for this study is the research conducted on subjects experiencing psychological distress and those who have experienced sexual abuse and assault.

Psychological distress. A number of studies have examined the role of family functioning in samples of subjects at risk for psychological distress. L. G. Bell and D. C. Bell (1982) compared the family environments of a group of 15 female adolescents who scored high on measures of healthy psychological functioning with an equal number of low scoring adolescents. Families of adolescents with healthy psychological adjustment were perceived to be more cohesive, expressive, and independent, but less organized.

Felner, Aber, Primavera, and Cauce (1985) studied adaptation and vulnerability in 250 adolescents judged to be at high risk for psychological disorder and distress due to their lower socioeconomic status and minority backgrounds. They found that high levels of family cohesion were related to more adaptive outcomes for this sample, and inferred that family cohesion was likely to be an important mediator of vulnerability.

Several studies have examined family functioning in clinical populations. Tyerman and Humphrey (1983) examined levels of family support for 24 males and females age 12-16 receiving psychiatric outpatient services in comparison with a matched control group. The cohesion dimension of the FES was used as one indicator of family support. Families

in the clinical group were perceived as less cohesive than control families.

Scoresby and Christensen (1976) compared the environments of families who sought help at a counselling centre with a nonhelp-seeking control group. The average age of children in these families was 15 in the help-seeking group and 16 in the nonhelp-seeking group. Families in the clinic group had sought help for family problems that included delinquency and emotional acting-out of their children. Members in nonhelp-seeking families reported more expressiveness, organization, and cohesion than members in families who had sought help. The help-seeking families also reported higher levels of conflict than did nonhelp-seeking families.

Oxenford and Nowicki (1982) used the FES to compare the perceived family climates of college students seeking help at a counselling centre with those of the general college population. Unfortunately, the researchers used mean scores for the three dimensions for their analyses and did not report scores for the individual subscales. Students seeking therapy rated their families lower on the Relationship and Personal Growth dimensions, and higher on the System Maintenance dimension, than their nonhelp-seeking counterparts. Help-seeking students perceived themselves as coming from families that lacked warmth and unity, in which positive growth was not facilitated, and which were characterized by a rigid, hierarchical organizational structure.

A study by Burt, Cohen, and Bjorck (1988) casts some doubt on the

finding that family functioning acts as a mediator of psychological adjustment. This study examined the relationship between perceptions of family environment and adjustment to puberty in 312 females and males with a mean age of 12.6 years. In a cross-sectional analysis, high levels of cohesion, organization, and expressiveness were related to positive psychological functioning. The perception of families as conflict-ridden and controlling was related to negative psychological functioning. However, these findings lacked robustness; family functioning variables failed to predict psychological functioning in a longitudinal analysis conducted using a five-month interval. As a result of these findings, the authors called into question the ability of family functioning to mediate psychological adjustment. However, the generalizability of these findings may be limited by the fact that the researchers used the short form of the FES with only six subscales. In addition, puberty is not a clinical phenomenon, and likely requires less adjustment than the factors leading families to seek help in the studies cited earlier.

Several trends are suggested by these studies. For the Relationship dimension, families that are perceived as more cohesive, more expressive, and less conflict ridden seem to be associated with better psychological functioning in their members. For the Personal Growth dimension, it seems that families that are perceived as more independent are associated with better psychological functioning. For the System Maintenance dimension,

there is some evidence to indicate that families perceived as highly controlled are associated with poorer psychological adjustment of family members.

Sexual abuse and assault. Three recent studies have examined perceptions of family functioning in child sexual abuse survivors. Koverola et al. (1992b) studied mediators of adjustment in female university students who had experienced child sexual abuse, peer abuse, or sexual assault. Subjects in the child sexual abuse group had been sexually abused before age 16 by someone at least five years older than themselves. Subjects in the peer abuse group had been sexually abused before age 16 by someone less than five years older than themselves. Subjects in the sexual assault group had been sexually assaulted after age 16. Types of psychological symptomatology measured included global distress, depression, anxiety, somatization, and posttraumatic stress disorder. For all three groups, family functioning variables as measured by the FES accounted for moderate amounts (3-27%) of the variance in psychological symptomatology.

The Personal Growth and Relationship dimensions of the FES accounted for a significant proportion of the variance in symptomatology, while the System Maintenance dimension accounted for minimal amounts of variance. For the Personal Growth dimension, families who were rated as less independent, high-achieving, low intellectual-cultural orientation, low activity-recreational orientation, and high moral-religious orientation were

associated with higher amounts of psychological symptomatology in the subject. All three subscales on the Relationship dimension were significant predictors of symptomatology; specifically, individuals in families who were less cohesive, less expressive, and higher in conflict experienced more symptomatology.

A second study conducted by Battle, Koverola, Proulx, and Chohan (1992) focused on the role of perceived family functioning as a predictor of psychosocial development in adult female survivors of intrafamilial and extrafamilial child sexual abuse compared to a nonabused control group. Subjects in the intra- and extrafamilially abused groups reported significantly less family cohesion and more conflict than those in the nonabused group. In addition, subjects in the intrafamilial abuse group reported significantly less family expressiveness and significantly more control than subjects in the extrafamilial and nonabused groups.

Ray, Jackson, and Townsley (1991) studied perceptions of family functioning in female college students who were survivors of intrafamilial and extrafamilial child sexual abuse. Their sample comprised 31 survivors of intrafamilial abuse, 49 survivors of extrafamilial abuse, and 49 nonabused women. Both intrafamilial and extrafamilial groups differed significantly from the nonabused group on a family functioning dimension comprised of cohesion, active-recreational orientation, moral-religious emphasis, independence, and organization.

Family Hardiness Index

The Family Hardiness Index (FHI; McCubbin et al., 1987) is a scale that was developed to measure the characteristic of hardiness in families. Hardiness is conceptualized as a resource that families can access during stressful periods, which can attenuate the negative effects of stress and facilitate a family's adjustment. In particular, family hardiness refers to the "internal strengths and durability of the family unit and is characterized by a sense of control over the outcomes of life events and hardships" (McCubbin et al., 1987, p.292). Within this perspective, change is seen as an opportunity for growth. The family is viewed as an active unit with the capacity for dealing with stressful events.

The FHI consists of 20 items rated on a 4-point scale. These items comprise four subscales: Co-oriented Commitment, Confidence, Challenge, and Control. The Co-oriented Commitment subscale assesses the family's sense of internal strengths, dependability, and ability to work together. The Confidence subscale assesses the family's sense of being able to plan ahead and its capability to endure hardships. This subscale also assesses family members' ability to find life meaningful as well as whether they feel appreciated for their efforts. The Challenge subscale assesses the family's efforts to be creative at solving problems, to be active, and to be able to learn and experience new things. The Control subscale assesses whether the family has a sense of being in control of its destiny rather than being

shaped by external events and circumstances.

Although the scale has not been employed extensively in research, Koverola et al. (1992b) have found indications that it may be a useful measure. As noted with the Family Environment Scale, the FHI accounted for significant amounts of the variance in psychological symptomatology in survivors of child sexual abuse, peer abuse, and adult sexual assault. FHI subscales accounted for 5-32% of the variance in global distress, depression, anxiety, and somatization. Examination of the particular subscales indicated that more symptomatic subjects had less confidence in their family's ability to endure hardship and perceived their families as less innovative and active. Members of these families felt less able to depend on each other and to work together. These families were also characterized by a perceived lack of ability to control their destinies.

## Research Rationale and Hypotheses

The study compared a clinical and a nonclinical group of female and male students on measures of perceived family functioning, trauma, and psychological symptomatology. One purpose of the study was to determine whether help-seeking students differed from nonhelp-seeking students on these measures. The study also examined the role of family functioning as a mediator of psychological symptomatology in help-seeking and nonhelp-seeking students.

Hypotheses

(1) It was predicted that the clinical group would score significantly higher on all measures of symptomatology than the nonclinical group.

(2a) The clinical group was predicted to score significantly lower on perceived family functioning as measured by the Family Environment Scale than the nonclinical group.

(2b) The clinical group was predicted to score significantly lower on perceived family functioning as measured by the Family Hardiness Index than the nonclinical group.

(3a) It was predicted that lower levels of perceived family functioning as measured by the Family Environment Scale and the Family Hardiness Index would predict higher levels of symptomatology in the clinical group.

(3b) It was predicted that lower levels of perceived family functioning as measured by the Family Environment Scale and the Family Hardiness Index would predict higher levels of symptomatology in the nonclinical group.

(3c) In particular, it was predicted that three family functioning variables measured by the Family Environment Scale would predict higher levels of symptomatology in the clinical group. Lower levels of cohesion, lower levels of expressiveness, and higher levels of conflict were expected to be associated with higher levels of symptomatology.

Exploratory Analyses

Exploratory analyses investigating the potential role of family functioning as a mediator of psychological symptomatology in individuals who had experienced trauma and in those who had not experienced trauma were planned. Subjects were to be grouped based on whether they had experienced trauma. Both clinical and non-clinical subjects were to be included.

# METHOD

## Subjects

The clinical group comprised 14 female and 12 male students age 18-39, who were involved in individual or group counselling at either the Counselling Service or the Psychological Service Centre at the University of Manitoba. The mean age of subjects in the clinical group was 24.46 years. The nonclinical comparison group comprised an equal number of female and male students age 19-24 drawn from the introductory psychology student subject pool at the University of Manitoba. The mean age of subjects in the nonclinical group was 20.50 years.

## Procedure

Students seeking counselling/therapy at the University of Manitoba Counselling Service and the Psychological Service Centre were informed of this research project by their counsellor/therapist. Clients were considered eligible for inclusion in the study if they had attended at least two counselling/therapy appointments after intake and had been in counselling/therapy for less than five months. Data for this research project were collected as one part of a comprehensive study of coping, family functioning, and social support as mediators of psychological symptomatology that was conducted at the Counselling Service. Counsellors/therapists at each facility gave prospective subjects an information sheet that explained the aims of the study and requested that

they inform their counsellor/therapist if they were interested in participating (see Appendices A and B).

Some clients who expressed interest in participating were introduced to one of the researchers by their counsellor/therapist. The researcher explained the procedure of the study and if the subject agreed to participate she or he was asked to sign a consent form (see Appendix C). The researcher then gave the questionnaire package to the subject. Some subjects completed the questionnaire package at the Counselling Service, and others took the package home and returned it to the Counselling Service or the Psychological Service Centre. Some subjects never met the researchers; they were given the questionnaire package by their counsellor/therapist and returned it to the Counselling Service or the Psychological Service Centre. Completion of the package took approximately one hour.

A researcher was available at the Counselling Service to respond to questions from subjects who completed the package on site. The researcher collected the completed questionnaires and gave the subject a written feedback sheet (see Appendix O). For subjects who completed the questionnaire package at home, the feedback sheet was included at the end of the questionnaire package.

The nonclinical group comprised 106 female and 47 male students recruited from the introductory psychology student subject pool. Students

received partial course credit for participation in the research project. Questionnaires were administered in groups of up to 50 subjects. The researchers explained the procedures of the study and asked the subjects to sign a consent form (see Appendix D). The researchers were available to answer questions, to collect the completed quesionnaires, and to hand out written feedback sheets (see Appendix P).

Following data collection, the questionnaires completed by nonclinical subjects were screened in order to eliminate subjects who had sought help for psychological distress. A total of 25 female and 10 male subjects were eliminated from the study on this basis. A subset of 26 nonclinical subjects was selected from the remaining group of 81 female and 37 male subjects for comparison. In view of the fact that the clinical group had a higher mean age than the nonclinical group, all of the older nonclinical subjects were included in the sample in order to minimize age effects. Selection was completed by matching subjects in the comparison group to those in the clinical group on the basis of gender.

All prospective subjects were informed that participation in the study was completely voluntary. Subjects in the clinical group were further informed that services at the Counselling Service and the Psychological Service Centre were in no way contingent upon participation in the research project. In addition, subjects were informed that they were free to withdraw their consent at any time. Subjects were also informed that their

responses were completely confidential. Questionnaires were identified by number coding, and subjects were not required to put their names on any questionnaire. Subjects were further assured that counsellors and staff of the Counselling Service and the Psychological Centre would not have access to individual data. Subjects in the nonclinical group were informed that upon completion of the study, overall results would be made available in Dr. Catherine Koverola's office to interested participants. Subjects in the clinical group were informed that overall results of the study would be made available to them at the Counselling Service or the Psychological Service Centre upon completion of the study. A notice was posted at each facility informing subjects that results of the study were available at the reception desk.

## Measures

### Demographic Information Questionnaire

This questionnaire was constructed for the study. It assessed information on ethnic identity, socioeconomic status, and family background (see Appendix E).

