Stress, resources, and coping in parents of children with externalizing and internalizing behaviours.

Catherine I. Tsagarakis

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STRESS, RESOURCES, AND COPING
IN PARENTS OF CHILDREN WITH
EXTERNALIZING AND INTERNALIZING BEHAVIOURS

by

Catherine I. Tsagarakis

M.A. University of Windsor, 1992

A Dissertation
Submitted to the Faculty of Graduate Studies
through the Department of Psychology
In Partial Fulfillment of the
Requirements for the Degree of
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The primary aim of the present study was to use McCubbin and Patterson's (1983) Double ABCX model as a framework to examine the extent to which child behaviour problems (Factor A), resources (Factor B), and coping strategies (Factor C) predict parental stress (Factor X), and whether resources and coping strategies moderate the relationship between child behaviour problems and stress in mothers \((n = 80)\) of school-aged clinic-referred children. A second purpose involved examining stress differences across mothers of children with primarily internalizing \((n = 16)\), externalizing \((n = 18)\), and normative behaviours \((n = 17)\). Finally, the study compared perceptions of stress and child behaviour problems between mothers \((n = 13)\) and fathers \((n = 13)\).

The A, B, and C Factors of the ABCX model each contributed significantly to the prediction of the X Factor. Utilizing regression analyses, coping and resources did not appear to serve as moderators of the stressor-stress relationship. However, using elaboration analyses a different pattern of findings emerged. That is, family social support moderated the relationship between child behaviour problems (internalizing, externalizing, total problem behaviours) and parental stress. Family cohesion/adaptability, active coping, and marital/partner satisfaction moderated the relationship between
problem behaviours) and parental stress. Psychological distress appeared to be a mediator of the relationship between internalizing problems and stress.

In general, mothers of children with externalizing problems experienced more parental stress than mothers of children with internalizing problems. Both groups of clinical mothers experienced less stress than mothers of normative children. Fathers and mothers did not differ with regards to perceptions of child behaviour problems and stress.
First and foremost, I would like to thank my chairperson, Dr. R. Robert Orr, for his support and guidance over the last two and a half years. At the beginning of our collaboration, the weekly meetings and use of time lines helped to keep me focused on the task at hand and to avert my tendencies towards procrastination. Dr. Orr's words of encouragement made the anxious wait for participant referrals easier to bear, and his continued belief in my research and scholastic abilities was invaluable during periods of plummeting self-confidence.

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This project could not have been completed without the assistance of numerous individuals. I would like to thank the staff at the two clinical centres for providing me with names of participants. I would like to offer a special thanks to Dale Swaisegooode, Sophia Bishop and Margaret Rock for their interest in the study and their active attempts to provide me with referrals. I am particularly indebted to my friends, Douglas MacDonald and Anne-Marie Drapeau for taking time from their busy lives to contact parents on the
inquiries of a person desperate for research participants. I would also like to extend many thanks to all the parents who volunteered their time and allowed me into their homes.

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1. Operationalization of the ABCX factors
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INTRODUCTION

The present study was designed to evaluate the role of resources and coping strategies in mitigating the level of stress experienced in families of children with externalizing and internalizing behaviours. The past several years have seen an increase in the study of the child as a source of stress in the family system. Recent research has focused on stress and coping in parents of children with developmental disabilities (e.g., Damrosch & Perry, 1989; Minnes, 1988a; Orr, Cameron, & Day, 1991), chronic and life-threatening illnesses (e.g., Frey, Greenberg, & Fewell, 1989; Hamlett, Pellegrini, & Katz, 1992; Patterson, McCubbin, & Warwick, 1990; Rao & Kramer, 1993), physical handicaps (e.g., Barakat & Linney, 1992; Kazak & Williams Clark, 1986), and pervasive developmental disorders (e.g., Bebko, Konstantareas, & Springer, 1987; Konstantareas, 1991). One area that has not been studied in the same depth is the impact of children with behavioural and/or emotional problems on their families.

Investigations of the impact of childhood disorders on families is a shift from the previous focus on parent impact on child development. In the last two decades, several overviews have been provided on the importance of examining child effects on the family (e.g., Balkwell & Halverson, 1980; Caplan, 1986; Houts, Shutty, & Emery, 1985). The
topic was even the focus of a special journal issue (see Abidin, 1990a). Konstantareas (1991) points out that the wider acknowledgment of a systemic view of family functioning and the transactional nature of human interactions contributed to this move towards the study of child effects. In family systems theory (e.g., Minuchin, 1985), the family is viewed as an organized whole with interrelated component parts, such as parent-child, and/or parent-parent relationships. Consequently, it is widely accepted that all aspects of individual and family functioning are influenced by bidirectional and reciprocal interactions. Thus, not only do parents influence the behaviour of their children, but children can also affect their parents in direct and indirect ways (Belsky, 1984).

The implications of this conceptualization of the family are apparent: if the functioning of parents is compromised due to children's problem behaviours, then children's adjustment may also be adversely affected by their parents' behaviours, thereby leading to a cycle of continual distress in the family system. Conversely, adaptive family functioning should lead to more positive outcomes in children with behavioural and/or emotional problems. These hypotheses have received empirical support (e.g., Campbell, 1994; Pianta & Castaldi, 1989). As there is a considerable body of research on parents' influence on the child, the ensuing review focuses only on the other
aspect of the reciprocal relationship: the effects of the child's psychopathology on the family.

Childhood psychopathology has been classified into two broad-based categories: the externalizing (or behavioural) and the internalizing (or emotional) disorders (e.g., Cicchetti & Toth, 1991; Garber, Quiggle, Panak, & Dodge, 1991). The internalizing disorders involve problems in which the child is severely overcontrolled, inhibitied, or uncomfortable to the extent of producing maladaptive behaviours. Examples include anxiety, fears, depression, and social withdrawal. The externalizing disorders, e.g., Attention Deficit Hyperactivity Disorder (ADHD), Oppositional Defiant Disorder (ODD), Conduct Disorder (CD), involve behaviours characterized by undercontrol and conflicts with others, such as aggression, noncompliance, inattention, and overactivity (Achenbach, 1985; Forehand, McCombs & Brody, 1987; Rubin & Mills, 1991). The externalizing disorders, particularly ADHD, have received the most research attention in relation to their negative impact on family functioning (Fischer, 1990; Mash & Johnston, 1990), as will be evident in the following review.

Internalizing and externalizing behaviours have fairly high prevalence rates. For example, the prevalence rate of internalizing disorders, i.e., both depression and anxiety, in children aged 4-11 has been identified at approximately 10% of community samples of Ontario children (Beitchman,
Inglis, & Schachter, 1992a; Offord, Boyle, Fleming, Blum, & Grant, 1989). Similarly, for externalizing disorders, the prevalence rates of Attention Deficit Hyperactivity Disorder (ADHD) have ranged from 5.8% to 15% in children aged 4-9. Rates of Conduct Disorder (CD), aggression, and antisocial behaviour have been reported to range from 6% to 10% in boys 4-16 years old (Beitchman, Inglis, Schachter, 1992b). Ample data supports the developmental stability and persistence of these disorders over a multi-year period (e.g., Bowen, Vitaro, Kerr, & Pelletier, 1995; Campbell, 1994; Verhulst & VanDer Ende, 1991).

Given the severity and long-term course of these disorders, it is not surprising that research has begun to focus on the consequences for family members living with children with externalizing and internalizing problems. There is an extensive body of research that attempts to show that adverse family circumstances (e.g., unemployment, marital conflict), parental mood (e.g., depression), parenting attitudes (e.g., warmth), and parenting behaviours (e.g., commands, criticisms) are associated with externalizing and internalizing child behaviours (e.g., Rodgers, 1993; Rubin & Mills, 1991; Schaugaency & Lahey, 1985; Webster-Stratton, 1990). However, the bulk of this research is not integrated; most studies target one or two variables and examine their relationship to child or parent behaviours. This narrow focus is due in part to the lack of
conceptual models capable of integrating the disparate findings in the literature. Webster-Stratton (1990) suggests that the concept of stress may provide a useful umbrella term capable of synthesizing this body of research.

One theory that has been useful in accounting for the experience of stress in a family context is McCubbin and Patterson's (1983) Double ABCX model of Adjustment and Adaptation. According to the present conceptualization of the model, family stress (X Factor) is the state whereby a family perceives (C Factor) its coping strategies and resources (B Factor) as being inadequate for meeting the demands of a stressor (A Factor). McCubbin and Patterson's (1983) model is comprehensive, its tenets are well-defined, and it clearly delineates moderating variables associated with the level of stress experienced by a family. The model has been used to guide research in other areas, such as child developmental disabilities (Failla & Corson-Jones, 1991; Minnes, 1988a; Orr et al., 1991), where the child is a potential source of stress for the family. Consequently, the model may be useful in integrating and comparing the findings pertaining to families of children with internalizing and externalizing disorders.

The purpose of the present study was to examine and compare the experience of stress, resources, and coping in families of children with internalizing and externalizing behaviours. As noted by Konstantareas (1991), the
theoretical literature on family stress has not been sufficiently integrated with the research literature on the impact of dysfunctional children on their families. This is quite evident in the case of families of children with externalizing and internalizing problems where, with few exceptions (e.g., Mash & Johnston, 1990), the experience of stress has not been examined from a broad theoretical viewpoint. Therefore, a further purpose of the study was to combine family stress theory with the research on families of externalizing and internalizing children. In order to put the above in context, the following topics will be discussed in the remainder of this chapter: First, an historical overview of family stress theory will be provided, followed by a presentation of other family stress theories, with a particular emphasis on McCubbin and Patterson's (1983) Double ABCX model of Adjustment and Adaptation. Secondly, studies pertaining to stress, resources, and coping strategies of families of children with externalizing and internalizing behaviours will be reviewed within the context of the Double ABCX model (McCubbin & Patterson, 1983). Finally, the chapter will conclude with an elaboration of the purpose and hypotheses of the study.
Family Stress Theories

Historical Overview

During the 1930's and 1940's the first studies on family adjustment to crises appeared, no doubt influenced by the general political and social context of the time. These first studies included Angell's (1936) and Cavan and Ranck's (1938) studies of the effects of the Depression on family life, Koos's (1946) longitudinal study of low-income families as they faced a series of troubles, and Hill's (1949) study of successful and unsuccessful family adjustment in the face of war separation and reunion. Hill (1949) is probably the pioneer of family stress theory, as he used hypotheses from his own and earlier research to formulate a theory of family stress that has survived almost unaltered for over 40 years, and which forms the building block upon which subsequent family stress theories were built.