### Family Functioning Measures

Two measures of family functioning were used in this study: the Family Environment Scale (FES; R. H. Moos & B. S. Moos, 1989) and the Family Hardiness Index (FHI; McCubbin et al., 1987).

The Family Environment Scale (FES). The FES is a 90 item, true-false instrument that measures family functioning. It is comprised of 10 subscales that assess functioning along three dimensions: the Relationship dimension, the Personal Growth dimension, and the System Maintenance dimension. The Relationship dimension has three subscales: Cohesion, Expressiveness, and Conflict. There are five subscales on the Personal Growth dimension; they are Independence, Achievement Orientation, Intellectual-Cultural Orientation, Active-Recreational Orientation, and Moral-Religious Emphasis. The System Maintenance dimension comprises two subscales, Organization and Control. Scores for each subscale are obtained by summing the subscale items. Examples of statements on the FES include: "Family members sometimes got so angry they threw things," "There was little group spirit in our family," and "Learning about new and different things was very important in our family" (R. H. Moos & B. S. Moos, 1986).

The FES has demonstrated reliability, with internal consistencies ranging from .61 for Independence to .78 for Cohesion and Intellectual-Cultural Orientation using the Kuder-Richardson Formula 20. Test-retest reliabilities are also acceptable, ranging from .68 for Independence to .86 for Cohesion, with a two-month interval between tests. R. H. Moos and B. S. Moos (1986) report item-subscale correlations ranging from .27 to .44. In support of the validity of the FES as a measure of family

adjustment, R. H. Moos & B. S. Moos (1986) report that distressed families are characterized by lower levels of Cohesion, Expressiveness, Independence, Intellectual-Cultural Orientation, and Active-Recreational Orientation and higher levels of Conflict and Control than non-distressed families. Further evidence for the construct validity of the FES was obtained by Spiegel and Wissler (1983) in a study of the family environments of male psychiatric patients. This study found that professional staff members' ratings of family environment were significantly correlated with patients' and their partners' reports of cohesion, expressiveness, conflict, and religious emphasis (see Appendix F).

The Family Hardiness Index (FHI). The FHI (McCubbin et al., 1987) assesses the ability of families to effectively adapt to stressors (see Appendix G). The FHI is a 4 point, 20-item instrument that consists of four subscales: Co-ordinated Commitment, Confidence, Challenge, and Control. Subjects are asked to indicate whether statements about their family are false (1), mostly false (2), mostly true (3) true (4), or not applicable (5). Scores are obtained by summing the values of the responses; several of the items are reverse scored. Examples of items on the FHI include: "In our family, we have a sense of being strong even when we face big problems," and "In our family, our work and efforts are not appreciated no matter how hard we try and work" (McCubbin, et al., 1987). The FHI has a demonstrated internal consistency of .82 (Cronbach's alpha). Further,

McCubbin and colleagues (1987) offer evidence for the criterion validity of the FHI. Correlations of .22 have been found between the FHI and an index of flexibility as measured by the Family Adaptability and Cohesion Scale-II (FACES-II, Olson, Porter, & Bell, 1982).

Trauma Measures

Three measures of trauma were used in this study to assess trauma related to sexual abuse and assault, physical abuse, and general trauma.

Sexual abuse and assault measures. Descriptive characteristics of child sexual abuse, peer abuse, and adult sexual assault were obtained using the History of Unwanted Sexual Contact Questionnaire (Koverola, Proulx, Hanna, & Battle, 1992), a self-report measure based on Finkelhor's (1979) sexual victimization survey (see Appendix H). For the purposes of this study, child sexual abuse was defined as unwanted sexual activity occuring between a child younger than 16 with someone more than five years older. Peer abuse was defined as unwanted sexual activity occurring between a child younger than 16 with someone less than 5 years older. Adult sexual assault was defined as unwanted sexual activity occurring when the subject was age 16 or older. The measure used in the present study asked subjects to indicate how many times they had experienced any of seven unwanted sexual experiences. All of the experiences involved physical contact; they ranged from sexual kissing to completed vaginal intercourse. For each experience, the subjects were also asked to indicate

their age at the time of the incident, how long the abuse continued, relationship to the perpetrator, the perpetrator's age and gender, use of force, and the victim's current view of the incident. In order to differentiate between child sexual abuse, peer sexual abuse, and adult sexual assault, the questionnaire is divided into three sections.

Physical abuse measure. Childhood physical abuse was assessed using the Family Conflict Questionnaire, a modified version of the scale constructed by Runtz (1991, see Appendix I). This scale defines physical abuse in terms of frequency and severity. Frequency is measured by asking the number of times subjects experienced any of 8 abusive behaviours before age 17 at the hands of caretakers. Caretakers include parents, guardians, and step-parents. The scale includes such behaviours as "hit or slap you really hard," and "burn or scald you". The response range is from 0-20 times. Severity is measured through 'yes' or 'no' responses to a list of possible injuries resulting from the abuse. The greater the extent and number of injuries, the more severe the abuse. In order to meet the criteria for child physical abuse, subjects must have either been hit or slapped hard enough to cause injury, or have experienced any of the more severe forms of abuse such as being burned. Runtz (1991) reports a Cronbach's alpha of .85 for the scale.

General trauma measure. Trauma unrelated to sexual abuse and assault or childhood physical abuse was assessed by the first question on

the Trauma Sequelae for general trauma, constructed for a previous study by Koverola and colleagues (1992a, see Appendix L). This measure asks the subject to indicate traumatic experiences that they have experienced at any time in their lives. In order to be considered traumatic, the event must be psychologically distressing and outside the range of common human experience according to the criteria for posttraumatic stress disorder set out in the third edition of the Diagnostic and Statistical Manual of the American Psychiatric Association (APA, 1987).

Symptomatology Measures

The Beck Depression Inventory. The Beck Depression Inventory (BDI) (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) is a 21-item inventory that determines the presence and degree of depressive symptomatology (see Appendix M). Each item contains four statements that assess the respondent's state of mind and emotional state in the previous week. Each statement is assigned a value ranging from 0 (e.g., "I don't feel disappointed in myself" to 3 (e.g., "I hate myself"). The sum of these scores can range from 0 to 63, with a score of 14 typically being used as a clinical cutoff score for depression (Andersen, 1990; Lester, 1990). The BDI has demonstrated reliability; studies indicate that subjects' scores on each of the 21 items of the BDI correlate highly with their overall scores (Beck, 1972). Further, coefficients of .93 have been noted using Spearman-Brown correlations (Beck, 1972), and split-half reliability coefficients of .86 have been found

using Pearson product moment correlations (Green, 1982). The BDI has demonstrated construct validity; correlations of .65 to .77 have been reported with clinical judgments of depth of depression (Beck, 1972; Bumberry, Oliver & McClure, 1978; Green, 1982). In addition, correlations of .40 to .66 have been reported with the Depression Adjective Checklist (Beck, 1972). Discriminative validity has been demonstrated by the ability of the BDI to differentiate between psychiatric patients with different types of depression (Steer, Beck, & Garrison, 1986).

The Symptom Checklist 90-Revised. The Symptom Checklist 90-Revised (SCL-90-R) is a 90-item self-report questionnaire constructed by Derogatis (1977; see Appendix N). The SCL-90-R was used as an index of global distress as well as of more specific symptomatology such as depression, anxiety, and somatization. Each item is a description of a psychological symptom, and is rated on a five point scale (0 to 4) by respondents. Ratings of 0 indicate that the symptom has caused no discomfort during the past week; ratings of 4 indicate extreme discomfort. A clinical cut-off score of 3 is commonly used to indicate severe distress. Global distress is measured using the total averaged score; higher scores indicate greater levels of distress. Scores for each subscale are obtained by summing and averaging the items representing each symptom. Factor analysis of the subscales of the SCL-90-R has supplied evidence of the instrument's reliability (L. Derogatis & Cleary, 1977). Evidence of the

convergent and divergent validity of the SCL-90-R was provided by a study conducted by L. R. Derogatis, Rickels, and Rock (1976), who reported correlations with scores on the Minnesota Multiphasic Personality Inventory (MMPI) ranging from 0.41 to 0.75.

The Trauma Sequelae. The Trauma Sequelae (Koverola et al., 1992; see Appendix K) is a 23 item self-report instrument designed to assess posttraumatic stress disorder (PTSD), and is based on criteria set out in the third edition of the Diagnostic and Statistical Manual of Mental Disorders (APA, 1987). This instrument asks the respondents to indicate the effects of traumatic events that they have experienced at any time in their lives. In order to be categorized as having PTSD, the respondent must meet criteria in each of three symptom domains: reexperiencing the traumatic event, avoidance of stimuli associated with the event, and persistent symptoms of increased arousal. The subject must report at least one symptom of reexperiencing, at least three symptoms of avoidance, and at least two symptoms of increased arousal in order to meet the criteria for PTSD. Examples of questions on the Trauma Sequelae include: "Do you have recurring memories of the experience?", "Do you deliberately avoid thoughts or feelings that remind you of the experience?" and "Do you find yourself reacting physically to things that remind you of the experience?". The Trauma Sequelae is a relatively new measure, and establishment of its reliability and validity is still pending. In a 1992 study, Hanna et al. found

no significant difference in the way that the Trauma Sequelae and the Structured Clinical Interview for the DSM-III-R - Nonpatient Edition (SCID-NP; Spitzer et al., 1990) classified a sample of 45 subjects as PTSD positive or PTSD negative.

Each subject was asked to complete the Trauma Sequelae a maximum of three times. Subjects who had experienced sexual abuse or assault were asked to fill out the Trauma Sequelae relative to these experiences (see Appendix I). Subjects who experienced childhood physical abuse were asked to fill out the Trauma Sequelae with respect to these experiences (see Appendix J). Subjects who had experienced one or more traumatic events that qualified as "uncommon" were asked to fill out the Trauma Sequelae relative to this experience.

# RESULTS

## Statistical Procedures

The Statistical Analysis System (SAS; SAS Institute Inc., 1985) was used to calculate all statistics for this study. Several procedures were conducted prior to data analysis to determine if the data violated assumptions of normality. These included procedures designed to identify missing data, skewness, linearity and homoscedasticity, outliers, homogeneity of variance, multicollinearity, and singularity. First, the data were checked for missing data points. If only one data point was missing for a subscale on the Family Environment Scale (FES), the Family Hardiness Index (FHI), or the Symptom Checklist 90-Revised (SCL-90-R), the data point was replaced with the average value of all other items on that subscale. According to Tabachnick and Fidell (1983), this is a conservative procedure because it does not change the mean of the distribution as a whole. Data replacement was executed in order to avoid discarding entire cases from the analysis of variance and multiple regression procedures. Two data points were replaced on the Co-oriented Commitment subscale of the FHI, one each for a clinical and a nonclinical subject. One data point was replaced on the Challenge subscale of the FHI for a clinical subject. One clinical subject did not complete the FHI, and thus was deleted from all analyses involving this measure, as recommended by Tabachnick and Fidell (1983). Six data points in all were replaced on the

SCL-90-R. One data point was replaced on the somatization subscale for a nonclinical subject, one on the depression subscale for a clinical subject, and four data points were replaced for another clinical subject. For the latter subject one of the data points was included on the anxiety subscale, and the remainder were included only on the global distress index.

Second, univariate statistics were used to determine if the distributions of any of these variables were skewed. The only variable that violated the assumption of normality was the somatization subscale of the SCL-90-R. The distribution of somatization was positively skewed for the nonclinical group, indicating that the majority of subjects in this group tended to lack symptoms of somatization. Performing logarithmic transformations returned this distribution to normality. Analyses of variance procedures are fairly robust to the assumption of normality (Howell, 1985; Younger, 1985), and therefore the somatization variable was not transformed for these analyses. However, multiple regression procedures are vulnerable to violations of the assumption of normality (Tabachnick & Fidell, 1983). Thus, the logarithm of the somatization variable was used for regressions involving the nonclinical group. Due to the fact that the original scale for the somatization subscale is arbitrary, it was felt that using the logarithm of this subscale would not unduly complicate interpretation of the results.

Third, all dependent variables were plotted against each other in

order to check whether the assumptions of linearity and homoscedasticity had been violated. It was determined that no serious violations had occurred.

Fourth, Cook's D was used to determine if outliers were present in the data. Two outlying data points were located on the Beck Depression Inventory (BDI). A clinical subject had received a score of 38 on the BDI, and a nonclinical subject had received a score of 34. The remaining subjects' scores on the BDI ranged from 1 to 25 for the clinical group and from 0 to 23 for the nonclinical group. Tabachnick and Fidell (1983) suggest that one way to deal with such outliers is to replace them with a value that is one unit larger than the next most extreme score in the distribution. This procedure retains the uniqueness of the data point without allowing it to unduly influence the analyses. For the clinical group, the outlying score of 38 was replaced with 26, and for the nonclinical group the score of 34 was replaced with 24.

Fifth, the assumption of homogeneity of variance was tested using the t-test procedure. The assumption of homogeneity of variance was violated for the Co-oriented Commitment subscale of the FHI. Square root, logarithmic, and inverse transformations performed on the Co-oriented Commitment variable failed to achieve homogeneity of variance. Howell (1985) indicates that analysis of variance procedures are fairly robust to heterogeneity of variance when sample sizes are equivalent. Violations of

this assumption tend to slightly inflate the error variance for both analysis of variance and multiple regression procedures. Therefore, results with probability values that fall near the cut-off point should be interpreted with caution.

Last, the data were examined for multicollinearity and singularity by checking to see if any of the dependent variables were highly correlated. As indicated in Table 1 (p. 135), some of the variables were highly correlated. However, none of the correlations were as high as .99, the point at which Tabachnick and Fidell (1983) indicate that multicollinearity is present.

Demographic Data

Multiple t-tests with Bonferroni corrections were used to test for differences between the clinical and nonclinical groups on the demographic variables of age, socioeconomic status, ethnicity, and whether subjects resided with their families. The mean age of the clinical group ($M$ = 24.46, $SD$ = 5.96) was significantly higher than that of the nonclinical group ($M$ = 20.50, $SD$ = 1.42), $t(25) = -3.30$, $p=.002$. Subjects in the clinical group ranged in age from 18 to 39, and those in the nonclinical group ranged in age from 19 to 24. The two groups did not differ significantly on any other demographic variables.

In terms of ethnic background, 40 subjects were White (77%), 9 were Asian (17%), and the remaining 3 subjects (6%) designated their ethnicity as "Other". Subjects' average family income was $35,000 - $45,000 per year.

Approximately half of the subjects (n=23; 46%) lived with their parents.

Descriptive Statistics

Trauma characteristics. The number of subjects within the clinical and nonclinical groups who met the criteria for child physical abuse, child sexual abuse, peer sexual abuse, adult sexual assault, and other types of trauma is summarized in Table 2, p. 141. These categories are not exclusive; several subjects had experienced more than one type of trauma. The category 'overall trauma' included subjects who experienced one or more types of trauma. The category 'other trauma' included events such as: being involved in a flood or tornado, being the victim of attempted kidnapping or physical assault, seeing someone who had been killed, and having a close friend or family member attempt or commit suicide.

Symptomatology in Clinical vs. Nonclinical Groups

The total number of subjects in the clinical and nonclinical groups who met the DSM-III-R criteria for posttraumatic stress disorder (PTSD) with precipitating events of sexual abuse or assault, child physical abuse, or other trauma is summarized in Table 3, p. 142. These categories are not exclusive; some subjects experienced more than one precipitating event. The category overall PTSD included subjects who experienced one or more types of trauma. Consideration of posttraumatic stress disorder was limited to the use of descriptive statistics for two reasons. First, PTSD was measured in this study as a discrete rather than a continuous variable, and

thus is not appropriate for use with analyses of variance procedures. Further, the Trauma Sequelae assesses PTSD symptomatology that has been present at any time during the respondent's life. In contrast, the Beck Depression Inventory and the Symptom Checklist 90-Revised measure current symptomatology and are thus more appropriate for inclusion in regression analyses using family functioning variables as predictors of symptomatology.

Group and gender differences in symptomatology were tested using a two-way (Group x Gender) analysis of variance (ANOVA) with symptomatology as the dependent variable. Analysis of variance is a procedure that tests for differences between two or more sample means. This procedure can also test for the effects of two or more independent variables at the same time, yielding information not only about the effect of each variable but also about their interacting effects (Howell, 1985). The ANOVA procedure was used to test the hypothesis that the clinical group would score significantly higher on measures of symptomatology than the nonclinical group. This analysis was also used to test for significant differences in symptomatology as a function of gender as well as interaction effects of group and gender. The symptomatology variables included in the analysis were depression, anxiety, somatization, and global distress. The a priori significance level was set at .01 for each dependent variable, yielding an overall significance level of .05.

Results are summarized in Table 4, p. 143. On the BDI, the mean scores for both the clinical and nonclinical groups fell below the clinical cutoff score of 14, indicating that on average, neither group met the criteria for moderate depression. The mean scores for both groups on the global distress index and on the anxiety, depression, and somatization subscales of the SCL-90-R fell below the clinical cut-off score of 3 for this measure, indicating that on average the subjects displayed relatively mild psychological symptomatology.

A Bonferroni test of means indicated a main effect for group. Subjects in the clinical group scored significantly higher on the depression subscale of the SCL-90-R than those in the nonclinical group. Although there was a trend for clinical subjects to rate higher than nonclinical subjects on other measures of symptomatology, no other differences approached significance. There was no main effect for gender, and no interaction effect of group and gender.

Family Environment in Clinical vs. Nonclinical Groups

Group and gender differences in family functioning as measured by the Family Environment Scale (FES) were tested using a two-way (Group x Gender) ANOVA with FES subscales as the dependent variable. Results are summarized in Table 5, p. 144. This analysis was used to test the hypothesis that clinical subjects would rate their families as lower in family functioning on the FES than nonclinical subjects. Further, this analysis

tested for significant differences in family environment as a function of gender as well as interaction effects of group and gender. All ten FES subscales were included in the analysis. The a priori significance level was set at .01 for each subscale, yielding an overall significance level of .10. Although choosing a less conservative significance level somewhat increases the probability of making a Type I error (finding differences in family environment between the two groups when they do not exist), it was believed to be justified by the exploratory nature of the analyses.

A Bonferroni test of means indicated a main effect for group. Subjects in the clinical group rated their families significantly higher than those in the nonclinical group on the Control and Conflict subscales of the FES. Further, clinical group subjects rated their families significantly lower on the Cohesion, Expressiveness, and Independence subscales than nonclinical subjects.

A main effect for gender was found on the Control subscale of the FES. A Bonferroni test of means indicated that the mean for females in the nonclinical group ($\underline{M}$ = 6.36) was significantly higher than that for males ($\underline{M}$ = 4.54), $\underline{F}(1, 51) = 9.63$, $\underline{p}$=.003. There was no interaction effect of group and gender.

Family Hardiness in Clinical and Nonclinical Groups

Group and gender differences in family hardiness as measured by the Family Hardiness Index (FHI) were tested using a two-way (Group x

Gender) ANOVA with FHI subscales as the dependent variable. This analysis was used to test the hypothesis that clinical subjects would rate their families as lower in family functioning on the FHI than nonclinical subjects. Further, this analysis tested for significant differences in family hardiness as a function of gender as well as interaction effects of group and gender. All four FHI subscales were included in the analysis. The a priori significance level was set at .02 for each subscale, yielding an overall significance level of .08. Although choosing a less conservative significance level somewhat increases the probability of making a Type I error (finding differences in family hardiness between the two groups when they do not exist), it was believed to be justified by the exploratory nature of the analyses.

A Bonferroni test of means indicated a main effect for group. Results are summarized in Table 6, p. 145. Clinical subjects rated their families significantly lower on the Co-oriented Commitment subscale than did nonclinical subjects. There was no main effect for gender, and no interaction effects between group and gender.

Family Functioning Variables as Predictors of Symptomatology

Clinical group. Due to an insufficient number of subjects in the clinical group, the hypothesis that lower levels of family functioning would be predictive of higher levels of symptomatology could not be tested using the full number of FES subscales. It was, however, possible to test the

hypothesis that lower levels of cohesion and expressiveness and higher levels of conflict would be predictive of higher levels of symptomatology. A stepwise multiple regression procedure was used to test this hypothesis. In stepwise regression, each variable is entered into the regression equation based on statistical rather than theoretical criteria (Tabachnick & Fidell, 1983). This procedure was chosen due to the exploratory nature of the analysis. The symptomatology variables included in the analysis were depression, anxiety, somatization, and global distress. Results are summarized in Table 7, p. 146. Lower levels of cohesion were found to predict higher levels of depression on the Beck Depression Inventory.

The hypothesis that lower levels of family functioning as measured by the Family Hardiness Index (FHI) would be predictive of higher levels of symptomatology in the clinical group was also tested using a stepwise multiple regression procedure. The symptomatology variables included in the analysis were depression, anxiety, somatization, and global distress. Results are summarized in Table 8, p. 147. Lower ratings on the Confidence subscale were predictive of higher levels of depression on the Beck Depression Inventory.

Nonclinical group. To test the hypothesis that lower levels of family functioning as measured by the Family Environment Scale (FES) would be predictive of higher levels of symptomatology, a stepwise multiple regression procedure was conducted using the Cohesion, Expressiveness and

Conflict subscales of the FES. Results are summarized in Table 9, p. 148. None of the FES subscales were significant predictors of symptomatology in the nonclinical group.

A stepwise multiple regression procedure was conducted to test the hypothesis that lower levels of family functioning as measured by the FHI would be predictive of higher levels of symptomatology. Results are summarized in Table 10, p. 149. Lower ratings on the Confidence subscale were predictive of higher levels of depression as measured by the Beck Depression Inventory as well as higher levels of depression and global distress as measured by the SCL-90-R.

Exploratory Analyses

Due to an insufficient number of subjects in the clinical group, it was not possible to conduct exploratory analyses to compare the role of family functioning as a mediator of psychological symptomatology in traumatized and nontraumatized individuals. The planned analysis involved dividing the entire sample into two groups: one comprising subjects who had experienced a traumatic event, and one comprising subjects who had not. The groups would then be subdivided into high and low family functioning groups. Subjects whose scores on the Family Environment Scale (FES) fell in the uppermost quartile would comprise the high family functioning group, and subjects whose scores fell in the lowermost quartile would comprise the low family functioning group. Using these categories, a

MANOVA would have been conducted to determine whether significant differences were present between subgroups on measures of distress symptomatology. Due to the fact that within the total sample, only 38 subjects had experienced a traumatic event, it was not feasible to conduct these analyses. In order to complete the analyses, a minimum of 50 subjects in each group would have been required.

Exploratory analyses were conducted to determine if subjects living with their families differed on measures of family functioning or symptomatology. This was tested using a one-way analysis of variance procedure with residence status as the independent variable and family functioning, family hardiness, and symptomatology as the dependent variables. No significant differences were found.

# DISCUSSION

## Symptomatology in Clinical vs. Nonclinical Groups

The hypothesis that clinical group subjects would self-report as more symptomatic than nonclinical subjects was partially supported. Although there was a trend for clinical subjects to be more symptomatic than nonclinical subjects on all measures of symptomatology, the only difference which reached significance was on the depression scale of the SCL-90-R. The mean scores for both the clinical and the nonclinical group on the Beck Depression Inventory (BDI) and the Symptom Checklist 90-Revised (SCL-90-R) did not meet criteria for clinical cut-offs. This indicates that overall, subjects in both groups lacked symptoms of psychological distress. There may be several reasons for this finding. First, subjects in the clinical group may have appeared less symptomatic than expected because they had initiated the process of counselling. Some subjects had been in counselling for up to five months. Second, some clinical group subjects were in supportive group therapy rather than individual treatment. It is possible that these subjects were less distressed to start with than subjects in individual treatment, and this may have lowered the mean of the group on symptomatology measures. It was not possible to empirically test this hypothesis because in order to protect subjects' confidentiality, records of whether subjects were enrolled in individual or group counselling/therapy were not kept. Third, the mean age of subjects in the clinical group was

higher than that of subjects in the nonclinical group. It is possible that over time older subjects have developed more effective methods of coping with distress, and thus may present as less symptomatic on objective measures.

Family Environment in Clinical vs. Nonclinical Groups

The hypothesis that the clinical group would rate their families lower than the nonclinical group on perceived family functioning as measured by the Family Environment Scale (FES) was well supported across the three domains of Relationship, Personal Growth, and System Maintenance. Within the Relationship dimension, subjects in the clinical group rated their families significantly lower than those in the nonclinical group on the Cohesion and Expressiveness subscales and significantly higher on the Conflict subscale. Low scores on the Cohesion subscale reflect a low degree of support within the family and a low degree of commitment to the family, as well as a low level of affiliation between family members. Subjects in the clinical group also rated their families as less expressive than did subjects in the nonclinical group. Low scores on the Expressiveness subscale are indicative of a lack of family support for the efforts of its members to become individuals, as well as a tendency not to foster open communication in the family. Further, subjects in the clinical group rated their families as more conflictual than did subjects in the nonclinical group. High scores on the Conflict subscale reflect a high degree of openly expressed anger, aggression, and conflict within the family.