According to Hill (1949; Hansen & Hill, 1964), a family crisis is defined as a situation which creates changes such that customary patterns of behaviour become inadequate. He asserts that responses to a crisis (X) are the product of three interacting variables: the hardships of the situation or event (A), the resources (B) of the family (Hill identified ten resources, e.g., role structure, flexibility, previous experience with stressor), and the family's definition (C) of the event (i.e., whether or not the event
is perceived as severe enough to pose a threat to the family's security). Hill (1949), adapting Koos's (1946) findings, likened the post-crisis course of family adjustment to a roller-coaster ride. That is, after a crisis the family attempts to function using customary patterns of behaviour (e.g., carry on as if nothing had happened). However, once the family has assimilated the facts surrounding the crisis, a period of disorganization typically follows where relationships are strained, conflicts abound and usual role patterns and duties are threatened. Subsequently, there is a period of recovery where the family may attempt to form new patterns of interaction and behaviour. Finally, family members may achieve a new level of reorganization, whereby their level of functioning is higher, lower, or the same as it was at the time of the crisis. Hill's (1949) formulation became known as the ABCX model of family stress.

Burr (1973) analyzed and synthesized all the existing empirical and theoretical literature on family stress, drawing heavily on the work of Hill, Hansen, and Angell. Burr (1973) commented on the lack of clear definitions of critical variables and concepts in previous theories (e.g., resources, definition of event). He attempted to remedy this omission by developing a comprehensive deductive model of family stress in which he catalogued propositions deemed useful in determining ability to deal with a family crisis.
He also analyzed the nature of these propositions, resolved inconsistencies in the labelling of important variables, and hypothesized about the direction of the relationship between propositions. He emphasized variables thought to influence family vulnerability to stress and regenerative power, his two central factors in determining family ability to cope with a crisis.

Burr's (1973) concepts of family vulnerability and regenerative power were major new additions to Hill's (1949) ABCX model. Briefly, Burr (1973) posits that a family's vulnerability to stress (i.e., its ability to prevent a stressor from creating disruptiveness, or crisis, in the family) is dependent on the amount of crisis experienced by the family system (i.e., Hill's X factor) which in turn is influenced by the stressor event itself and the amount of change in the family system invoked by the stressor. Other variables that influence vulnerability to stress include the meaning the family attributes to the severity of the changes, the amount of positional and personal influence, externalization of blame for changes in the system, family integration and family adaptability (Burr, 1973).

Concomitant with family vulnerability, the family's regenerative power (i.e., its ability to recover from a crisis) influences family members' level of reorganization after a period of crisis. Variables that influence regenerative power are family adaptability, integration,
amount of positional and personal influence, the length of
time a family system experiences disruption, similarity of
emotion in the family, marital adjustment, relative power of
spouses, amount of consultation in decision making, amount
of wife's social activity, extended families (i.e., amount
of social support), and previous successful experience with
stress (Burr, 1973). As will be shown, many components of
Burr's model were evaluated and subsequently incorporated
into later theories of family stress (e.g., McCubbin &
McCubbin, 1987; 1993; Olson, Russell, & Sprenkle, 1984).

**Contemporary theories**

As mentioned, the variables that comprise Hill's (1949)
ABCX framework are: A—the stressor, B—the family's
resources, C—the family's definition of the stressor, and X—
the crisis. These factors served as the foundation for
family stress theories that followed, such as McCubbin's and
Patterson's (1983) Double ABCX model of Adjustment and
Adaptation. McCubbin and Patterson's (1983) Double ABCX
model differentiates between two distinct but related phases
in the response of a family to a stressor. The first phase,
called the Adjustment phase, is comprised of the same
variables as Hill's (1949) model. The ensuing discussion
will be organized around these variables, since most
contemporary family stress theorists have used Hill's (1949)
model as a reference point, and have either accentuated the
relative importance of one variable over the others (e.g.,
Boss, 1987; 1988; Hobfoll, 1989) or have made further clarifications and refinements (e.g., McCubbin & Patterson, 1983; McCubbin & McCubbin, 1993). The following discussion will emphasize McCubbin and Patterson's (1983) Double ABCX Model of Adjustment and Adaptation, since it will serve as the theoretical foundation of the present study.

The A Factor: Stressor

McCubbin and Patterson (1983) define a stressor as "a life event or transition impacting upon the family unit which produces or has the potential of producing change in the family social system" (p. 8). This conception differs from Hill's (1949) view in two ways: (a) it includes the concept of "potential", and (b) change itself is not inherently considered an aversive experience. That is, a stressor has the capability to produce change by shifting the status quo of the family system, but it is not synonymous with change itself nor with stress (Boss, 1987; 1988, Hobfoll & Spielberger, 1992). As Boss (1987) states, a stressor has neither positive nor negative attributes; it is neutral with a potential for causing varying levels of stress. Whether change will be experienced as a negative experience (i.e., distress) or a positive experience (i.e., eustress) depends upon the family's resources and the meaning the family members attach to the event.

Boss (1987; 1988) has developed a classification system for stressors. In her system, stressors can be
distinguished according to type: normative (i.e., predictable events part of the normal developmental
process), nonnormative (i.e., unexpected, unpredictable events), ambiguous (i.e., facts surrounding the event are
unclear), nonambiguous (i.e., facts surrounding the event are apparent), volitional (i.e., events characterized by
choice and control), nonvolitional (i.e., unwanted events out of a family's control), isolated (i.e., an event that
occurs alone), cumulative (i.e., events that pile up), acute (i.e., events with a sudden onset and short duration), and
chronic stressors. Chronic stressors will be examined further as they are of particular relevance to the present study.

Boss (1988) defines a chronic stressor as a situation that is characterized by "a) long duration, b) the
probability of pile-up with other events, especially normal developmental transitions, and c) the potential of high
ambiguity in its origin (etiology), progression, and conclusion" (p.45). Externalizing and internalizing
behaviours are examples that fulfil these criteria. That is, it is well documented that internalizing and
externalizing disorders have a long term course (e.g., Beitchman, Inglis, Schacter, 1992a; 1992b; Campbell, 1994;
Cicchetti & Toth, 1991). For example, a recent study illustrated the stability of internalizing and externalizing
problems over a 6 year period (Verhulst & Van der Ende,
Due to this long duration, these disorders will most likely coincide with other stressors (e.g., birth or death of a family member, unemployment, school transitions) thereby increasing the likelihood that the family's resources will be severely taxed at various points in time. Moreover, there is considerable ambiguity surrounding these disorders as it is generally recognized that their course is variable, and that accurate prognosis is difficult to make (Donenberg & Baker, 1993). Hence, inherent in families with children with internalizing and externalizing problems is the likelihood that the demands associated with this chronic stressor, in conjunction with a pile up with other events, will lead to problems in successful adaptation.

The B Factor: Resources

McCubbin and Patterson (1983) borrowed Burr's (1973) definition to describe family resources as the "family's ability to prevent an event of change in the family social system from creating a crisis or disruptiveness in the system" (p.8). Thus, resources can be considered the family's assets in managing stress. Hobfoll and Spielberger (1992), in a review of family stress theories, have catalogued a number of family resources that have been shown to be important in handling family stress: boundary clarity, mastery, cohesion, flexibility/adaptability, communication, and social support. The latter four resources will be examined further.
Angell (1936) was the first to identify, via analyses of case studies, the importance of integration (also referred to as cohesion) and adaptability in determining a family's reactions to a stressor (i.e., loss of income). Angell (1936) defined integration as a family's bonds of coherence, e.g., common interests, affection, and a sense of economic interdependence. Cohesion has more generally been defined as the emotional attachment among family members (Lavee & Olson, 1991). Adaptability was defined by Angell (1936) as the family's openmindedness and plasticity in discussions and decision-making. In more general terms, adaptability has been defined as the family's capacity to change when faced with obstacles, which implies flexibility in the family's power structure, relationship roles and rules (Hobfoll & Spielberger, 1992). These two resources continue to be frequently identified by investigators (e.g., Beavers & Voeller, 1984; Hobfoll & Spielberger, 1992; McCubbin & McCubbin, 1993; McCubbin & Patterson, 1983; Olson, 1993; Olson et al., 1984).

In fact, the relative importance of adaptability and cohesion is reflected by their prominent role in the Circumplex Model (Lavee & Olson, 1991; Olson, 1993; Olson et al., 1984). These theorists reviewed over 50 concepts that described family and marital dynamics, and concluded that all the terms could be clustered under three dimensions: (a) the degree to which a person was connected to the family
system (cohesion), (b) the degree to which a family system was able to change (adaptability), and (c) communication. At the crux of the model is the proposition that families range along two continuums, each consisting of four levels, from low cohesion to high cohesion, and from low adaptability to high adaptability. Families who fall in the middle of the cohesion and adaptability continuums function better than those that fall on the extremes. Families are classified into 16 family types based on their combined levels of cohesion and adaptability, with each type responding to stressful situations in different ways (Lavee & Olson, 1991; Olson, 1993; Olson et al., 1984; Olson, Portner, & Lavee, 1985). The third dimension of the model, communication, is regarded by Olson et al. (1984) as a facilitator for the other two dimensions. Communication refers to the family's ability to exchange information, that is, to express relevant thoughts and feelings in a clear and direct manner (McCubbin & McCubbin, 1993; Hobfoll & Spielberger, 1992).

Social support is a resource provided by people outside the family unit, unlike the aforementioned resources. Social support is a very broad construct, and researchers have advanced a variety of definitions and categorizations. Despite the proliferation of social support concepts, social support has often been conceptualized as consisting of three general components (Barrera, 1986). The first component is
social embeddedness, defined by Barrera (1986) as the connections to significant others in the shared social environment. The major way of assessing social embeddedness is by examining social network resources (i.e., availability of social ties). The second component consists of supportive behaviours (i.e., quantity, quality, and type of help and assistance offered; Barrera, 1986; Hobfoll & Spielberger, 1992; Dunst, Trivette, & Deal, 1988). The third component, perceived social support, has been characterized by Barrera (1986) as the appraisal of being reliably connected to others. This conceptualization emphasizes the subjective nature of social support, and incorporates two dimensions, perceived availability of support and perceived adequacy of assistance provided. The importance of appraisal is evident in McCubbin and Patterson's (1983) conceptualization, who, adapting from Cobb (1976), define family social support as the knowledge that a family is cared for and appreciated, esteemed and valued, and belongs to a network where there is mutual dedication and understanding.

The role of resources is given primacy in a model of family stress called the Conservation of Resources (COR) theory (Hobfoll, 1989; Hobfoll & Spielberger, 1992). The major principle of the theory is that families strive to maximize their resources and minimize their loss. Accordingly, family stress occurs when there is a loss,
threat of loss, or a failure to gain resources. A loss of resources initiates a vicious cycle whereby further loss is likely since families have fewer resources to deal with future stressors (Hobfoll, 1989; Hobfoll & Spielberger, 1992). Hobfoll (1989) asserts that resources, defined here as the things people value, are the single unit necessary for understanding stress.

**The C Factor: Perceptions**

The C factor is the family's subjective definition of the seriousness of a stressor (McCubbin & Patterson, 1983). The family's definition (or perception) of the event is considered by some theorists to be the major contributor to the stress process, but is also the least studied factor in the model (Boss, 1988; 1992; Hansen & Hill, 1964).

Given the same stressor, families respond in various ways; some view it as a challenge to be met, thereby leading to adjustment, while others interpret it as an uncontrollable event, thereby eventually falling into a crisis. Consequently, the way the family unit perceives the stressor and the efficacy of its resources has implications for determining the degree of stress experienced, and the way the family manages the stress. As can be seen, the family's appraisal of the event is closely intertwined with the family's coping strategies. In fact some theorists (e.g., Reiss & Oliveri, 1983) view appraisal as part of the coping process. Coping strategies will be examined
separately in a later section, due to their relevance in the present study.

Boss (1988) demonstrates that a family's ability in managing stress is strongly dependent on the family's perceptions of the situation. She also believes that the larger external context in which a stressor takes place mediates family perceptions and is critical to the understanding of the family stress process. More specifically, a stressor event occurs at a certain time in history, state of the economy, stage in the family's life-cycle, and in a particular culture. These dimensions are imposed on families, and influence a family's perceptions, therefore indirectly influencing a family's experience and management of stress (Boss, 1988).

The X Factor: The Crisis

There is often confusion in the literature with respect to the difference between stress, distress, and crisis. A contributing factor to this confusion is the fact that the definitions of these concepts are as varied as the theorists that attempt to define them. McCubbin and Patterson (1983) define family stress as the state that arises from an actual or perceived imbalance between a demand for change and the family's capabilities for dealing with this demand. Boss (1988; 1992) concurs that family stress is basically a disturbance in the equilibrium of the family. Consequently, stress is equated with change in the status quo of the
family. The important point to note is that stress can be either positive or negative. When the capability-demand imbalance in the family system is defined by the family as unpleasant, family stress becomes family distress (McCubbin & Patterson, 1983; Boss, 1992). Hence distress is negative stress. For the sake of simplicity, the term stress will be used throughout this paper to denote distress.

The interaction between stressor, the family's resources, and its definition of the situation results in varying degrees of stress for the family (i.e., demand-capability imbalance). A family crisis (X) occurs when the level of stress produces disorganization, immobilization, and disequilibrium in the family system (Boss, 1988; McCubbin & Patterson, 1983). During a crisis, the family system is under pressure to change in order to restore stability and to improve family satisfaction. Some families are able to navigate this phase with relative ease which leads to a positive outcome, called bonadjustment (McCubbin & McCubbin, 1983). Other families cannot achieve stability with ease, and will likely experience maladjustment, or a crisis (McCubbin & McCubbin, 1993; McCubbin & Patterson, 1983).

The stressor (A), resources (B), family appraisal (C), and the crisis (X) comprise the Adjustment phase of McCubbin and Patterson's (1983) model, whereby the family reacts to pressures to make significant structural changes in the
family system. It has been stated that a successful theory of family adaptation must be able to account for the fact that families continue to develop over a period of time (Cole, 1986). One of the major contributions of McCubbin and Patterson's (1983) model is the recognition that a crisis (X) will influence family functioning over a long period of time. That is, a family will not remain in a crisis state forever; the crisis initiates the beginning of the adaptation phase whereby the family attempts to make major changes in established roles, rules, goals, and patterns of interactions in order to maintain or improve family stability. The adaptation phase of the Double ABCX model consists of four interacting components that shape the level of family adaptation (McCubbin & McCubbin, 1993; McCubbin & Patterson, 1983). These components will be examined in the following sections.

**Family Adaptation: The Double ABCX Factors**

McCubbin and Patterson (1983) used longitudinal observations of families experiencing prolonged war-induced separation to examine four post-crisis variables. This was done in an attempt to understand the factors that shape adaptation and the means by which families react and cope with stress over time.

**Double A (aA) Factor.** McCubbin and Patterson's (1983) first post-crisis variable, the Double A Factor, delineates the pile-up of demands. The notion of "pile up" refers to
the stressors and strains impinging upon the family prior to and/or following a crisis as members attempt to cope with the crisis and encounter other stressors over a period of time (McCubbin & Patterson, 1983). Walker (1985) asserts that McCubbin and Patterson's identification of postcrisis stressors acting as new stressors partly addresses the circularity of the relationship between stressor and crisis. According to Walker (1985), it is meaningless to isolate a single stressor from its surrounding processes. For example, stressed families of children with externalizing problems often display negative parent-child communication patterns (e.g., Johnston & Pelham, 1990). These patterns have developed over a period of time and are rarely traceable to a specific event. Similarly, the experience of stress is rarely attributed to a specific point in time, but is a constant process.

McCubbin and Patterson (1983) recognize that emerging events throughout the adjustment process can act as new stressors. They propose five broad types of stressors and strains which contribute to the "pile-up" in the family system: (a) the initial stressor and its associated hardships (e.g., hardships associated with having a child with externalizing problems include increase sibling conflict, marital strains, frequent visits to the school principal), (b) normative transitions (e.g., birth or death of a family member, commitment to a new career, children
entering school), (c) prior strains accumulated over time (i.e., remnants of strains from unresolved hardships from earlier stressors), (d) consequences of family efforts to cope (i.e., specific coping strategies used in the adjustment phase may produce additional burdens), and (e) intra-family and social ambiguity (e.g., how does one discipline a child with ADHD? is the child a contributing member of the family system?; McCubbin & Patterson, 1983).

**Double B (bB) Factor.** The second post crisis variable, the Double B (bB) factor, describes the family's adaptive resources which refer to both the existing capabilities and assets which a family can draw upon to neutralize the impact of a stressor (i.e., the B factor described in a previous section), and to the new, expanded capabilities that arise in response to the demands and needs of the crisis situation (bB factor; McCubbin & Patterson, 1983). There are three sources of adaptive resources: (a) individual family members (e.g., intelligence, education, personality traits, physical and psychological well-being, sense of mastery, self-esteem), (b) family unit (e.g., cohesion, adaptability, communication), and (c) community (e.g., social support, described in previous sections; McCubbin & Patterson, 1983; McCubbin & McCubbin, 1993).

The distinction McCubbin and Patterson (1983) make between individual and family resources is particularly important. As Walker (1985) states, a stressor
differentially affects individual family members. As well, individuals possess different resources, and consequently, different ways of coping with the resulting stress. He believes that an examination of successful individual resources will be imperative in identifying combinations of individual capabilities (i.e., family resources) that result in optimal family functioning.

**Double C (cc) Factor.** A family's effort to adapt to a crisis situation is shaped by appraisal at three different levels: (a) the family's definition of the stressor (i.e., the c Factor), (b) the meaning the family endows the total crisis situation (i.e., the cc Factor; the stressor, the pile-up of demands, existing and emerging resources, and coping behaviours), and (c) the family's schema or world view which is defined as the shared values, beliefs, goals, expectations, and priorities adopted by the family unit to guide the family's pattern of functioning. A family's schema (named the CCC Factor in a later revision of the Double ABCX model) is relatively enduring, develops over time and serves as the framework for evaluating and shaping the family's ways of coping with the crisis situation (McCubbin & McCubbin, 1993; McCubbin, McCubbin, & Thompson, 1993; McCubbin, Thompson, Thompson, & McCubbin, 1993).

Although individual family members have a shared world view (e.g., education for all family members, respect for laws, mutual support of family members, work and employment)
it is unlikely that the members will hold identical views. Each family member will attach a unique meaning to the stressful situation which may either interfere with or enhance the collective family coping efforts (Walker, 1985). As an illustration, suppose a family is faced with a crisis involving a child who refuses to go to school. The mother views the situation as temporary, and believes that by showing love, patience, and understanding the child will soon return to school. The father views the situation as unacceptable; the child is not ill, and therefore should be physically forced to return to school. The mother views the father's requests as rejection of the child's needs, while the father sees the mother as overprotecting the child. These differences lead to new pattern of family functioning, such as frequent arguments and blaming. It is clear that the parents define the situation in different ways. While both parents believe that education is of prime importance, the mother was able to give a meaning to the situation that was not incongruent with the shared family schema (e.g., the needs of the child outweigh the importance of school), while the father could not (e.g., missing school is unacceptable except in case of illness). This oversimplified example serves to illustrate the central importance of appraisal in influencing a family's course of adaptation.

Double X (xX) Factor. The final post-crisis variable, the Double X factor, family adaptation, refers to the
"outcome of a family's processes in response to the crisis and pile-up of demands" (Lavee, McCubbin, & Patterson, 1985, p.813). For successful adaptation, the family attempts to achieve a new balance between demands and capabilities at two levels of interaction, the member-to-family and the family-to-community level (McCubbin & Patterson, 1983). For example, at the member-to-family level a noncompliant child may precipitate an imbalance if family members cannot tolerate any disobedience of house rules. Thus, the family needs to achieve a balance between the demands of this child and the family unit. At the family-to-community level, a family's tolerance of a child's aggressive behaviours may likewise stimulate an imbalance, particularly at school where aggression is viewed as a serious challenge to the education process.

McCubbin and Patterson (1983) view family adaptation as falling on a continuum. The positive end, called bonadaptation, is characterized by a balance at both levels of interaction, member-to-family, and member-to-community. Bonadaptation results in maintenance and strengthening of family integrity, independence, sense of control over environmental circumstances, and well-being. The negative end, called maladaptation, is characterized by an imbalance at either level of interaction, which results in deterioration of family integrity, personal health of a member, well-being of the family unit, and loss or decline
in family independence and autonomy (McCubbin & Patterson, 1983).

**Family Coping Responses**

A family achieves a new level of balance in family functioning by using effective coping strategies. At first glance, coping responses seem best suited to fall in the category of resources, since strong coping strategies can serve as an asset for families in crises. Although coping strategies are part of a family's capabilities, they have a broader purpose. As McCubbin and Patterson (1983) state, coping is a "bridging concept which has both cognitive and behavioural components wherein resources, perceptions, and behavioural responses interact as families try to achieve a balance in family functioning" (p.16).

A reasonable perspective fitting with McCubbin and Patterson's (1983) conceptualization views coping as the evaluative component of both the stressor and the family/individual resources, thus constituting part of the C Factor. However, coping also includes a performance aspect, hence, integral to the coping process is the assessment of the efficacy of one's resources in meeting demands and the actual behaviours (i.e., coping strategies) resulting from this appraisal.