Within the Personal Growth dimension, subjects in the clinical group rated their families as less independent than those in the nonclinical group. Low scores on the Independence subscale indicate that family members are less assertive, less self-sufficient, and less individuated; such scores are suggestive of enmeshment.

Within the System Maintenance dimension, subjects in the clinical group rated their families as more controlling than nonclinical group subjects. High scores on the Control subscale indicate that rules and procedures are used extensively to run family life, and suggest that the family functions in an authoritarian manner.

In summary, the clinical group families were overall described as less cohesive, less expressive, more conflictual, less independent, and more highly controlled than the nonclinical group families. These results are consistent with the findings of Oxenford and Nowicki (1982). They found that students seeking therapy at a university counselling centre rated their families lower on the Relationship and Personal Growth dimensions and higher on the System Maintenance dimension than did students in the general college population.

Family Hardiness in Clinical vs. Nonclinical Groups

The hypothesis that the clinical group would rate their families lower on perceived family functioning as measured by the Family Hardiness Index (FHI) than the nonclinical group received some support. Subjects in the

clinical group rated their families significantly lower on the Co-oriented Commitment subscales. The Co-oriented Commitment subscale measures the family's ability to work together as well as its sense of internal strength and dependability. Subjects who rated their families lower on the Co-oriented Commitment subscale saw their families as undependable and unable to work as a unit.

In summary, both the Family Environment Scale and Family Hardiness Index indicate that the families of the clinical group are perceived as more dysfunctional than those of the nonclinical group. It is possible that subjects who perceive their families as lower functioning are more likely to seek help for psychological distress than subjects who perceive their families as higher functioning. Further research would be required to address this hypothesis.

Family Functioning Variables as Predictors of Symptomatology in the Clinical Group

The hypothesis that lower levels of perceived family functioning as measured by the Family Environment Scale would be predictive of higher levels of symptomatology in the clinical group received some support. It was hypothesized that lower levels of cohesion and expressiveness and higher levels of conflict would be predictive of higher levels of symptomatology. Lower levels of cohesion were associated with higher levels of depression as measured by Beck Depression Inventory, accounting

for 17% of the variance in this measure. A family that is rated lower on the Cohesion subscale would be characterized by a lack of affiliation and support for its members. It is possible that depressed subjects are more likely than nondepressed subjecs to perceive their families as lacking in cohesion. An alternative explanation for this finding may be that families that lack cohesion are associated with higher levels of depressive symptomatology in their members because they fail to provide them with support and a sense of belonging.

Overall, subjects in the clinical group did not meet criteria for moderate depression on the BDI. Therefore, this result must be interpreted with caution. The hypothesis that lower levels of perceived family functioning as measured by the FES would be predictive of higher levels of symptomatology in the clinical group may have received only moderate support because subjects in this group were relatively asymptomatic on measures of psychological distress.

These results are consistent with the findings of previous researchers. Koverola et al. (1992b) found that lower levels of cohesion were associated with higher levels of distress symptomatology in a sample of female university students who were survivors of child sexual abuse or adult sexual assault. L.G. Bell and D.C. Bell (1982) found that female adolescents who scored high on measures of healthy psychological adjustment perceived their families as more cohesive than did their low-scoring counterparts.

The hypothesis that lower levels of perceived family functioning as measured by the FHI would be predictive of higher levels of symptomatology within the clinical group received some support. Lower ratings on the Confidence subscale were predictive of higher levels of depression on the Beck Depression Inventory. The Confidence subscale accounted for 41% of the variance on this measure. Families rated lower on the Confidence subscale would have an inability to endure hardships and to plan ahead. Further, families rated lower on this subscale are characterized by a lack of appreciation of family members for their efforts and a relative lack of ability to experience life as meaningful and interesting. On examination, the items on the Confidence subscale appear to measure elements of depression, such as hopelessness, helplessness, and the sense of a foreshortened future. It is not surprising, therefore, that lower ratings on the Confidence subscale were associated with higher levels of depression.

In summary, perceived family functioning as measured by the Family Environment Scale and the Family Hardiness Index was found to be predictive of symptomatology in the clinical group. Families that were rated as less cohesive on the FES were associated with higher levels of depression on the BDI. Further, families described as less able to endure hardships and to plan ahead, less able to experience life as meaningful, and less appreciative of family members were associated with higher levels of

depression on the BDI in clinical group subjects.

Family Functioning as Predictors of Symptomatology in the Nonclinical Group

The hypothesis that lower levels of perceived family functioning as measured by the FES would be predictive of higher levels of symptomatology in the nonclinical group was tested using the Cohesion, Expressiveness, and Conflict subscales. This hypothesis was not supported; none of the three FES subscales were significant predictors of symptomatology. A possible reason for this finding is that the nonclinical subjects were relatively asymptomatic on measures of psychological distress. An alternative explanation for the lack of support of this hypothesis is that FES subscales other than those used in the regression may have been more predictive of symptomatology for the nonclinical group. However, due to the small sample size of the comparison group it was not possible to include the other subscales.

The hypothesis that lower levels of perceived family functioning as measured by the FHI would be associated with higher levels of symptomatology in the nonclinical group was supported. Lower ratings on the Confidence subscale were associated with higher levels of depression as measured by the Beck Depression Inventory as well as with higher levels of depression and global distress as measured by the SCL-90-R. As indicated in Table 1, p. 135, these three measures of distress are highly

intercorrelated. The Confidence subscale accounted for 21-31% of the variance in symptomatology on these measures. Families that were rated lower on the Confidence subscale would be characterized by a lack of ability to plan ahead as well as a diminished ability to endure challenges and hardships. Further, such families would be characterized by a lack of appreciation for the efforts of its members and a diminished ability to appreciate life with interest and meaningfulness.

In summary, the findings indicate that perceived family functioning as measured by the Family Environment Scale failed to significantly predict symptomatology in the nonclinical group. However, the Confidence subscale of the Family Hardiness Index accounted for significant amounts of the variance in symptomatology in the nonclinical group. Families perceived as lacking in planning ability and in the ability to endure hardships and challenges were associated with higher levels of symptomatology in the nonclinical group.

Family Functioning Variables as Predictors of Symptomatology in Clinical vs. Nonclinical Groups

Although lower ratings on the Cohesion subscale of the Family Environment Scale (FES) was predictive of symptomatology in the clinical group, no FES subscales were predictive of symptomatology in the nonclinical group.

There was somewhat more overlap in the predictive ability of the

Family Hardiness Index between the clinical and nonclinical groups. Lower ratings on the Confidence subscale of the Family Hardiness Index were predictive of higher levels of depression on the Beck Depression Inventory for the clinical group. Lower ratings on the Confidence subscale were also predictive of higher levels of depression as measured by the BDI and of depression and global distress as measured by the SCL-90-R in the nonclinical group. There is some indication of overlap between the Confidence subscale and these measures of psychological distress, as they are highly intercorrelated. It is possible that subjects who are depressed are more likely to perceive their families as lacking the ability to plan for the future and to endure hardships and challenges. However, it is also possible that such families are associated with increased levels of psychological symptomatology because they fail to provide their members with a sense that hardships can be overcome. It is likely that these factors interact; further research would be required to clarify the relationship between them.

Limitations of the Study

The relatively small number of subjects in the clinical group limited the number and scope of analyses that could be conducted on the data. In the multiple regression procedure using Family Environment Scale (FES) subscales to predict symptomatology, it was necessary to limit the number of FES subscales to three rather than using all ten subscales. Further,

there was an insufficient number of subjects who had experienced trauma to allow analyses of the mediating effect of family functioning on traumatized and non-traumatized individuals.

In addition, the clinical group may not have been as homogeneous as would be desired. In order to obtain a sufficient number of subjects, it was necessary to include subjects who were in group therapy as well as those in individual therapy. Individuals seeking supportive group therapy may differ in symptomatology from those seeking individual counselling/therapy. In the interest of protecting subjects' confidentiality, records were not kept on whether subjects were enrolled in individual or group counselling/therapy. In order to maximize the number of subjects in the clinical group it was also necessary to recruit subjects from the Psychological Service Centre as well as the University Counselling Service. It is possible that subjects who presented for therapy at the Psychological Service Centre differed from those who presented at the University Counselling Service on some variables of interest. In the interest of protecting clients' confidentiality, a record was not kept identifying whether subjects were recruited from the Psychological Service Centre or the University Counselling Service. Therefore, it was not possible to compare subjects with respect to location of counselling/therapy.

A further limitation of the study was the fact that the age range and mean age of the clinical group was higher than that of the nonclinical

group. Ideally, these groups could have been more homogeneous in terms of age. In addition, the study used university students as subjects; this limits the generalizability of the results of the study to the general population.

Clinical Implications

The results of this study have significant implications for clinicians offering counselling to university students. Perceived family functioning as measured by the Family Environment Scale accounted for a moderate amount of the variance in symptomatology in the clinical group. Perceived family functioning as measured by the Family Hardiness Index accounted for moderate to high amounts of the variance in symptomatology in both the clinical and nonclinical groups. If therapists recognize the importance of perceived family functioning as a mediator of psychological symptomatology, it may be possible for them use this information to design more effective therapeutic interventions. Although it may not be possible to change the family's functioning directly through therapy with an individual, it may be possible for a therapist to facilitate the client's reactions to or ways of coping with family dynamics.

For example, a family that is perceived to lack cohesiveness would be characterized by a lack of affiliation and support for its members. If a client perceives their family as lacking in cohesiveness, the therapist may choose to facilitate the client's use of other sources of support as one part of the therapeutic intervention.

It is also important for the therapist to consider the stage the client's family is at in the family life cycle. Young adults leaving the family unit to make lives on their own must negotiate issues of power, control, and boundaries. At this stage of family life, the family's capacity for change is particularly salient. According to Barnhill (1979), the dimensions involving family flexibility and stability would be involved in the process of launching the young adult.

Further, elements of perceived family functioning such as those indicated by the Family Hardiness Index may serve as a protective factor in mediating clients' distress. In particular, the family that is perceived as confident in its ability to endure hardships and able to plan ahead seems to be able to serve as a buffer against distress symptomatology in family members.

Future research

There are several possible directions that future research could take in this area. With a larger group of clinical subjects, more complete analyses could be conducted into the role of FES subscales as predictors of symptomatology. Further, the planned exploratory analyses could be conducted to examine the role of family functioning as a mediator of symptomatology in subjects who have experienced trauma and in those who have not.

In order to address the problem of limited generalizability, the study

could be replicated with a group of clinical subjects who are not university students, such as clients at a community mental health clinic.

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Appendix A

Information Sheet for Counselling Service Subjects

Hello! Your counsellor has given you this sheet in order to introduce a research study being conducted by two students from the Department of Psychology. The researchers are Cindy Hanna, a graduate student in clinical psychology, and Anne Fedorowicz, an honours psychology student. The study examines university students' feelings, values, ideas, and attitudes about self, friends, family, community, society, and life events such as sexual and physical assault. Participation in the study involves completing a series of questionnaires relating to these topics that will take approximately 1 hour. Participation in this study is completetely voluntary and will not affect your eligibility for receiving counselling services. All responses will be kept strictly confidential, and staff of the counselling service will not have access to your data. In order to ensure your anonymity, questionnaires are identified by number coding. If you consent to participate in this study, you may withdraw your consent at any time.

Please let your therapist know if you are interested in participating in this study. Thank you very much.

Appendix B

Information Sheet for Psychological Service Centre Subjects

Hello! You are being invited to participate in a research study being conducted by two students from the Department of Psychology. This project has received ethical approval from the Psychological Service Centre and the Human Ethical Review Committee of the Department of Psychology. The researchers are Cindy Hanna, a graduate student in clinical psychology, and Anne Fedorowicz, an honours psychology student.

The study examines university students' feelings, values, ideas, and attitudes about self, friends, family, community, and society. Some of the questionnaires deal with traumatic events that people may have experienced as children, including sexual and physical abuse. Participation in the study involves completing a series of questionnaires relating to these topics and takes approximately 1 hour. Participation in this study is completetely voluntary and will not affect your eligibility for receiving services at the Psychological Service Centre. All responses will be kept strictly confidential; the staff and therapists at the centre will not have access to individual data. Confidentiality is ensured by identifying the questionnaires by number coding. If you consent to participate in the study, you may withdraw your consent at any time. If you are willing to be contacted about this research, please tell your therapist and Cindy Hanna will telephone you at home within a few days. Thank you very much.