In relation to coping, McCubbin and Patterson (1983) describe several processes that occur during the adjustment and adaptation phases, collectively called the Family
Adjustment and Adaptation Response (FAAR), each with their own associated coping strategies. In the adjustment phase, the role of coping strategies is to minimize the amount of change experienced by the family unit. However, these short-term adjustment coping strategies can be ineffective. Thus families fall into a state of crisis as they face excessive demands which deplete their resources. At this point, there is a demand for structural changes in order to restore stability in the family unit. This marks the adaptation phase of the FAAR response. The outcome of families' efforts to cope result in varying degrees of bonadaptation to maladaptation (McCubbin & Patterson, 1983).

In later modifications and revisions of the Double ABCX model (e.g., the T-Double ABCX model and the Resiliency Model of Family Stress, Adjustment and Adaptation), problem-solving (PS) and coping (C) processes are included as a separate component of both the Adjustment and Adaptation phases (named PSC). Coping behaviours are more clearly defined as the specific efforts by which a family member or the family as a whole, attempts to use or acquire resources in order to meet the demands placed on the family system (McCubbin & McCubbin, 1987; 1993). McCubbin and McCubbin (1987; 1993) clearly state that the function of coping is to preserve or reestablish the balance between demands and resources. They identified five coping strategies that families can use to facilitate this balance: (a) by acting
to directly reduce the number and/or intensity of the demands (e.g., parents could agree to work longer hours in order to meet the family’s financial needs), (b) by acting to directly acquire additional resources not already available to the family (e.g., seeking psychological help for a very withdrawn child), (c) by maintaining existing resources so they can be reallocated to meet changing demands (e.g., keeping in touch with friends who can provide emotional support), (d) by managing the tension associated with the ongoing stressors (e.g., taking time to go on a vacation), and (e) by changing the meaning of the situation to make it more manageable and acceptable (e.g., believing the family is competent to deal with a chronic illness of a member, McCubbin & McCubbin, 1987; 1993).

The aforementioned family coping strategies are very similar to those delineated by Lazarus and his colleagues for individual coping. They distinguished between two types of coping, emotion-focused and problem-focused coping. Emotion-focused coping involves regulating emotional distress either by changing the meaning of what is happening (e.g., denial, distancing) or by changing the way the stressful relationship with the environment is perceived (Lazarus, 1993; Lazarus & Folkman, 1984). Hence, the latter two family strategies mentioned in the previous paragraph would be considered emotion-focused forms of coping. Problem-focused coping involves direct efforts to manage or
alter the problem causing the distress (Lazarus, 1993; Lazarus & Folkman, 1984). Hence, the first three family coping strategies mentioned in the previous paragraph would be regarded as examples of problem-focused coping.

The Double ABCX model has been used as a framework for reviewing existing family/parental stress research (e.g., Berry, 1990; Cole, 1986; Graffi & Minnes, 1989; McCubbin et al., 1980; Minnes, 1988b). As well, the model has been subjected to empirical testing on a variety of samples, including Army families' adaptation to relocation overseas (e.g., Lavee et al., 1985), family stress in response to caring for a child with developmental disabilities (e.g., Smith, Tobin, & Fullmer, 1995; Orr et al., 1991), family adaptation to AIDS (e.g., Atkins & Amenta, 1991), and paternal stress reactions to adult children leaving and returning home (e.g., Lewis & Duncan, 1990). In the following sections the Double ABCX model will be used as a framework for evaluating the literature pertaining to families of children with externalizing and internalizing behaviours.

Literature Review

Family or parental stress has been an area of considerable research interest beyond that cited in the previous sections (e.g., 474 entries in the 1990-1996 PsychLit data base using the key words "family stress" or "parent/parental/parenting stress"). For the purposes of
this paper, the focus of study will be confined to the impact of children with externalizing and internalizing behaviours on their families. Accordingly, the ensuing review will focus on research that has examined the experience of stress in families of children in middle childhood experiencing externalizing and internalizing problems, as well as on factors that potentially moderate the impact of stress, such as resources, social support and coping strategies. Children with pervasive developmental disorders, developmental disabilities, or chronic illnesses, who may also present with externalizing and internalizing behaviours, will not be studied. Furthermore, McCubbin and Patterson's (1983) Double ABCX model will provide the organizing framework for the review. Research related to each of the factors (i.e., A, B, C, X) will be discussed, starting with the stressor-stress relationship.

**Stressor-Stress Relationship**

One line of research pertaining to families of children with externalizing and internalizing behaviours attempts to explore the relationship between the disorder-related characteristics of the child and the amount of stress experienced by the parents (Fischer, 1990). This line of research typically excludes consideration of the moderators of stress (e.g., resources). In terms of McCubbin's and Patterson's (1983) model, these studies examine the
relationship of the A factor (stressor and hardships) to the
X factor (crisis and adjustment).

Mash and Johnston (1983), in one of the early studies
exploring this relationship, examined perceptions of child
behaviour problems and stress in parents of hyperactive
(ADHD, n = 40) and normative (n = 41) children. They found
that mothers of hyperactive children reported significantly
more stress, as measured by the Parenting Stress Index (PSI-
Total score) than mothers of normative children.
Furthermore, step-wise discriminant function analyses on
individual subscales of the PSI showed that stress from
child characteristics (PSI-Child Domain) accounted for 74%
of the variance between groups, with the most important
characteristics being distractibility and degree of bother.
They also found strong positive correlations between PSI-
Total Score (X) and perceptions of child externalizing and
internalizing behaviours (A), as measured by the Child
Behaviour Checklist (CBCL). The PSI-Child Domain had the
highest correlations with parent ratings of child
externalizing and internalizing behaviours, although the
PSI-Parent Domain subscales also demonstrated moderately
significant relationships with CBCL Internalizing and
Externalizing scales. Overall, they found that mothers of
hyperactive children experience more stress, and perceive
their children as having more behaviour problems than
parents of normative children.
Similarly, Webster-Stratton (1988) examined the relationship between parental stress and perceptions of children's behaviours in 120 families of children with conduct disorder. She found that maternal stress (as measured by the PSI-Parent Domain) was significantly related to the Internalizing and Externalizing and Hyperactivity scores of the CBCL and to the Problem and Intensity scores of the Eyberg Child Behavior Inventory (ECBI). Paternal stress, however, was only significantly related to one scale on the CBCL (Depression). Overall, mothers reported more stress related to difficult child temperaments than fathers. Interestingly, none of parent adjustment measures correlated with observed child deviance or noncompliance, which serves to illustrate the importance of assessing both parental perceptions and objective indices of the problem. This is a well-designed study which controlled for the inflated error rates that result from making numerous analyses.

Using group comparisons, Breen and Barkley (1988) assessed differences between ADHD boys (n = 13) and girls (n = 13) with respect to parental stress (PSI) and perceptions of child behaviour problems (CBCL). Additionally, they wanted to add to the sparse research on ADHD girls, so they compared the group of ADHD girls with groups of non-ADHD clinic-referred (n = 13), and normal control girls (n = 13) on the same variables, i.e., parental stress and ratings of child problems. They found no sex differences on measures
of parental stress (PSI-Total Score), pervasiveness of behaviour problems at home, as measured by Home Situations Questionnaire (HSQ), and most CBCL scales. The two exceptions were ratings on the CBCL Hyperactivity and Depression scales which were higher in girls. Mothers of ADHD and clinic-referred girls were not significantly different on the PSI Total Score, and both groups scored higher on that measure than parents of the normative girls. Breen and Barkley (1988) combined all the groups to determine the extent to which parental stress was related to overall child psychopathology, as measured by the CBCL and HSQ. They found that the PSI scales were highly correlated with the CBCL scales and the HSQ. Moreover, they found that the more severe the ratings of psychopathology on the CBCL and HSQ, the greater the scores on the PSI Child Domain. The relationship between PSI Parent Domain and ratings of child psychopathology was generally weaker.

Breen and Barkley's (1988) findings in which non-ADHD clinic controls were used suggest that high parental stress is related to child behaviour problems in general, rather than to ADHD specifically. A few methodological problems cloud the results of the study. First, they used a small sample size (n = 13 per group) which reduced the statistical power to detect effects. In addition, even though significant results were still obtained, several of the measures (e.g., CBCL and HSQ, PSI Child Domain and CBCL)
have overlapping items and objectives, thereby artificially inflating many of the significant correlations found in the study. As will be shown, the latter is a weakness inherent in virtually all the studies that examine the relationship between stressor and stress utilizing existing measures, such as the CBCL and PSI.

Despite the methodological limitations of Breen and Barkley's (1988) study, other studies also support the finding that parental stress is related to child behaviour problems in general, particularly externalizing behaviours. Eyberg, Boggs, and Rodriguez (1992) noted that other researchers (e.g., Mash & Johnston, 1983) consistently find that child behaviour problems appear to be related to stress arising from child rather than parent characteristics, but that they have never examined the difference in correlation magnitude. Using 165 mothers of clinic-referred children, Eyberg et al. (1992) replicated previous findings that show the Parent and Child Domains of the PSI are significantly correlated with conduct problem behaviours, as rated by the Eyberg Child Behaviour Inventory (ECBI). As well, they found that Child Domain scores were significantly more correlated with ECBI scores than Parent Domain scores, confirming statistically the stronger relationship between perceived child problem behaviours and stress arising from child characteristics. Mouton and Touma (1988), also using the ECBI, compared stress in clinic (n = 20) and control (n
mothers. The clinic children had a variety of
behaviour problems, including conduct disorders,
oppositional behaviour, ADHD or other problems with a
behavioural component. The results showed that mothers of
behaviour problem children exhibited greater degrees of
stress attributed to both the qualities of their children
(PSI-Child Domain) and to dimensions of parent functioning
(PSI-Parent Domain) compared to mothers of normal children.

The inclusion of clinical and normal control groups to
determine whether findings are specific to a particular
disorder or related to childhood psychopathology in general
is a strong methodological improvement, as shown in the
following three studies. Dumas, Wolf, Fisman, and Culligan
(1991) examined differences in stress levels across groups
of clinic (i.e., behavioural problems, n = 30; autism, n =
30; and Down's Syndrome, n = 30) and control parents (normal
development, n = 60). After controlling for group
differences in child behaviour problems (measured by the
ECBI) and dysphoria (measured by the Beck Depression
Inventory [BDI]), they found that parents of children with
behaviour problems and autism reported significantly more
stress (PSI-Child Domain) compared to parents in the other
groups. Thus, it appears that a major source of stress for
parents arises from the child's behaviours, consistent with
the cited research findings. One strong component of Dumas
et al.'s (1991) study is their inclusion of clinically
significant results (i.e., they examined clinical elevations on all the measures), which is lacking in most clinical research. The importance of examining meaningful (e.g., clinically significant) differences in clinical research was illustrated in this study with regards to findings pertaining to the PSI-Parent Domain. That is, while statistically significant group differences were found, all scores were well within the normal range for the measure, thus obscuring the meaningful interpretation of these findings.

Donenberg and Baker (1993) also used a group design to examine the impact of children's externalizing behaviours on their families. They compared families of children with externalizing behaviours ($n = 22$), a control group with no behaviour problems ($n = 22$), and a clinical comparison group comprised of children with autism ($n = 20$), on several measures of child-related stress (e.g., CBCL) and parent adjustment (e.g., PSI, Family Impact Questionnaire [FIQ]). They found that parents (primarily mothers) of autistic and externalizing children reported greater negative impact on social life (FIQ- Social Life), more negative (FIQ-Negative Feelings) and less positive (FIQ-Positive Feelings) feelings towards parenting, and more child related stress (PSI-Child Domain) compared to the normative controls. The two clinical groups differed only on ratings of child-related stress (PSI-Child domain) which were significantly higher
among parents of autistic children. Ratings of parent-related stress (PSI-Parent Domain) did not differ between groups, although the relatively small samples, coupled with the large number of analyses may have limited the ability to detect between group differences. Donenberg and Baker (1993) also combined the data of all three groups to examine the overall relationship between child problem behaviours and parental stress. They found that externalizing scores on the CBCL were related to more negative impact on social life, child, and, to a lesser extent, parent-related stress. Similarly, internalizing scores were also related to the same variables. Thus, it seems that a variety of child behaviours contribute to increased stress levels in parents.

Fuller and Rankin (1994) compared stress levels of mothers of children with learning disabilities (n = 15), emotional problems (n = 15), and normative (i.e., non-problem) children (n = 17). Mothers of children with emotional problems and learning disabilities scored higher on the PSI Child Domain than mothers of normative children. Mothers of children with emotional problems also scored higher on the PSI Parent Domain than mothers of normative children. Unfortunately, Fuller and Rankin (1994) did not specify the criteria by which children were classified as emotionally impaired, so it is unclear whether the child's problem behaviours were internalizing or externalizing in nature. Nevertheless, these findings are consistent with
the cited research stating that child behavioural/emotional problems are strongly linked to parental stress.

Although many studies have included measures of internalizing behaviours (e.g., score on the Internalizing scales of the CBCL) and study their relationship to parental stress, only two studies were found that examined the experience of families in caring for children with internalizing disorders. Messer and Gross (1995) sampled 359 elementary school age children and identified 10 subclinically depressed children (using the Children's Depression Inventory). They found that parents of depressed children experience more stressful life events compared to a matched control group. Group differences were not found with regards to parental stress (measured by the PSI Child and Parent Domains). However, the very small sample may have limited the power to detect significant effects.

Asarnow and Horton (1990) administered a semi-structured interview assessing impact (from 0-no impact to 4-extreme impact) of a child's problems on various aspects of parents' life to 47 families of children admitted for inpatient care with DSMIII diagnoses of major depression, dysthymic disorder, schizophrenia, and schizotypal personality disorder. They found that 87% of mothers and 88% of fathers described moderate to extreme disruptions in family life. Although schizophrenia is a qualitatively different diagnosis than depression and is not typically
considered an internalizing disorder, the general findings can be considered valid for internalizing disorders as neither diagnosis or severity of impairment, as measured by the Children's Global Assessment Scale (C-GAS) was significantly associated with child impact levels. However, the majority of the children also met diagnostic criteria for conduct/oppositional disorders and ADHD, hence it would be more appropriate to conclude that severity of child behaviour problems, as assessed by the presence of comorbid conditions (i.e., both externalizing and internalizing behaviours) is related to negative child impact on the family.

Thus far it has been consistently shown that parental stress is associated with child problem behaviours and that this finding crosses diagnostic boundaries. However, it is quite simplistic, in view of McCubbin and Patterson's (1983) Double ABCX model, to consider either child characteristics or a specific diagnosis as the sole determinant of parenting stress. Very few studies have examined other variables that may additionally contribute to parental stress. For example, Baker (1994) examined predictors of parenting stress in 20 married couples with children with ADHD. He found that increased child behaviour problems (as measured by the CBCL), fewer years married, higher SES, and being a mother of a child with ADHD accounted for 51% of the variance of parental stress (as measured by the PSI-Child
Domain). As may be expected, total child behaviour problems was the strongest predictor, accounting for 28% of the variance. These findings, however, should be interpreted cautiously as Baker (1994) applied statistical procedures in an inappropriate manner. That is, he violated the statistical assumption of independence by including two observations from each mother-father dyad in the regression equation. Baldwin, Brown, and Milan (1995) also examined predictors of stress for 30 caregivers (primarily mothers) of children with ADHD. A series of multiple regression analyses indicated that financial stressors accounted for the largest variance in overall stress, as measured by the Questionnaire of Resources and Stress. When financial stress was controlled, frequency of problem child behaviour accounted for up to an additional significant 18% of the variance. The sample consisted of families of very low SES, which, while limiting generalizability, also contributes the important finding that low income parents may be at risk for increased stress.

Anastopoulos, Guevremont, Shelton, and DuPaul (1992) conducted one of the best designed studies that took a multi-dimensional approach to the examination of parental stress. They empirically examined the impact of several child, parent, and family-environmental characteristics on overall parental stress in 104 mothers of ADHD children. This was accomplished through a series of step-wise multiple
regression analyses which illustrated that elevated parental stress was associated with more frequent aggressive behaviour, more severe ADHD symptoms, and higher incidence of child health problems (accounted for 43% of variance in PSI scores). They also found that elevated parental stress occurs among mothers with more psychopathology, as measured by Symptom Checklist (SCL 90-R), and who were not working outside the home (41% of the variance). Family environment variables, such as family demographics, SES, life stress, psychological and medical problems exhibited by other family members, did not emerge as significant predictors (4% of variance). Similar findings emerged from a hierarchical regression analysis in which 56% of the variance was explained by a combination child-parent model, including the three child and two parent variables. Additional analyses revealed higher levels of stress among parents of children with comorbid conditions, (e.g., ADHD/ODD diagnosis) than ADHD alone. Therefore, although the absence of a non-ADHD control group makes it difficult to ascertain whether or not the obtained results can be generalized to non-ADHD populations, it seems likely, as illustrated by the other cited research, that high levels of stress in parents are strongly correlated with the severity of the child's behaviour problems, regardless of diagnosis. In general, the findings indicate that overall levels of child
psychopathology are associated with the degree of reported parental stress.

As mentioned previously, a methodological flaw in research in this area is the choice of measures used to assess the stressor-stress relationship. Anastopoulos et al. (1992), unlike other studies (e.g., Baker, 1994; Breen & Barkley, 1988; Donenberg & Baker, 1993), acknowledged the shared variance between criterion (i.e., PSI) and predictor variables (e.g., CBCL). They controlled for the overlap by partialing out the shared variance, using an adjusted total stress score as the criterion, thereby likely making the PSI a more accurate measure of parental stress. This subsequently led to less confounding of their analyses, and a clearer representation of the stressor-stress relationship.

In summary, despite methodological problems posed by small sample sizes in conjunction with large number of analyses, shared variance between operationalizations of the dependent and independent variables, and inappropriate or lack of control groups, the findings across studies illustrate that having children with internalizing and externalizing behaviours (A Factor), regardless of diagnosis, is associated with considerable stress for their caregivers (X Factor).
Moderator Variables and Stress

In McCubbin and Patterson's (1983) model, both the B (resources) and the C (perception) factors can be considered moderator variables in that they potentially influence the stressor-stress relationship. As stated earlier, resources constitute the family's capabilities for meeting the demands of the initial stressor, and include characteristics of the individual family members, the family unit, and the community, whereas perceptions reflect the family's subjective meaning of the stressor and associated hardships (McCubbin & Patterson, 1983). Coping strategies reflect the interaction between resources, perceptions, and behaviours (McCubbin & McCubbin, 1993). Hence, coping can be conceived as the evaluation of the efficacy of one's resources in meeting demands. This conceptualization views coping as an amalgamation of McCubbin and Patterson's (1983) B and C Factors.

Research examining the function of these variables as moderators of stress is virtually non-existent in this population. However, there are distinct lines of inquiry that examine the role of these variables as outcome variables (i.e., X Factor), and which can be reinterpreted in terms of the Double ABCX model.

Resources: Individual Characteristics

Among the individual resources, psychological well-being has been the focus of study in recent years. The
major line of research has been the examination of the relationship between psychological well-being of parents and child behaviour problems. Psychological well-being is most commonly operationalized as the degree of presence or absence of psychopathology, with parental depression having received the most research attention.

Research evaluating the relationship between parental depression and child externalizing and internalizing behaviours yields contradictory findings, as was illustrated by Forehand, McCombs, and Brody (1987). These researchers reviewed the existing studies examining the relationship between maternal depression and child functioning. They classified studies with adequate experimental design \((n = 34)\) into one of 3 groups according to type of sample: (a) clinically depressed parents, (b) parents and their clinic-referred, behaviour problem children, and (c) normative parents and their normative (i.e., non-problem) children. They also classified child functioning measures into the following groups: internalizing problems, externalizing problems, prosocial behaviours, and academic behaviours. The relationship between depressed mood and child functioning was classified as either positive, negative, none, or mixed.

Overall, across samples and area of functioning, Forehand et al. (1987) found that 40% of the measures yielded significant negative relationships between parental
depression and child functioning, while 15% of the measures showed a mixed relationship (i.e., one or more child measure indicated a positive effect or no effect, and one or more a negative effect). Moreover, chi-square analyses revealed significant relationships between depression and child functioning as a function of the sample. Specifically, a stronger negative relationship between depression and child externalizing and internalizing behaviours was found when the depressed parents were assessed than when either of the two other samples were utilized. Considering the variability of the studies included in the review with respect to measures and age range of the subjects, these findings provide considerable, though not conclusive, support for the negative relationship between parental mood states and child functioning (i.e., an increase in parental depression is associated with a decrease in child adaptive functioning).