Appendix C

Consent Form for Clinical Subjects

This is a study examining university students' feelings, values, ideas, and attitudes about self, friends, family, community, society, and life events such as sexual and physical assault. If you agree to participate in this study, you will be asked to complete a series of questionnaires pertaining to the topics mentioned above. The completion of these questionnaires will take approximately 1 hour. Participation in this study is completetely voluntary and will not affect your eligibility for receiving counselling services. Should you consent to participate in this study, you may withdraw your consent at anytime without penalty. All responses will be kept strictly confidential. Staff of the counselling center will not have access to your data.

Your signature below indicates your consent to participate in this study.

_____

Appendix D

Consent Form for Non-clinical Subjects

This is a study examining university students' feelings, values, ideas, and attitudes about self, friends, family, community, society, and life events such as sexual and physical assault. If you agree to participate in this study, you will be asked to complete a series of questionnaires pertaining to the topics mentioned above. The completion of these questionnaires will take approximately 1 hour, for which you will receive 1 credit. Should you consent to participate in this study, you may withdraw your consent at anytime without penalty. All responses will be kept strictly confidential.

Your signature below indicates your consent to participate in this study.

_____

Appendix E
Background Sheet

1. AGE: _____ yrs.

GENDER: F ____ M ____

2. ETHNICITY:

| | |
|---|---|
| Caucasian | ___ |
| Black | ___ |
| Asian | ___ |
| Hispanic | ___ |
| Aboriginal | ___ |
| Other | _____ |

3. SOCIO-ECONOMIC STATUS OF YOUR FAMILY:

| | |
|---|---|
| < $15,000 | ___ |
| $15-25,000 | ___ |
| $25-35,000 | ___ |
| $35-45,000 | ___ |
| $45-55,000 | ___ |
| $55-65,000 | ___ |
| > $65,000 | ___ |

4. FAMILY:

a. Are you still living with your parents? (Check one)

Yes ___ No ___

b. Are your parents: Living together ___
Separated ___
Divorced ___

5. Have you ever sought the following types of help in dealing with emotional/psychological problems? (Check all applicable)

| | |
|---|---|
| Peer Counselling | ___ |
| Group therapy/Support group | ___ |
| Psychologist | ___ |
| Psychiatrist | ___ |
| Social Worker | ___ |
| Counselling by clergy | ___ |
| Other (please specify) | ___ |

_____

6. Have you ever been prescribed any medication to deal with emotional/psychological problems?

Yes ___ No ___

If yes, please specify _____

7. Have you ever been hospitalized for psychological problems?

Yes ___ No ___

8. Are you currently involved in an intimate relationship (i.e. do you have a partner, lover, spouse)?

Yes ___ No ___

If you answered "No", have you been involved in an intimate relationship in the past?

Yes ___ No ___

9. Have you ever experienced physical assault in an intimate relationship?

Yes ___ No ___

10. Have you ever experienced forced sexual assault in an intimate relationship?

Yes ___ No ___

Appendix F
Family Hardiness Index

Please read each statement below and decide to what degree it describes your family. Is the statement

**False = 1**
**Mostly False = 2**
**Mostly True = 3**
**Totally True = 4**
**Not Applicable = 5**

about your family? Indicate a number 1-5 on the attached computer sheet to match your feelings about each statement. Please respond to each and every statement.

In our family:

91. Trouble results from mistakes we make
92. It is not wise to plan ahead and hope because things do not turn out anyway
93. Our work and efforts are not appreciated no matter how hard we try and work
94. In the long run, the bad things that happen to us are balanced by the good things that happen
95. We have a sense of being strong even when we face big problems
96. Many times I feel that I can trust that even in difficult times that things will work out
97. While we don't always agree, we can count on each other to stand by us in times of need
98. We do not feel we can survive if another problem hits us
99. We believe that things will work out for the better if we work together as a family
100. Life seems dull and meaningless
101. We strive together and help each other no matter what
102. When our family plans activities, we try new and exciting things
103. We listen to each others' problems, hurts, and fears
104. We tend to do the same things over and over ... it's boring
105. We seem to encourage each other to try new things and experiences
106. It is better to stay at home than go out and do things with others
107. Being active and learning new things are encouraged
108. We work together to solve problems
109. Most of the unhappy things that happen are due to bad luck
110. We realize our lives are controlled by accidents and luck

Appendix G

History of Unwanted Sexual Contact Questionnaire

In the past decade it has become more widely acknowledged that most individuals have a variety of sexual experiences during childhood. Relatively little is known about how these events affect people later in life. In this project we are studying people's perceptions of **unwanted** sexual experiences.

A) Please answer the questions on the following pages about any **unwanted** sexual experiences that occurred when you were **AGE 16 OR YOUNGER** with someone **at least 5 years older** than yourself. If you had more than one such experience (for instance, if the experiences occurred at different times in your life, or with different people), please put each experience on a separate page.

| 1) Type of experience | How often did this occur? 1=never 2=1-2 times 3=3-10 times 4=11-20 times 5=more than 20 times | How old were you at the time? | How long did this go on? (weeks, months, years?) |
|---|---|---|---|
| a) Sexual kissing | ____ | ____ | ____ |
| b) Fondling of buttocks,thighs, breasts, or genitals | ____ | ____ | ____ |
| c) Insertion of fingers or any objects in the vagina or anus | ____ | ____ | ____ |
| d) Oral sex | ____ | ____ | ____ |
| e) Anal intercourse | ____ | ____ | ____ |
| f) Attempted vaginal intercourse | ____ | ____ | ____ |
| g) Completed vaginal intercourse | ____ | ____ | ____ |

**If you answered "never" to all of the above, turn to p.5**

2) Please indicate below what relationship the other person was to you (if more than one person was involved, check all that apply), and indicate the person's gender, and their age at the time of the incident.

| **Relationship** | | **Gender** | **Age** |
|---|---|---|---|
| a) biological parent | ____ | M __ F __ | ___ |
| b) step parent | ____ | M __ F __ | ___ |
| c) sister or brother | ____ | M __ F __ | ___ |
| d) other relative | ____ | M __ F __ | ___ |
| e) friend | ____ | M __ F __ | ___ |
| f) stranger | ____ | M __ F __ | ___ |
| g) other (specify) | _____ | M __ F __ | ___ |

3) Were you ever: (check all that apply)

a) threatened ___
b) convinced to participate ___
c) physically forced ___
d) physically hurt ___

4) Reflecting on the above incidents, would you describe them as: (Please circle a number)

positive 1...2...3...4...5...6...7 negative

5) Do you believe that you were sexually abused as a child?

yes ____ no ____

| 1) Type of experience | How often did this occur? 1=never 2=1-2 times 3=3-10 times 4=11-20 times 5=more than 20 times | How old were you at the time? | How long did this go on? (weeks, months, years?) |
|---|---|---|---|
| a) Sexual kissing | ____ | ____ | ____ |
| b) Fondling of buttocks,thighs, breasts, or genitals | ____ | ____ | ____ |
| c) Insertion of fingers or any objects in the vagina or anus | ____ | ____ | ____ |
| d) Oral sex | ____ | ____ | ____ |
| e) Anal intercourse | ____ | ____ | ____ |
| f) Attempted vaginal intercourse | ____ | ____ | ____ |
| g) Completed vaginal intercourse | ____ | ____ | ____ |

**If you answered "never" to all of the above, turn to p.5**

2) Please indicate below what relationship the other person was to you (if more than one person was involved, check all that apply), and indicate the person's gender, and their age at the time of the incident.

| **Relationship** | | **Gender** | **Age** |
|---|---|---|---|
| a) biological parent | ____ | M __ F __ | ___ |
| b) step parent | ____ | M __ F __ | ___ |
| c) sister or brother | ____ | M __ F __ | ___ |
| d) other relative | ____ | M __ F __ | ___ |
| e) friend | ____ | M __ F __ | ___ |
| f) stranger | ____ | M __ F __ | ___ |
| g) other (specify) | _____ | M __ F __ | ___ |

3) Were you ever: (check all that apply)

a) threatened ___
b) convinced to participate ___
c) physically forced ___
d) physically hurt ___

4) Reflecting on the above incidents, would you describe them as: (Please circle a number)

positive 1...2...3...4...5...6...7 negative

| 1) Type of experience | How often did this occur? 1=never 2=1-2 times 3=3-10 times 4=11-20 times 5=more than 20 times | How old were you at the time? | How long did this go on? (weeks, months, years?) |
|---|---|---|---|
| a) Sexual kissing | ____ | ____ | ____ |
| b) Fondling of buttocks,thighs, breasts, or genitals | ____ | ____ | ____ |
| c) Insertion of fingers or any objects in the vagina or anus | ____ | ____ | ____ |
| d) Oral sex | ____ | ____ | ____ |
| e) Anal intercourse | ____ | ____ | ____ |
| f) Attempted vaginal intercourse | ____ | ____ | ____ |
| g) Completed vaginal intercourse | ____ | ____ | ____ |

**If you answered "never" to all of the above, turn to p.5**

2) Please indicate below what relationship the other person was to you (if more than one person was involved, check all that apply), and indicate the person's gender, and their age at the time of the incident.

| **Relationship** | | **Gender** | **Age** |
|---|---|---|---|
| a) biological parent | ____ | M __ F __ | ___ |
| b) step parent | ____ | M __ F __ | ___ |
| c) sister or brother | ____ | M __ F __ | ___ |
| d) other relative | ____ | M __ F __ | ___ |
| e) friend | ____ | M __ F __ | ___ |
| f) stranger | ____ | M __ F __ | ___ |
| g) other (specify) | _____ | M __ F __ | ___ |

3) Were you ever: (check all that apply)

a) threatened ___
b) convinced to participate ___
c) physically forced ___
d) physically hurt ___

4) Reflecting on the above incidents, would you describe them as: (Please circle a number)

positive 1...2...3...4...5...6...7 negative

B) Please answer the questions on the following pages about any **unwanted** sexual experiences that occurred when you were **AGE 16 OR YOUNGER** with someone **LESS THAN 5 YEARS OLDER** than yourself. If you had more than one such experience (for instance, if the experiences occurred at different times in your life, or with different people), please put each experience on a separate page.

| 1) Type of experience | How often did this occur? 1=never 2=1-2 times 3=3-10 times 4=11-20 times 5=more than 20 times | How old were you at the time? | How long did this go on? (weeks, months, years?) |
|---|---|---|---|
| a) Sexual kissing | ____ | ____ | ____ |
| b) Fondling of buttocks,thighs, breasts, or genitals | ____ | ____ | ____ |
| c) Insertion of fingers or any objects in the vagina or anus | ____ | ____ | ____ |
| d) Oral sex | ____ | ____ | ____ |
| e) Anal intercourse | ____ | ____ | ____ |
| f) Attempted vaginal intercourse | ____ | ____ | ____ |
| g) Completed vaginal intercourse | ____ | ____ | ____ |

**If you answered "never" to all of the above, please turn to p.9**

2) Please indicate below what relationship the other person was to you (if more than one person was involved, check all that apply), and indicate the person's gender, and their age at the time of the incident.

| **Relationship** | | **Gender** | **Age** |
|---|---|---|---|
| a) sister or brother | ____ | M __ F __ | ___ |
| b) other relative | ____ | M __ F __ | ___ |
| c) friend | ____ | M __ F __ | ___ |
| d) stranger | ____ | M __ F __ | ___ |
| e) other (specify) | _____ | M __ F __ | ___ |

3) Were you ever: (check all that apply)

a) threatened ___
b) convinced to participate ___
c) physically forced ___
d) physically hurt ___

4) Reflecting on the above incidents, would you describe them as: (Please circle a number)

positive 1...2...3...4...5...6...7 negative

5) Do you believe that you were sexually abused as a child?

yes ____ no ____

| 1) Type of experience | How often did this occur? 1=never 2=1-2 times 3=3-10 times 4=11-20 times 5=more than 20 times | How old were you at the time? | How long did this go on? (weeks, months, years?) |
|---|---|---|---|
| a) Sexual kissing | ____ | ____ | ____ |
| b) Fondling of buttocks,thighs, breasts, or genitals | ____ | ____ | ____ |
| c) Insertion of fingers or any objects in the vagina or anus | ____ | ____ | ____ |
| d) Oral sex | ____ | ____ | ____ |
| e) Anal intercourse | ____ | ____ | ____ |
| f) Attempted vaginal intercourse | ____ | ____ | ____ |
| g) Completed vaginal intercourse | ____ | ____ | ____ |

**If you answered "never" to all of the above, please turn to p.9**

2) Please indicate below what relationship the other person was to you (if more than one person was involved, check all that apply), and indicate the person's gender, and their age at the time of the incident.

| **Relationship** | | **Gender** | **Age** |
|---|---|---|---|
| a) sister or brother | ____ | M __ F __ | ___ |
| b) other relative | ____ | M __ F __ | ___ |
| c) friend | ____ | M __ F __ | ___ |
| d) stranger | ____ | M __ F __ | ___ |
| e) other (specify) | _____ | M __ F __ | ___ |

3) Were you ever: (check all that apply)

a) threatened ___
b) convinced to participate ___
c) physically forced ___
d) physically hurt ___

4) Reflecting on the above incidents, would you describe them as: (Please circle a number)

positive 1...2...3...4...5...6...7 negative

| 1) Type of experience | How often did this occur? 1=never 2=1-2 times 3=3-10 times 4=11-20 times 5=more than 20 times | How old were you at the time? | How long did this go on? (weeks, months, years?) |
|---|---|---|---|
| a) Sexual kissing | ____ | ____ | ____ |
| b) Fondling of buttocks,thighs, breasts, or genitals | ____ | ____ | ____ |
| c) Insertion of fingers or any objects in the vagina or anus | ____ | ____ | ____ |
| d) Oral sex | ____ | ____ | ____ |
| e) Anal intercourse | ____ | ____ | ____ |
| f) Attempted vaginal intercourse | ____ | ____ | ____ |
| g) Completed vaginal intercourse | ____ | ____ | ____ |

**If you answered "never" to all of the above, please turn to p.9**

2) Please indicate below what relationship the other person was to you (if more than one person was involved, check all that apply), and indicate the person's gender, and their age at the time of the incident.

| **Relationship** | | **Gender** | **Age** |
|---|---|---|---|
| a) sister or brother | ____ | M __ F __ | ___ |
| b) other relative | ____ | M __ F __ | ___ |
| c) friend | ____ | M __ F __ | ___ |
| d) stranger | ____ | M __ F __ | ___ |
| e) other (specify) | _____ | M __ F __ | ___ |

3) Were you ever: (check all that apply)

a) threatened ___
b) convinced to participate ___
c) physically forced ___
d) physically hurt ___

4) Reflecting on the above incidents, would you describe them as: (Please circle a number)

positive 1...2...3...4...5...6...7 negative

C) Please answer the questions on the following pages about any **unwanted** sexual experiences that occurred when you were **AGE 17 OR OLDER.** If you had more than one such experience (for instance, if the experiences occurred at different times in your life, or with different people), please put each experience on a separate page.

| 1) Type of experience | How often did this occur? 1=never 2=1-2 times 3=3-10 times 4=11-20 times 5=more than 20 times | How old were you at the time? | How long did this go on? (weeks, months, years?) |
|---|---|---|---|
| a) Sexual kissing | ____ | ____ | ____ |
| b) Fondling of buttocks,thighs, breasts, or genitals | ____ | ____ | ____ |
| c) Insertion of fingers or any objects in the vagina or anus | ____ | ____ | ____ |
| d) Oral sex | ____ | ____ | ____ |
| e) Anal intercourse | ____ | ____ | ____ |
| f) Attempted vaginal intercourse | ____ | ____ | ____ |
| g) Completed vaginal intercourse | ____ | ____ | ____ |

**If you answered "never" to all of the above, please go on to the next questionnaire (Family Conflict Questionnaire).**

2) Please indicate below what relationship the other person was to you (if more than one person was involved, check all that apply), and indicate the person's gender, and their age at the time of the incident.

| **Relationship** | | **Gender** | **Age** |
|---|---|---|---|
| a) biological parent | ____ | M __ F __ | ___ |
| b) step parent | ____ | M __ F __ | ___ |
| c) sister or brother | ____ | M __ F __ | ___ |
| d) other relative | ____ | M __ F __ | ___ |
| e) friend | ____ | M __ F __ | ___ |
| f) stranger | ____ | M __ F __ | ___ |
| g) other (specify) | _____ | M __ F __ | ___ |

3) Were you ever: (check all that apply)

a) threatened ___
b) convinced to participate ___
c) physically forced ___
d) physically hurt ___

4) Reflecting on the above incidents, would you describe them as: (Please circle a number)

positive 1...2...3...4...5...6...7 negative

| 1) Type of experience | How often did this occur? 1=never 2=1-2 times 3=3-10 times 4=11-20 times 5=more than 20 times | How old were you at the time? | How long did this go on? (weeks, months, years?) |
|---|---|---|---|
| a) Sexual kissing | ____ | ____ | ____ |
| b) Fondling of buttocks,thighs, breasts, or genitals | ____ | ____ | ____ |
| c) Insertion of fingers or any objects in the vagina or anus | ____ | ____ | ____ |
| d) Oral sex | ____ | ____ | ____ |
| e) Anal intercourse | ____ | ____ | ____ |
| f) Attempted vaginal intercourse | ____ | ____ | ____ |
| g) Completed vaginal intercourse | ____ | ____ | ____ |

**If you answered "never" to all of the above, please go on to the next questionnaire (Family Conflict Questionnaire).**

2) Please indicate below what relationship the other person was to you (if more than one person was involved, check all that apply), and indicate the person's gender, and their age at the time of the incident.

| **Relationship** | | **Gender** | **Age** |
|---|---|---|---|
| a) biological parent | ____ | M __ F __ | ___ |
| b) step parent | ____ | M __ F __ | ___ |
| c) sister or brother | ____ | M __ F __ | ___ |
| d) other relative | ____ | M __ F __ | ___ |
| e) friend | ____ | M __ F __ | ___ |
| f) stranger | ____ | M __ F __ | ___ |
| g) other (specify) | _____ | M __ F __ | ___ |

3) Were you ever: (check all that apply)

a) threatened ___
b) convinced to participate ___
c) physically forced ___
d) physically hurt ___

4) Reflecting on the above incidents, would you describe them as: (Please circle a number)

positive 1...2...3...4...5...6...7 negative

| 1) Type of experience | How often did this occur? 1=never 2=1-2 times 3=3-10 times 4=11-20 times 5=more than 20 times | How old were you at the time? | How long did this go on? (weeks, months, years?) |
|---|---|---|---|
| a) Sexual kissing | ____ | ____ | ____ |
| b) Fondling of buttocks,thighs, breasts, or genitals | ____ | ____ | ____ |
| c) Insertion of fingers or any objects in the vagina or anus | ____ | ____ | ____ |
| d) Oral sex | ____ | ____ | ____ |
| e) Anal intercourse | ____ | ____ | ____ |
| f) Attempted vaginal intercourse | ____ | ____ | ____ |
| g) Completed vaginal intercourse | ____ | ____ | ____ |

**If you answered "never" to all of the above, please go on to the next questionnaire (Family Conflict Questionnaire).**

2) Please indicate below what relationship the other person was to you (if more than one person was involved, check all that apply), and indicate the person's gender, and their age at the time of the incident.

| **Relationship** | **Gender** | **Age** |
|---|---|---|
| a) biological parent ____ | M __ F __ | ___ |
| b) step parent ____ | M __ F __ | ___ |
| c) sister or brother ____ | M __ F __ | ___ |
| d) other relative ____ | M __ F __ | ___ |
| e) friend ____ | M __ F __ | ___ |
| f) stranger ____ | M __ F __ | ___ |
| g) other (specify) _____ | M __ F __ | ___ |

3) Were you ever: (check all that apply)

a) threatened ___
b) convinced to participate ___
c) physically forced ___
d) physically hurt ___

4) Reflecting on the above incidents, would you describe them as: (Please circle a number)

positive 1...2...3...4...5...6...7 negative

Appendix H

Trauma Sequelae - Sexual Abuse and Assault

PLEASE ANSWER THE FOLLOWING QUESTIONS WITH REGARD TO THE SEXUAL ABUSE EXPERIENCE(S) THAT YOU FOUND **MOST** TRAUMATIC.

1. Do you have recurring memories of the experience?

   Yes ___ No ___

2. Do memories of the experience intrude on your life?

   Yes ___ No ___

3. Do these memories distress you?

   Yes ___ No ___

4. Do you have recurrent dreams about the experience?

   Yes ___ No ___

   If yes, are these dreams upsetting?

   Yes ___ No ___

5. Have you had a sense of reliving the experience? (For example, have you acted or felt as though the experience were recurring? Include any experiences that happened upon awakening or when intoxicated)

   Yes ___ No ___

6. Have you experienced flashbacks (eg: replaying of vivid memories of the experience)?

   Yes ___ No ___

7. Have you experienced perceptual illusions (i.e. mistaken perceptions; for example, you thought you saw your abuser on the street, but it couldn't have been him/her)?

   Yes ___ No ___

8. Have you experienced hallucinations (i.e. hearing or seeing things that aren't there)?

Yes ___ No ___

9. Do you feel distressed or upset when you are reminded of the experience? (For example, does the anniversary of the experience upset you?)

Yes ___ No ___

10. Do you have any other symbolic reminders of the experience? (eg: objects, music, words or phrases which trigger memories of the experience?)

Yes ___ No ___

**In reference to questions 1 to 10, please answer the following:**

(a) How long have any of the above been occurring?

less than 1 month ___ more than 1 month ___

(b) How soon after the experience did they begin to occur?

less than 6 months ___ more than 6 months ___

11. Do you deliberately avoid thoughts or feelings that remind you of the experience?

Yes ___ No ___

12. Do you deliberately avoid activities or situations that remind you of the experience?

Yes ___ No ___

13. Do you find that you have trouble remembering certain aspects of the experience?

Yes ___ No ___

14. Are you much less interested in things that used to be important to you (eg: sports, hobbies, social activities)?

Yes ___ No ___

15. Do you feel distant or cut off from others?

Yes ___ No ___

16. Do you feel emotionally numb? (For example, are you no longer able to feel strongly about things or have loving feelings for people?)

Yes ___ No ___

17. Do you feel pessimistic about your future?

Yes ___ No ___

**In reference to questions 11 to 17, please answer the following:**

(a) How long have any of the above been occurring?

less than 1 month ___ more than 1 month ___

(b) How soon after the experience did they begin to occur?

less than 6 months ___ more than 6 months ___

18. Do you have trouble sleeping?

Yes ___ No ___

19. Are you often irritable, or do you often have outbursts of anger?

Yes ___ No ___

20. Do you have trouble concentrating?

Yes ___ No ___

21. Are you watchful or on guard even when there is no reason to be?

Yes ___ No ___

22. Do you find yourself reacting physically to things that remind you of the experience?

Yes ___ No ___

23. Do you startle easily?

Yes ___ No ___

**In reference to questions 18 to 23, please answer the following:**

(a) How long have any of the above been occurring?

less than 1 month ___ more than 1 month ___

(b) How soon after the experience did they begin to occur?

less than 6 months ___ more than 6 months ___

Appendix I

Family Conflict Questionnaire

Almost everyone gets into conflicts with other people in their family and sometimes these lead to physical blows or violent behaviour. Please answer the following questions about your experiences **BEFORE YOU WERE AGE 17,** with your parents, stepparents, or guardians.

Please use the following scale to indicate how often each of the listed behaviours occurred.

1 = never
2 = once or twice
3 = 3-10 times
4 = 11-20 times
5 = more than 20 times

1. How often did your parents, stepparents or guardians:

a) Hit or slap you really hard _____
b) Beat or kick you _____
c) Push, throw, or knock you down _____
d) Hit you with an object _____
e) Pull your hair _____
f) Burn or scald you _____
g) Scratch or dig fingernails into you _____
h) Twist or pull your leg or arm _____

If you answered "**never**" to all of the above, please go on to the **next** questionnaire (The Trauma Sequelae - General).

2) If you answered "**yes**" to any of the above, please indicate if the following people were involved at any point in time: (check all that apply)

a) mother _____
b) father _____
c) stepmother _____
d) stepfather _____
e) other adult relative or guardian _____

3) If you experienced any of the above behaviours, did they ever result in the following: (check all that apply)

a) bruises or scratches _____
b) cuts _____
c) injuries requiring medical treatment _____
d) other injury _____

4) Did any of the following people ever hit you or beat you before you were 17? (Check all that apply)

a) brother or sister _____
b) other child or adolescent _____
c) other adult non-family member _____

5) Do you feel that you were physically abused as a child?

Yes _____ No _____

Please go on to answer the next questionnaire (Trauma Sequelae - Physical) with reference to the experiences that you have listed.

Appendix J

Trauma Sequelae for Physical Abuse

PLEASE ANSWER THE FOLLOWING QUESTIONS WITH REGARD TO THE PHYSICAL ABUSE EXPERIENCE(S) WHICH YOU FOUND **MOST** TRAUMATIC.

1. Do you have recurring memories of the experience?

   Yes ___ No ___

2. Do memories of the experience intrude on your life?

   Yes ___ No ___

3. Do these memories distress you?

   Yes ___ No ___

4. Do you have recurrent dreams about the experience?

   Yes ___ No ___

   If yes, are these dreams upsetting?