As parents constituted the major source of the child behaviour ratings in the studies reviewed by Forehand et al. (1987), a more precise conclusion drawn from their findings would be that parental depressed mood is associated with negative perceptions of child behaviour, a finding that has received ample empirical support (Befera & Barkley, 1985; Brown & Pacini, 1989; Cunningham, Benness, & Siegel, 1988; Forehand, Lautenschlager, Faust, & Graziano, 1986; Johnston, 1991; Johnston & Pelham, 1990; Krech & Johnston, 1992; Lee &
Furthermore, many researchers suggest that parental depressed mood leads to distorted and exaggerated perceptions of child behaviours, regardless of actual behaviours (e.g., Webster-Stratton & Hammond, 1988). Johnston and Pelham (1990) hypothesize that the exaggerated perceptions associated with depression may contribute to an increased likelihood of child referral, such that, among clinic-referred children, depression is predictive of fewer child behaviour problems. In fact, observations of parent-child interactions have revealed that parental depression is positively correlated with appropriate (e.g., compliant) child behaviour (Biglan, Hops, & Sherman, 1988; Dumas, Gibson, & Albin, 1989; Hops et al., 1987; Johnston & Pelham, 1990; Weissman et al., 1987). However, other studies arrive at the opposite conclusion, that is, depressed mothers are as or more accurate than nondepressed mothers in ratings of internalizing and externalizing behaviours in children who actually present with these disorders, as diagnosed by independent observers (Brody & Forehand, 1986; Conrad & Hammern, 1989; Richters & Pellegrini, 1989). In fact, Richters (1992), using stringent criteria in a review of the relevant research literature, concluded that there is little evidence to maintain that depressed mothers have distorted perceptions of their child's problems.
Depression may be the most common type of parental psychopathology associated with child functioning. However, researchers have also examined more global indices of psychological distress and their relation to child maladaptive behaviours. For example, Sandberg, Wieselberg, and Shaffer (1980) found that mental distress, as measured by a score on the Malaise Inventory or by receipt of medication for psychiatric symptoms, was significantly correlated with parent ratings of hyperactivity and conduct disorder. Indeed regression analyses indicated that the Malaise scores accounted for 73% of the total variance of parent ratings of hyperactivity, and 61% of the total variance of parent ratings of conduct problems. Another study by Gillberg, Carlstrom, and Rasmussen (1983) found that mental distress was much more prevalent in mothers of hyperactive children than mothers of control children. They operationalized mental distress as the seeking of treatment for psychiatric problems during the preceding year, which is not a valid indicator of distress by current research standards. Other methodological problems include significant differences between the groups on important socioeconomic variables (e.g., parents of hyperactive children reported more external stressors than parents of controls) and the presence of comorbid diagnoses (e.g., minimal brain dysfunction and mental retardation) both of which confound the source of parental mental distress.
Fischer (1990) in her review of ADHD children and their parents views both the Gillberg et al. (1983) and the Sandberg et al. (1980) studies as assessing maternal stress. While it is quite likely that presence of psychopathology in a parent is a source of stress, psychopathology and stress are not interchangeable constructs. This apparent equating of stress with psychological distress serves as an illustration of one of the problems in the early literature, that is, the general lack of consensus regarding the conceptualization of stress, and of the need for a more consistent use of terminology among researchers.

Recent studies using reliable and valid measures of parental distress support earlier findings. For example, Murphy and Barkley (1996) found that psychological maladjustment, as measured by the Derogatis Symptom Checklist, was significantly higher in parents ($n = 17$) of children with severe ADHD compared to parents ($n = 17$) of normative children. Johnston (1996), also using the Derogatis Symptom Checklist, found that mothers of normative children ($n = 33$) had significantly fewer psychological problems than mothers of children with ADHD and with low levels of oppositional defiant behaviours ($n = 23$) and mothers of children with ADHD and with high levels of oppositional behaviours ($n = 25$). Similarly, Myers, Taylor, Alvy, Arrington, and Richardson (1992), using a sample of 441 mothers, found that generalized maternal psychological
distress, as measured by the Hopkins Symptom Checklist subscales (i.e., depression, anxiety, somatization, obsessive-compulsive, and interpersonal sensitivity), was one of the best predictors of perceived child behaviour problems, as assessed by the CBCL (accounted for 33% of the variance explained). However, Eisenberg, Bachar, and Hershkovitz (1989) found a weak relationship between parental distress, as measured by the Demoralization Scale (i.e., evaluates hopelessness, dread, confused thinking, sadness, anxiety, and psychophysiological symptoms), and child behaviour problems, as measured by the CBCL. It is possible that the restricted range of scores in the Demoralization Scale may have prevented a meaningful correlation from emerging.

In the studies reviewed thus far, parental psychopathology has been classified as an outcome variable. According to the present conceptualization of the Double ABCX model, parental psychological distress (B) moderates feelings of stress (X). However, there is limited, indirect evidence supporting the function of this variable as a moderator. For example, Bailey and Garralda (1987), using a sample of 101 mothers, found that psychiatrically distressed parents, as assessed by the General Health Questionnaire (GHQ), experienced more psychosocial stress (Factor X), as measured by the Social Stress and Support Interview, than non-distressed parents. As well, using the Parent Scale A
to identify children with problem behaviours, they found that mothers with behaviour-problem children experienced significantly more stress than mothers of non-problem children.

However, measures of psychosocial stress (e.g., assessing concerns regarding housing, finance, occupation) do not draw upon sources of stress associated with the parenting role, and therefore are not valid measures of parental stress. This proposition does not imply that there is no relationship between major life events, daily hassles, and parents' perceptions of child behaviour problems. On the contrary, research shows that undesirable life events and high intensity of daily hassles are associated with perceptions of more troublesome and upsetting child behaviours (e.g., Krech & Johnston, 1992; Wertlieb, Weigel, & Feldstein, 1987). However, major life events and daily hassles are contextual variables, and do not assess parental functioning, which is the focus of the present study.

There is other evidence that indirectly provides support for the moderating role of parental psychological distress. For example, Breen and Barkley (1988) found that higher levels of stress were accompanied by increased levels of parental depression and more severe parental ratings of child psychopathology; Anastopoulos et al. (1992) found that increased levels of parental psychopathology led to an increase in the amount of stress experienced and to
perceptions of greater child behaviour problems; and Webster-Stratton and Hammond (1988) found that depressed mothers of conduct disorder children reported more stress on the PSI than nondepressed mothers.

In summary, the available data support the conclusion that parental level of psychological functioning (e.g., depression) influences perceptions of child behaviour problems and is often independent of actual child behaviours. Furthermore, some researchers have hypothesized that psychological distress creates a vulnerability in the parent which lowers tolerance for child behaviour problems, and subsequently, acts to maintain stress (Conrad & Hammen, 1989; Fischer, 1990; Mash & Johnston, 1990; Richters, 1992; Webster-Stratton, 1990). This hypothesis is consistent with the literature and with the Double ABCX model.

Resource: Family Unit Characteristics

Marital satisfaction is a potentially crucial family unit resource. However, most research in the area has focused on its function as an outcome variable. That is, there is a substantial body of research that reveals significant associations between marital discord and child behaviour problems, including hyperactivity and conduct disorders (e.g., Befera & Barkley, 1985; Boggs, Eyberg, Reynolds, 1990; Gable, Belsky, & Crnic, 1992; Goldberg, 1990; Jenkins & Smith, 1991; Jouriles, Murphy & Farris, 1991; Johnston, 1996; Jouriles, Murphy, O'Leary, 1989; Smith
& Jenkins, 1991; Webster-Stratton, 1988). However, other studies have not found support for significant negative relationships between marital satisfaction and child behaviour problems (Bailey & Garralda, 1987; Cunningham, et al., 1988; Donenberg & Baker, 1993; Johnston, 1991; Johnston & Pelham, 1990; Mash & Johnston, 1983). A meta-analytic review by Reid and Crisafulli (1990) of all the empirical studies on the topic indicated a low positive relationship between marital discord and child behaviour problems, and also found no difference between clinic and non-clinic samples.

Webster-Stratton (1989) states that one of the reasons for the inconsistency in the research stems from methodological problems, such as: (a) the use of non-standardized, invalid and unreliable measures of marital/parental distress, and child behaviour, (b) the use of maternal, instead of independent assessments of child problems, and (c) the comparison of child adjustment in single-parent families to those from intact families. The latter problem was seen in the study by Anastopoulos et al. (1990) which revealed that maternal stress is greater in single versus two parent families of children with ADHD. This finding is open to interpretation; single status can signify lack of spousal support, but can also denote the presence of associated stressors, such as a diminished family income. In fact, Anastopoulos et al. (1992) found
that job status emerged as a significant predictor of parental stress, with women who did not work outside the home experiencing more stress. This serves to further illustrate the complex relationship between marital status, marital problems and stress. That is, although a supportive spouse can serve as a buffer for stress, the physical presence of a spouse or a significant other does not necessarily guarantee this support, an inference often made by studies that use marital status as an indicator of marital satisfaction (e.g., Brown & Pacini, 1989; Eyberg et al., 1992).

Accordingly, it is important to directly assess ratings of parents' satisfaction with their primary relationship (e.g., a spouse or significant other). For example, Asarnow and Horton (1990) classified parents into a low and high impact group, depending on the amount of disruption in their life due to caring for their severely disturbed child. They found that low impact was associated with the presence of a supportive, intimate relationship, and that high impact was associated with single-parent status. Thus, it seems that the presence of a close, confiding relationship serves a protective function in mothers. Due to the small sample size, father's results were not examined by these researchers. Mouton and Touma (1988) also found that mothers of clinic-referred children possess less spousal or ex-spousal support. Similarly, Murphy and
Barkley (1996) found that parents of children with severe and mild ADHD experienced greater marital discord than parents of normative children. In contrast, Donenberg and Baker (1993) did not find any such impact on parental marital functioning. However, the small sample size in their study may have seriously limited their power to detect effects.

Only one study was found that examined the effects of marital conflict on parental perceptions of child adjustment, stress, and behaviour problems. Webster-Stratton (1989) divided parents of conduct-disordered children into 3 groups: maritally supported \((n = 42)\), maritally distressed \((n = 43)\), and single parent \((n = 32)\), using scores on the Marital Adjustment Test (MAT) to divide the parents into supportive or distressed groups. She found that low maternal and paternal satisfaction was significantly correlated with perceptions of increased behaviour problems (as measured by the CBCL) and with high levels of stress (as measured by the PSI-Parent Domain). She also found that single mothers reported higher stress levels and perceived their children as having more behaviour problems than maritally supported mothers. Both single and maritally distressed mothers scored higher on the PSI-Parent Domain than supported mothers, with single mothers reporting the higher scores. Interestingly, income level was the only demographic variable that distinguished the three groups,
with single mothers having less income; however, when income was used as a covariate, similar patterns of findings emerged, suggesting that income level was not a contributing factor to the differences for single families. Webster-Stratton (1989) concluded that the combination of single status, low income, lack of support and ongoing conflict has a negative effect on parental stress levels, perceptions of their children, and child adjustment.

The quality of the marital relationship, while having an impact on the whole family, directly involves the parent dyad. What aspects of family functioning can serve as resources directly affecting the whole family? As mentioned in the sections on family stress theory, family cohesion and adaptability are among the most commonly investigated dimensions of family functioning in family stress literature; the importance of these dimensions as moderators of stress has been firmly established in the literature involving families of developmentally delayed and chronically ill children (Carson & Schauer, 1992; Frey et al., 1989; McCubbin, 1988; Timko, Stovel, & Moos, 1992; Timko, Stovel, Moos, & Miller, 1992). However, in the research regarding parents of children with externalizing and internalizing problems, family functioning has been essentially overlooked, which is surprising considering that one of the most consistent findings of observational studies of parent-child interactions in this population is the

In one of the few studies on this topic, Cunningham, Benness, and Siegel (1988) used the Family Assessment Device (FAD) to compare family functioning in parents of children with ADHD (n = 26) and parents of normative children (n = 26). They found no significant differences between the groups regarding communication, problem-solving, role distribution, affective responsiveness, and affective involvement in their families. They concluded that ADHD children have limited impact on the well-established patterns of family functioning. However, a different pattern of results was found by Brown and Pacini (1989) who also examined the perceptions of family functioning in parents of children with ADHD (n = 51), and compared them with a clinical control group of learning disabled children (n = 34) and a normative control (n = 34). Using the Family Environment Scale (FES), they found that parents of ADHD children perceive their family environment as less supportive and more stressful than either of the two control groups. Parents also had a tendency to view their families as less cohesive, although this finding did not reach statistical significance.
Smets and Hartup (1988) examined the relationship between family functioning and child behaviour problems in 60 families of clinic-referred children in middle childhood. Using the Family Adaptability and Cohesion Scales (FACES-II) to assess family functioning, they found that balanced families (i.e., those that have moderate levels of cohesion and adaptability) perceived their children as having fewer behaviour problems (as measured by the CBCL) than did mid-range and extreme families. They also found that family cohesion and adaptability did not differentiate between families of children with internalizing and externalizing behaviours. Rostain, Power, and Atkins (1993) found that parents (n = 116) who scored in the high range (i.e., Enmeshed) on the Cohesion Scale of the FACES-III also experienced a greater sense of competence in managing ADHD children (as measured by the ADHD Knowledge and Opinion Scale) and thus concluded that a high degree of cohesion, even to a point of enmeshment, is helpful and necessary to cope with having a child with ADHD. Lewis (1992) also used the FACES-III to compare family functioning in three groups: parents (n = 126) of children with ADD, ADHD, and ADHD plus aggression. She found that parents of children with more complex behaviour problems (e.g., ADHD plus aggression) reported significantly more disruptive family functioning compared to parents of children with ADD (without hyperactivity). However, in a subsequent study she found
that perceptions of conduct problems, hyperactivity, anxiety, and impulsivity were unrelated to, and did not predict, family functioning in parents (n= 109) of children with ADHD (Lewis-Abney, 1993). She concluded that limited variability in family functioning contributed to the non-significant findings.

Utilizing other clinical groups, Haddad, Barocas, and Hollenbeck (1991) explored the differences in family environment between parents of conduct-disorder (n = 23), anxiety (n = 20), and no-problem children (n = 25). Using the FES, they found that families of the conduct problem children experienced less cohesion and higher degree of conflict, and lower active-recreational orientation compared to the other two groups, which were comparable. This was a well-designed study; researchers used stringent procedures to determine diagnostic groups, and used appropriate corrections to control for inflated error rates due to multiple analyses, and to control for the effects of life stress and SES. Therefore, these findings indicate that a poor family environment is related to externalizing problems, rather than to childhood psychopathology in general.

However, a recent study by Asarnow, Tompson, Hamilton, Goldstein, and Guthrie (1994) showed that levels of expressed emotion (EE) were higher among parents of depressed children. EE is conceptualized as an index of
emotional climate in the home, which includes statements of
criticism by parents towards the children. Defined in this
manner, EE is similar to conceptualizations of cohesion.
Asarnow et al. (1994) examined EE in families of children
with depressive disorders (n = 35), schizophrenia spectrum
disorders (n = 30), and normal controls (n = 20) using the
Five Minute Speech Sample Measure-Expressed Emotion measure.
They found that families with depressed children expressed
more critical comments (Criticism scale) than families of
schizophrenic and control children, with no differences
between the latter two groups. However, they also found a
significant relationship between family criticism and
presence of a comorbid disruptive behavioural disorder:
Parents of depressed children with behavioural disorders
expressed significantly higher levels of critical EE in
comparison to parents of children without comorbid
behavioural disorders. Thus, these findings, using
observational rather than self-report measures, supplement
those of Haddad et al. (1991) to support the conclusion that
low levels of cohesion (i.e., critical EE) are prominent in
parents of children with internalizing (e.g., depression) as
well as externalizing disorders.

In summary, there were some inconsistent findings among
the aforementioned studies. This may be partly an artifact
of the instruments used, as the FAD, FCI, FES, and FACES
assess slightly different aspects of family functioning.
Nevertheless, there seems to be sufficient evidence in support of the positive relationship between perceptions of poor family functioning and child externalizing and internalizing problems. However, the function of family unit resources, such as cohesion and adaptability, as moderators of stress has yet to be determined empirically.

**Resource: Social Support**

One line of research has examined the relationship between life stress and/or daily hassles, child adjustment, and social support, documenting the role of social support as a buffer against stress. For example, Wertlieb, Weigel, and Feldstein (1987) examined the extent to which social support is a mediator of the relationship between stress and behaviour problems in children. Mothers \( n = 124 \) of non-clinic school-aged children completed the Life Events Scale and Hassles Scale (which served as an index of family stress), the Family Inventory of Resources for Management (FIRM), a measure of received and perceived family support, and the CBCL. Wertlieb et al. (1987) found a positive relationship between family stress and behaviour symptoms, an inverse relationship between social support and behaviour problems, and statistical evidence of the role of social support as a buffer against the influence of family stress. These findings can be reinterpreted in terms of the Double ABCX model. That is, maternal perceptions (C) of the presence of social support (B) moderate the relationship
between high levels of stressful life events and hassles (X) and perceptions of child problem behaviours (A).

The majority of studies in this line of research, including the Wertlieb et al. study (1987), use the normative transition to parenthood or accumulation of life events as the stressor, use middle-class mothers with normal children in early stages of development as the sample, and use a variety of measures assessing different, often independent dimensions of social support (Andresen & Telleen, 1992). Furthermore, very few researchers have examined the relationship between social support and parental stress. Measures of stressful life events, while providing information about family context, are not valid indicators of parental stress, as they do not provide information about parent-child interactions, a major source of a parent's stress.

Koeske and Koeske (1990) developed two scales, Troublesome Behaviour Stress and Child Development Stress, to operationalize parental stress. They found that parental stress had a negative impact on outcomes, such as maternal satisfaction, esteem, and psychological symptoms, when availability of support (as assessed by the Social Support Scale) was perceived to be unsatisfactory. However, in their study, the children's problem behaviours were rated by their mothers (n = 125) as occurring infrequently (e.g., occurring only once or never), and the children's
development was rated as average. As well, T scores on the CBCL were extremely low with minimal variability, similar to the Wertlieb et al. (1987) study described previously. Low ratings of child externalizing problems are expected in non-clinic populations. Nevertheless, the question remains whether or not social support would also serve a moderator role in parents who experience increased levels of stress associated with their child's severe externalizing and internalizing behaviours.

Studies of the role of social support as a buffer of parenting stress in a clinical sample of children with externalizing and internalizing behaviours could not be found. However, there have been a few studies that have examined either the relationship between social support and child behaviour problems, and/or the relationship between social support and parent stress. Johnston and Pelham (1990) found, in examining reports of 40 mothers of children with externalizing disorders (mostly ADHD with OD/CD), that perceptions of quality of social support (using the Social Support Questionnaire) were not related to observed mother or child behaviour. However, the mothers in this sample came from relatively advantaged and intact families, variables which have been shown to serve a protective function against stress (Koeske & Koeske, 1990). As well, Asarnow and Horton (1990) reported that 55% and 41% of mothers, and 33% and 21% of fathers described moderate to
extreme impact of their children on their social lives and personal relationships, respectively. Webster-Stratton (1989) found that single mothers of children with conduct problems report more stress due to social isolation, as measured by a subscale of PSI-Parent Domain; Cunningham, Benness and Siegel (1988), using their own measure of social support (information on its reliability or validity was not provided) found no differences between parents of ADHD children and normal children with regard to number of community contacts or visits with friends. However, they found that parents of ADHD children reported fewer contacts with extended family members and described these contacts as less helpful than parents of normal children. As well, mothers of ADHD children found the extended family contacts less helpful than their husbands did, and appraised their children as being more difficult when the extended relationships were poor. This finding illustrates further the importance of assessing parental perceptions. That is, the advantageous effects of social support are not due to the number or availability of social contacts, but rather to the level of satisfaction with the support, and the belief that adequate support would become available, if needed (Heitzman & Kaplan, 1988; Webster-Stratton, 1990).

In summary, it appears that significant relationships exist between social support, parental stress, and externalizing behaviours, and that social support may serve
as a buffer against parental stress. However, the difficulties in the assessment of social support, (e.g., instruments differ in focus, approach, nature of support that is evaluated, and psychometric properties) necessitate the careful examination of research findings to determine the exact aspect of social support (e.g., perceived, instrumental) that is being evaluated.

**Evaluations: Coping Strategies**

The importance of coping strategies in ameliorating everyday stresses and strains has been adequately demonstrated in the literature. Pearlin and Schooler (1978), in an often-cited study, examined the coping responses of individuals \( n = 2300 \) engaged in everyday pursuits, such as parenting, marriage, occupation, and finances. With respect to parenting, they found that the most effective coping responses (i.e., those that attenuate stress) to parental strains included self-reliance and the belief that one can exert an influence over one's children; resigned helplessness and seeking advice from others were not as effective. They also contend that a wide range of responses was more effective than any single coping response in attenuating the relationship between parenting strains and stress. Furthermore, they found evidence that women use less effective coping strategies (e.g., selective ignoring) than men, which in the area of parenting leads to a greater experience of stress. They concluded that problems arising
from close interpersonal relations are best managed by coping strategies in which the individual remains dedicated to and engaged with the relevant others (e.g., children).

The majority of Pearlin and Schooler's (1978) findings have since been replicated. For example, high levels of parenting stress have been associated with passive appraisal strategies (Barnett, Hall, & Bramlett, 1990); women use less effective modes of coping (e.g., avoidance) than men (Billings & Moos, 1981); and individuals experiencing family problems tend to use similar coping strategies, i.e., they use more problem-focused coping and less self-blame (Vitaliano et al., 1990).