   Yes ___ No ___

5. Have you had a sense of reliving the experience? (For example, have you acted or felt as though the experience were recurring? Include any experiences that happened upon awakening or when intoxicated)

   Yes ___ No ___

6. Have you experienced flashbacks (eg: replaying of vivid memories of the experience)?

   Yes ___ No ___

7. Have you experienced perceptual illusions (i.e. mistaken perceptions; for example, you thought you saw your abuser on the street, but it couldn't have been him/her)?

   Yes ___ No ___

8. Have you experienced hallucinations (i.e. hearing or seeing things that aren't there)?

Yes ___ No ___

9. Do you feel distressed or upset when you are reminded of the experience? (For example, does the anniversary of the experience upset you?)

Yes ___ No ___

10. Do you have any other symbolic reminders of the experience? (eg: objects, music, words or phrases which trigger memories of the experience?)

Yes ___ No ___

**In reference to questions 1 to 10, please answer the following:**

(a) How long have any of the above been occurring?

less than 1 month ___ more than 1 month ___

(b) How soon after the experience did they begin to occur?

less than 6 months ___ more than 6 months ___

11. Do you deliberately avoid thoughts or feelings that remind you of the experience?

Yes ___ No ___

12. Do you deliberately avoid activities or situations that remind you of the experience?

Yes ___ No ___

13. Do you find that you have trouble remembering certain aspects of the experience?

Yes ___ No ___

14. Are you much less interested in things that used to be important to you (eg: sports, hobbies, social activities)?

Yes ___ No ___

15. Do you feel distant or cut off from others?

Yes ___ No ___

16. Do you feel emotionally numb? (For example, are you no longer able to feel strongly about things or have loving feelings for people?)

Yes ___ No ___

17. Do you feel pessimistic about your future?

Yes ___ No ___

**In reference to questions 11 to 17, please answer the following:**

(a) How long have any of the above been occurring?

less than 1 month ___ more than 1 month ___

(b) How soon after the experience did they begin to occur?

less than 6 months ___ more than 6 months ___

18. Do you have trouble sleeping?

Yes ___ No ___

19. Are you often irritable, or do you often have outbursts of anger?

Yes ___ No ___

20. Do you have trouble concentrating?

Yes ___ No ___

21. Are you watchful or on guard even when there is no reason to be?

Yes ___ No ___

22. Do you find yourself reacting physically to things that remind you of the experience?

Yes ___ No ___

23. Do you startle easily?

Yes ___ No ___

**In reference to questions 18 to 23, please answer the following:**

(a) How long have any of the above been occurring?

less than 1 month ___ more than 1 month ___

(b) How soon after the experience did they begin to occur?

less than 6 months ___ more than 6 months ___

Appendix K

Trauma Sequelae for General Trauma

People sometimes have life experiences that are extremely stressful and disturbing. We are interested in knowing more about how these experiences affect people. Examples of the types of experiences we are studying are:

(a) being involved in a disaster such as a plane crash, fire, or flood,
(b) experiencing a serious threat to your life or health, such as physical assault, having a life-threatening operation, or being seriously injured in an accident,
(c) experiencing a serious threat to the life or health of someone close to you (e.g., kidnapping, suicide),
(d) seeing another person who was seriously injured or dead.

If you have had any of these kinds of experiences during your life, please list each experience below, give a brief description, and give your age at the time of the experience.

If you have not had an experience like this in your life, please turn to the next questionnaire.

| Experience | Age |
|---|---|
| _____ | ____ |
| _____ | ____ |
| _____ | ____ |
| _____ | ____ |
| _____ | ____ |

If you listed more than one experience, please answer the following questions with regard to the experience you found most traumatic.

1. Do you have recurring memories of the experience?

   Yes ___ No ___

2. Do memories of the experience intrude on your life?

   Yes ___ No ___

3. Do these memories distress you?

   Yes ___ No ___

4. Do you have recurrent dreams about the experience?

   Yes ___ No ___

   If yes, are these dreams upsetting?

   Yes ___ No ___

5. Have you had a sense of reliving the experience? (For example, have you acted or felt as though the experience were recurring? Include any experiences that happened upon awakening or when intoxicated)

   Yes ___ No ___

6. Have you experienced flashbacks (eg: replaying of vivid memories of the experience)?

   Yes ___ No ___

7. Have you experienced perceptual illusions (i.e. mistaken perceptions; for example, you thought you saw your abuser on the street, but it couldn't have been him/her)?

   Yes ___ No ___

8. Have you experienced hallucinations (i.e. hearing or seeing things that aren't there)?

   Yes ___ No ___

9. Do you feel distressed or upset when you are reminded of the experience? (For example, does the anniversary of the experience upset you?)

Yes ___ No ___

10. Do you have any other symbolic reminders of the experience? (eg: objects, music, words or phrases which trigger memories of the experience?)

Yes ___ No ___

**In reference to questions 1 to 10, please answer the following:**

(a) How long have any of the above been occurring?

less than 1 month ___ more than 1 month ___

(b) How soon after the experience did they begin to occur?

less than 6 months ___ more than 6 months ___

11. Do you deliberately avoid thoughts or feelings that remind you of the experience?

Yes ___ No ___

12. Do you deliberately avoid activities or situations that remind you of the experience?

Yes ___ No ___

13. Do you find that you have trouble remembering certain aspects of the experience?

Yes ___ No ___

14. Are you much less interested in things that used to be important to you (eg: sports, hobbies, social activities)?

Yes ___ No ___

15. Do you feel distant or cut off from others?

Yes ___ No ___

16. Do you feel emotionally numb? (For example, are you no longer able to feel strongly about things or have loving feelings for people?)

Yes ___ No ___

17. Do you feel pessimistic about your future?

Yes ___ No ___

**In reference to questions 11 to 17, please answer the following:**

(a) How long have any of the above been occurring?

less than 1 month ___ more than 1 month ___

(b) How soon after the experience did they begin to occur?

less than 6 months ___ more than 6 months ___

18. Do you have trouble sleeping?

Yes ___ No ___

19. Are you often irritable, or do you often have outbursts of anger?

Yes ___ No ___

20. Do you have trouble concentrating?

Yes ___ No ___

21. Are you watchful or on guard even when there is no reason to be?

Yes ___ No ___

22. Do you find yourself reacting physically to things that remind you of the experience?

Yes ___ No ___

23. Do you startle easily?

Yes ___ No ___

**In reference to questions 18 to 23, please answer the following:**

(a) How long have any of the above been occurring?

less than 1 month ___ more than 1 month ___

(b) How soon after the experience did they begin to occur?

less than 6 months ___ more than 6 months ___

Appendix L
Beck Inventory

ON THIS QUESTIONNAIRE ARE GROUPS OF STATEMENTS. PLEASE READ EACH GROUP OF STATEMENTS CAREFULLY. THEN PICK OUT THE ONE STATEMENT IN EACH GROUP WHICH BEST DESCRIBES THE WAY YOU HAVE BEEN FEELING THE PAST WEEK, INCLUDING TODAY! CIRCLE THE NUMBER BESIDE THE STATEMENT YOU PICKED. **IF SEVERAL STATEMENTS IN THE GROUP SEEM TO APPLY EQUALLY WELL, CIRCLE EACH ONE. BE SURE TO READ ALL THE STATEMENTS IN EACH GROUP BEFORE MAKING YOUR CHOICE.**

1. 0 I do not feel sad.
   1 I feel sad.
   2 I am sad all the time and I can't snap out of it.
   3 I am so sad or unhappy that I can't stand it.

2. 0 I am not particularly discouraged about the future.
   1 I feel discouraged about the future.
   2 I feel I have nothing to look forward to.
   3 I feel that the future is hopeless and that things cannot improve.

3. 0 I do not feel like a failure.
   1 I feel I have failed more than the average person.
   2 As I look back on my life, all I can see is a lot of failures.
   3 I feel I am a complete failure as a person.

4. 0 I get as much satisfaction out of things as I used to.
   1 I don't enjoy things the way I used to.
   2 I don't get real satisfaction out of anything anymore.
   3 I am dissatisfied or bored with everything.

5. 0 I don't feel particularly guilty.
   1 I feel guilty a good part of the time.
   2 I feel quite guilty most of the time.
   3 I feel guilty all of the time.

6. 0 I don't feel I am being punished.
   1 I feel I may be punished.
   2 I expect to be punished.
   3 I feel I am being punished.

7. 0 I don't feel disappointed in myself.
   1 I am disappointed in myself.
   2 I am disgusted with myself.
   3 I hate myself.

8. 0 I don't feel I am any worse than anybody else.
   1 I am critical of myself for my weaknesses or mistakes.
   2 I blame myself all the time for my faults.
   3 I blame myself for everything bad that happens.

9. 0 I don't have any thoughts of killing myself.
   1 I have thoughts of killing myself, but I would not carry them out.
   2 I would like to kill myself.
   3 I would kill myself if I had the chance.

10. 0 I don't cry any more than usual.
   1 I cry more now than I used to.
   2 I cry all the time now.
   3 I used to be able to cry, but now I can't even though I want to.

11. 0 I am no more irritated now than I ever am.
   1 I get annoyed or irritated more easily than I used to.
   2 I feel irritated all the time now.
   3 I don't get irritated at all by the things that used to irritate me.

12. 0 I have not lost interest in other people.
   1 I am less interested in other people than I used to be.
   2 I have lost most of my interest in other people.
   3 I have lost all interest in other people.

13. 0 I make decisions about as well as I ever could.
1 I put off making decisions more than I used to.
2 I have greater difficulty in making decisions than before.
3 I can't make decisions at all anymore.

14. 0 I don't feel I look any worse than I used to.
1 I am worried that I am looking old or unattractive.
2 I feel that there are permanent changes in my appearance that make me look unattractive.
3 I believe that I look ugly.

15. 0 I can work about as well as before.
1 It takes an extra effort to get started at doing something.
2 I have to push myself very hard to do anything.
3 I can't do any work at all.

16. 0 I can sleep as well as usual.
1 I don't sleep as well as I used to.
2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
3 I wake up several hours earlier than I used to and cannot get back to sleep.

17. 0 I don't get more tired than usual.
1 I get tired more easily than I used to.
2 I get tired from doing almost anything.
3 I am too tired to do anything.

18. 0 My appetite is no worse than usual.
1 My appetite is not as good as it used to be.
2 My appetite is much worse now.
3 I have no appetite at all anymore.

19. 0 I haven't lost much weight, if any, lately.
1 I have lost more than 5 pounds.
2 I have lost more than 10 pounds.
3 I have lost more than 15 pounds.

**Note:** I am purposely trying to lose weight by eating less.

Yes ____ No ____

20. 0 I am no more worried about my health than usual.
1 I am worried about physical problems such as aches and pains; or upset stomach; or constipation.
2 I am very worried about physical problems and it's hard to think of much else.
3 I am so worried about my physical problems that I cannot think about anything else.

21. 0 I have not noticed any recent change in my interest in sex.
1 I am less interested in sex than I used to be.
2 I am much less interested in sex now.
3 I have lost interest in sex completely.

Appendix M

## Feedback Sheet for Clinical Subjects

The purpose of the study you have just completed was to explore the effects of family functioning, social support, and coping strategies on the development of distress symptomatology such as depression and anxiety. We are also interested in the coping strategies that people use to deal with traumatic life events, and on the effect that such events have on their lives.

A general summary of the results of the study will be made available through the counselling center upon completion of the study.

Please be assured that your responses will be kept strictly confidential and anonymous. If any of the issues brought up in the study have caused you distress, we encourage you to discuss this with your therapist.

Your participation in this study was greatly appreciated. Thank you.

Appendix N

Feedback Sheet for Nonclinical Subjects

The purpose of the study you have just completed was to explore the effects of family functioning, social support, and coping strategies on the development of distress symptomatology such as depression and anxiety. We are also interested in the coping strategies that people use to deal with traumatic life events, and on the effect that such events have on their lives.

A general summary of the results of the study will be made available through Dr. Koverola's office upon completion of the study.

Please be assured that your responses will be kept strictly confidential and anonymous. If any of the issues brought up in the study have caused you distress, we encourage you to discuss this with someone you trust, or to make use of one of the following telephone numbers:

University Counselling Service: 474-8592
Klinic Crisis Line: 786-8686

Your participation in this study was greatly appreciated. Thank you.

Table 1

Intercorrelations Between Dependent and Independent Variables

| | Grp. | Gend. | BDI | Depr. | Anx. | Somat | Glob. Dist. |
|---|---|---|---|---|---|---|---|
| Grp. | 1.00 | 0 | .24 | .41 | .22 | .07 | .18 |
| Gend. | | 1.00 | -.08 | -.09 | -.23 | -.25 | -.16 |
| BDI | | | 1.00 | .72 | .58 | .48 | .70 |
| Depr. | | | | 1.00 | .72 | .61 | .85 |
| Anx. | | | | | 1.00 | .78 | .90 |
| Somat | | | | | | 1.00 | .79 |
| Glob. Dist. | | | | | | | 1.00 |

Grp=Group, Gend=Gender, BDI=Beck Depression Inventory, Depr=Depression (SCL-90-R), Anx=Anxiety, Somat=Somatization, Glob. Dist.= Global Distress.

Table 1 (cont.)

Intercorrelations Between Dependent and Independent Variables

| | Grp. | Gend. | BDI | Depr. | Anx. | Somat | Glob. Dist. |
|---|---|---|---|---|---|---|---|
| Cont | .31 | -.10 | -.05 | .03 | .09 | -.05 | .05 |
| Chal | -.30 | -.13 | -.42 | -.28 | -.12 | .01 | -.22 |
| Con | -.21 | -.10 | -.60 | -.40 | -.27 | -.16 | -.43 |
| Comm | -.38 | -.09 | -.24 | -.21 | -.02 | .16 | -.06 |
| Int. | -.18 | .05 | -.23 | -.35 | -.18 | -.06 | -.32 |
| Act. | -.20 | -.13 | -.35 | -.28 | -.14 | -.01 | -.28 |
| Mor. | .16 | -.06 | .19 | .09 | -.004 | -.13 | .02 |

Grp=Group, Gend=Gender, BDI=Beck Depression Inventory, Depr=Depression (SCL-90-R), Anx=Anxiety, Somat=Somatization, Glob. Dist.= Global Distress

Family Hardiness Index: Cont=Control, Chal=Challenge, Con=Confidence, Comm=Co-oriented Commitment

Family Environment Scale: Int=Intellectual-Cultural, Act=Active-Recreational, Mor=Moral-Religious.

Table 1 (cont.)

Intercorrelations Between Dependent and Independent Variables

| | Grp. | Gend. | BDI | Depr. | Anx. | Somat | Glob. Dist. |
|---|---|---|---|---|---|---|---|
| Org. | .10 | -.10 | -.12 | -.20 | -.11 | -.37 | -.18 |
| Cont. | .50 | -.35 | .31 | .27 | .25 | -.02 | .21 |
| Coh. | -.46 | .01 | -.43 | -.41 | -.29 | -.18 | -.36 |
| Exp. | -.36 | -.07 | -.25 | -.38 | -.30 | -.02 | -.29 |
| Conf. | .36 | -.23 | .21 | .13 | .14 | .18 | .21 |
| Ind. | -.45 | .13 | -.38 | -.45 | -.32 | -.19 | -.37 |
| Ach. | 0 | -.17 | -.06 | -.12 | -.03 | -.13 | -.10 |

Grp=Group, Gend=Gender, BDI=Beck Depression Inventory, Depr=Depression (SCL-90-R), Anx=Anxiety, Somat=Somatization, Glob. Dist.= Global Distress, Org=Organization, Cont=Control (FES), Coh=Cohesion, Exp=Expressiveness, Conf=Conflict, Ind=Independence, Ach=Achievement

Table 1 (cont.)

Intercorrelations Between Dependent and Independent Variables

| | Cont | Chal | Con | Comm | Int | Act | Mor |
|---|---|---|---|---|---|---|---|
| Cont | 1.00 | -.004 | .13 | -.34 | .08 | -.08 | .29 |
| Chal | | 1.00 | .59 | .57 | .51 | -.54 | -.12 |
| Con | | | 1.00 | .33 | .30 | .35 | -.06 |
| Comm | | | | 1.00 | .29 | .31 | -.10 |
| Int | | | | | 1.00 | .53 | .15 |
| Act | | | | | | 1.00 | .05 |
| Mor | | | | | | | 1.00 |

Family Hardiness Index: Cont=Control, Chal=Challenge, Con=Confidence, Comm=Co-oriented Commitment

Family Environment Scale: Int=Intellectual-Cultural, Act=Active-Recreational, Mor=Moral-Religious

Table 1 (cont.)

Intercorrelations Between Dependent and Independent Variables

| | Cont | Chal | Con | Comm | Int | Act | Mor |
|---|---|---|---|---|---|---|---|
| Org | .34 | .003 | -.09 | -.10 | .08 | -.10 | .37 |
| Cont (FES) | .33 | -.31 | -.19 | -.34 | -.26 | -.17 | .29 |
| Coh | -.09 | .50 | .43 | .60 | .53 | .49 | .13 |
| Exp | -.08 | .30 | .19 | .40 | .43 | .34 | -.03 |
| Conf | .15 | -.38 | -.35 | -.30 | -.40 | -.26 | -.15 |
| Ind | -.16 | .27 | .20 | .24 | .41 | .50 | -.01 |
| Ach | -.02 | .10 | .03 | .15 | .10 | .29 | .03 |

Family Hardiness Index: Cont=Control, Chal=Challenge, Con=Confidence, Comm=Co-oriented Commitment

Family Environment Scale: Int=Intellectual-Cultural, Act=Active-Recreational, Mor=Moral-Religious, Org=Organization, Cont=Control (FES), Coh=Cohesion, Exp=Expressiveness, Conf=Conflict, Ind=Independence, Ach=Achievement

Table 1 (cont.)

Intercorrelations Between Dependent and Independent Variables

| | Org | Cont | Coh | Exp | Conf | Ind | Ach |
|---|---|---|---|---|---|---|---|
| Org | 1.00 | .30 | .13 | -.08 | -.03 | .04 | .11 |
| Cont | | 1.00 | -.47 | -.62 | .49 | -.48 | .31 |
| Coh | | | 1.00 | .61 | -.66 | .47 | .15 |
| Exp | | | | 1.00 | -.42 | .50 | -.04 |
| Conf | | | | | 1.00 | -.23 | .05 |
| Ind | | | | | | 1.00 | .25 |
| Ach | | | | | | | 1.00 |

Family Environment Scale: Org=Organization, Cont=Control, Coh=Cohesion, Exp=Expressiveness, Conf=Conflict, Ind=Independence, Ach=Achievement

Table 2

Trauma Experiences in Clinical and Nonclinical Subjects

| Type of Trauma | Clinical Group (n=26) | Nonclinical Group (n=26) |
|---|---|---|
| Child Physical Abuse | 15 (57.7%) | 11 (42.3%) |
| Child Sexual Abuse | 5 (19.2%) | 4 (15.4%) |
| Peer Sexual Abuse | 5 (19.2%) | 2 (7.7%) |
| Adult Sexual Assault | 7 (26.9%) | 2 (7.7%) |
| Other Trauma | 11 (42.3%) | 7 (26.9%) |
| Overall Trauma | 19 (73.1%) | 19 (73.1%) |

Table 3

Posttraumatic Stress Disorder in Clinical and Nonclinical Subjects

| Precipitating Event | Clinical Group (n=26) | Nonclinical Group (n=26) |
|---|---|---|
| Sexual Abuse or Assault | 5 | 1 |
| Child Physical Abuse | 2 | 0 |
| Other Trauma | 4 | 2 |
| Overall PTSD | 8 | 3 |

Table 4

Mean Scores and Differences in Symptomatology for the Clinical and Nonclinical Groups

| Measure | Clinical Group (n=26) M (SD) | Nonclinical Group (n=26) M (SD) | F (*df*= 1,51) | p |
|---|---|---|---|---|
| BDI | 13.27 (6.65) | 9.85 (7.42) | 2.97 | .09 |
| SCL-90-R: | | | | |
| global distress | 1.13 (.61) | .90 (.60) | 1.64 | .21 |
| anxiety | 1.06 (.75) | .74 (.71) | 2.53 | .12 |
| depression | 1.70 (.89) | 1.00 (.63) | 9.59 | .003 * |
| somatization | .85 (.78) | .75 (.57) | .25 | .62 |

* p<.01

Table 5

Family Environment in Clinical vs. Nonclinical Groups

| FES Subscale | Clinical Group (n=26) M (SD) | Nonclinical Group (n=26) M (SD) | F (*df*= *1, 51)* | p |
|---|---|---|---|---|
| Cohesion | 3.88 (2.93) | 6.50 (2.14) | 13.03 | .0007 * |
| Expressiveness | 2.85 (2.34) | 4.62 (2.37) | 7.27 | .0096 * |
| Conflict | 5.08 (2.67) | 3.19 (2.26) | 7.85 | .0073 * |
| Independence | 4.73 (2.05) | 6.54 (1.63) | 12.16 | .0011 * |
| Achievement | 5.23 (2.07) | 5.23 (1.92) | 0 | 1.00 |
| Intellectual-Cultural | 4.31 (2.28) | 5.12 (2.34) | 1.53 | .2215 |
| Active-Recreational | 4.00 (2.79) | 5.08 (2.67) | 1.98 | .1659 |
| Moral-Religious | 4.69 (2.56) | 3.88 (2.37) | 1.41 | .2414 |
| Organization | 5.46 (2.39) | 5.00 (2.15) | .54 | .4641 |
| Control | 6.81 (2.14) | 4.23 (2.44) | 19.53 | .0001 * |

* p<.01

Table 6

Family Hardiness in Clinical vs. Nonclinical Groups

| FHI Subscale | Clinical Group (n=25) M (SD) | Nonclinical Group (n=26) M (SD) | F (*df*- 1, 50) | p |
|---|---|---|---|---|
| Co-oriented Commitment | 12.21 | 16.12 | 8.71 | .0049 * |
| Confidence | 7.96 | 9.12 | 2.42 | .1268 |
| Challenge | 7.13 | 9.19 | 4.72 | .0348 |
| Control | 6.28 | 5.14 | 5.25 | .0264 |

* p<.005

Table 7

FES Subscales as Predictors of Symptomatology in the Clinical Group

| Variable Predicted | Predictors Entered | *B* | $R^2$ | F (*df*= 1,25) | p |
|---|---|---|---|---|---|
| depression (BDI) | Cohesion | -.95 | .17 | 5.05 | .03 * |
| depression (SCL-90-R) | Cohesion | -.09 | .09 | 2.48 | .13 |
| general distress | Cohesion | -.07 | .11 | 2.86 | .10 |
| anxiety | Expressiveness | -.08 | .06 | 1.47 | .24 |
| somatization | Conflict | .09 | .10 | 2.59 | .12 |

* $p<.05$

Table 8

FHI Subscales as Predictors of Symptomatology in the Clinical Group

| Variable Predicted | Predictors Entered | *B* | $R^2$ | F (*df*= 1, 24) | p |
|---|---|---|---|---|---|
| depression (BDI) | Confidence | -1.49 | .41 | 15.70 | .0006 * |
| depression (SCL-90-R) | Confidence | - .10 | .10 | 2.45 | .13 |
| general distress | Confidence | - .07 | .11 | 2.75 | .11 |
| somatization | Commitment | .04 | .08 | 1.98 | .17 |

* p<.01

Table 9

FES Subscales as Predictors of Symptomatology in the Nonclinical Group

| Variable Predicted | Predictors Entered | *B* | $R^2$ | F (*df*= 1, 25) | p |
|---|---|---|---|---|---|
| depression (SCL-90-R) | Cohesion | - .18 | .30 | 3.11 | .09 |
| depression (BDI) | Cohesion | -2.23 | .11 | 2.98 | .10 |
| anxiety | Cohesion | - .17 | .06 | 1.67 | .21 |
| logsomat | Cohesion | - .03 | .07 | 1.67 | .21 |
| general distress | Cohesion | - .16 | .10 | 2.70 | .11 |
| depression (BDI) | Conflict | -1.53 | .23 | 3.61 | .07 |
| anxiety | Conflict | - .12 | .15 | 2.28 | .15 |
| logsomat | Conflict | - .03 | .19 | 3.17 | .09 |
| general distress | Conflict | - .10 | .19 | 2.46 | .13 |

Table 10

FHI Subscales as Predictors of Symptomatology in the Nonclinical Group

| Variable Predicted | Predictors Entered | *B* | $R^2$ | F (*df*= 1, 24) | p |
|---|---|---|---|---|---|
| depression (SCL-90-R) | Confidence | - .11 | .21 | 6.45 | .018 * |
| depression (BDI) | Confidence | -1.54 | .31 | 10.55 | .004 * |
| anxiety | Confidence | - .09 | .12 | 3.35 | .08 |
| logsomat | Confidence | - .02 | .11 | 2.95 | .10 |
| general distress | Confidence | - .11 | .24 | 7.56 | .01 * |

* $p<.05$