The majority of studies examining the relationship between coping strategies and stress are non-clinical in nature whereby the participants are parents of "normal" children. For example, Myers et al. (1992) examined the role of family coping strategies as moderators of family stress (i.e., acute life strains and chronic role strains). Utilizing the Family Crises Oriented Personal Evaluation (F-Copes) measure, they found that active help-seeking strategies (i.e., mobilizing the family to seek help, acquiring social support) and passive appraisal served as moderators of maternal psychological distress and family stress load. The use of reframing (i.e., ability to redefine stressful events in order to minimize their impact) was regarded as detrimental in that it was associated with
increased perceptions of behaviour problems in children (as assessed by the CBCL). The efficacy of problem-focused coping is consistent with the general findings of the research literature.

Research utilizing a clinical sample usually revolves around parents of ill or disabled children, and typically illustrates that increased use of problem-focused coping is associated with less parental stress, while avoidance coping is associated with more strain (Frey et al., 1989; Miller, Gordon, Daniele, & Diller, 1992; Timko et al., 1992). Coping responses of parents of children with externalizing and internalizing behaviours has not been a major focus of study which is somewhat surprising considering the considerable research that demonstrates stressed parents to be more negative, reprimanding, directive, demanding, controlling, abusive, and irritable towards their children (Fischer, 1990; Mash & Johnston, 1990; Webster-Stratton, 1990; Whipple & Webster-Stratton, 1989). These findings indirectly indicate that parents may predominately use problem-focused strategies, whereby they directly attempt to alter the stressor by exerting control over the disruptive and active behaviours of their children.

In the one study that has addressed coping in this population, Asarnow and Horton (1990) examined the coping strategies parents utilized to cope with their children. They asked parents two questions: (a) "How have you gotten
through this difficult period?", and (b) "What advice would you give parents who were having similar problems?". They grouped responses into four general categories: (a) active-cognitive (e.g., "There's a lot of people which have it much worse"), (b) active-behavioural (e.g., changing family rules), (c) avoidance coping (e.g., "I tried to reduce tension by eating more, drinking"), and (d) emotional discharge (e.g., "I cried a lot"), according to the classification scheme of Lazarus and Folkman. Asarnow and Horton (1990) found that the most common strategy was active-cognitive coping, utilized by 75% of mothers and 48% of fathers. Active-behavioural strategies were the second most commonly used strategies by both parents, although the specific strategy utilized differed, with mothers inclining more towards seeking help from others, while fathers leaning towards problem solving within the family. In response to the second question, both parents advised other parents to use active-behavioural strategies, primarily instrumental/help seeking behaviours, such as utilizing community resources to help manage problem children. These findings provide important exploratory data on the types of strategies parents of children with internalizing and externalizing behaviours are likely to employ. The next stage would be to explore the relative efficacy of each of the strategies in reducing parental stress.
Rationale and Hypotheses

The primary purpose of the present study was to use McCubbin and Patterson's (1983) Double ABCX model as the framework for an examination and comparison of stress, resources, and coping patterns in parents of children with externalizing and internalizing behaviours. However, as the longitudinal aspect of the model (i.e., the Double factors) was not assessed, it would be more accurate to state that McCubbin and Patterson's redefinition of Hill's (1949) ABCX factors (i.e., the Adjustment Phase) provided the theoretical underpinning for the present study.

As the preceding review illustrates, each discrete component of the ABCX model has received research attention; however, the model as a whole has not been examined in this population. Furthermore, few efforts have been made to integrate the diverse research findings under the umbrella of a single theoretical framework. The Double ABCX model also appears to be useful for examining the impact on families of raising a child with externalizing and internalizing behaviours. That is, the model has a broad scope, taking into consideration individual, family, and community characteristics that shape the course of family functioning over time and in response to a wide range of stressors. As well, the model can be useful in the planning of clinical interventions, in that it can function as a guide in the assessment of critical elements of family
functioning that will facilitate successful adaptation (McCubbin & McCubbin, 1993).

Furthermore, research supports the contribution of each factor of the model to the family's experience of stress in managing a child with externalizing and internalizing behaviours. The C Factor (i.e., the perceptions and meaning of the stressor) was not reviewed separately, however. Since perceptions reflect individuals' subjective interpretation and representation of reality, they are always evaluated indirectly in research that utilizes self-report inventories (Mash & Johnston, 1990). In the Double ABCX model, coping strategies are considered separate from the A, B, C, and X factors. However, for the sake of clarity, since coping strategies can be considered products of the evaluation of the stressor and resources, they will be regarded in this study as comprising part of the C factor.

As illustrated in the literature review, two of the most consistent conclusions are: (a) parents of children with externalizing and internalizing behaviours experience more stress than parents of normal controls, and (b) severity of child problem behaviours (Factor A) are positively correlated with parental stress (Factor X; Anastopoulos et al., 1992; Asarnow & Horton, 1992; Baker, 1994; Baker & McCal, 1995; Breen & Barkley, 1988; Donenberg & Baker, 1993; Dumas et al., 1991; Eyberg et al., 1992;
Fuller & Rankin, 1994; Johnston & Pelham, 1990; Mash & Johnston, 1983; Mouton & Touma, 1988; Murphy & Barkley, 1996; Webster-Stratton, 1988). Therefore, in the study it was expected that:

**Hypothesis (1a)** Children's externalizing and internalizing behaviours would be positively correlated with parental stress.

The findings regarding resources (i.e., psychological well-being, marital/partner satisfaction, social support, and family functioning) are less consistent. However, several studies have shown that parental psychological distress is positively correlated with stress (Anastopoulos et al., 1992; Breen & Barkley, 1988; Webster-Stratton & Hammond, 1988), and with perceptions of child behaviour problems (Befera & Barkley, 1985; Brown & Pacini, 1989; Cunningham et al., 1988; Forehand et al., 1986; Johnston & Pelham, 1990; Krech & Johnston, 1992; Myers et al., 1992; Webster-Stratton, 1988). Therefore, in the study it was expected that:

**Hypothesis (1b)** Parental psychological distress would be positively correlated with parental stress, and with perceptions of children's externalizing and internalizing behaviours.

Similarly, it has been shown that marital discord is positively correlated with parental stress (Asarnow & Horton, 199; Webster-Stratton, 1989), and with perceptions
of child problems (Befera & Barkley, 1985; Boggs et al., 1990; Jenkins & Smith, 1991; Jouriles et al., 1989; Jouriles et al., 1991; Smith et al., 1991; Webster-Stratton, 1988). In addition, the literature review revealed that social support is negatively correlated with stress (Webster-Stratton, 1990) and with child behaviour problems (Asarnow & Horton, 1990; Cunningham et al., 1988; Johnston & Pelham, 1990). Hence:

**Hypothesis (1c)** Marital satisfaction would be negatively correlated with parental stress, and with perceptions of children's externalizing and internalizing behaviours.

**Hypothesis (1d)** Social support would be negatively correlated with parental stress, and with perceptions of children's externalizing and internalizing behaviours.

With regards to family resources, it was shown that families of children with externalizing and internalizing problems generally experience disruptive family functioning (Asarnow et al, 1994; Brown & Pacini, 1989; Haddad et al., 1991; Lewis, 1992; Rostain et al., 1993; Smets & Hartup, 1988). Therefore, it was expected that:

**Hypothesis (1e)** Cohesion and adaptability would be negatively correlated with perceptions of child externalizing and internalizing behaviours.
Finally, it was shown that utilization of a variety of effective coping strategies, particularly problem-focused strategies, significantly ameliorates feelings of stress, while emotion-focused types of coping are generally less effective (Asarnow & Horton, 1990; Frey et al., 1989; Miller, et al.; Myers et al., 1992; Timko et al., 1992). Consequently:

**Hypothesis (1f)** Problem-focused coping would be negatively correlated with parental stress.

**Hypothesis (1g)** Emotion-focused coping would be positively correlated with parental stress.

According to the Double ABCX model, the B and C Factors are moderators of the stressor-stress relationship. Thus, people with more individual (e.g., psychological well-being), family (e.g., marital harmony, cohesion, adaptability), and community (e.g., social support) resources plus more effective coping strategies should experience less stress associated with their child's behaviour problems than individuals with less resources and less effective coping strategies. Of the B and C factors, existing theoretical and empirical literature supports the primacy of the latter (i.e., perceptions and appraisals), in that they influence the way a person sees or uses resources (Boss, 1992; Orr et al., 1991). However, level of psychological functioning, particularly depression, has been shown to adversely influence perceptions (e.g., Krech &
Johnston, 1992; Webster-Stratton & Hammond, 1988). Hence this individual resource should be expected to play a primary role in parents' experience of stress. Among the family and community resources, the relative contributions of cohesion, adaptability, marital satisfaction, and social support remains unexplored. In general, the function of the B and C Factors as moderators has not been a focus of study in families of children with externalizing and internalizing disorders, thus they need to be more clearly conceptualized and defined in this population. Hence, based on the Double ABCX model and the research literature, it was expected that:

**Hypothesis #2** Parents with elevated levels of psychological distress, low levels of marital/partner satisfaction, low levels of family cohesion and adaptability, and inadequate social support, combined with fewer problem-focused coping strategies, would experience high levels of stress and rate their children as having multiple externalizing and internalizing behaviours.

The externalizing problems have generally received more research attention than internalizing problems, most likely because they are easier to detect, and evoke more negative reactions in others (thus are also more likely to contribute
to stress). Among the externalizing disorders, ADHD, with its associated symptoms of distractibility, noncompliance, impulsivity, and problems in sustaining attention (APA, 1994) has received the bulk of research attention pertaining to parental stress. However, it was also demonstrated that parental stress is not specific to any particular type of child psychopathological disorder, but is associated with behavioural symptomatology in general (Asarnow & Horton, 1992; Donenberg & Baker, 1993; Eyberg et al., 1992). In fact, research attempting to compare diagnostic groupings is problematic, both because of the symptom overlap among diagnostic categories and because of the high comorbidity between externalizing and internalizing behaviours (Jensen, Burke, & Garfinkel, 1988; McConaughy & Skiba, 1993). Therefore, a more reliable approach may be to shift focus to the examination of the degree of severity of symptoms (i.e., to use the combinations of internalizing and externalizing behaviours) as predictors of parental stress. However, on the other hand, where relatively pure externalizing and internalizing behaviours exist, there may also be differences regarding parental perceptions of stress. Hence, in the study it was be expected that:
Hypothesis #3  Parents of children with predominantly externalizing behaviours would experience more stress than parents of children with predominantly internalizing behaviours, given similar individual, family, and community resources and coping strategies. Both groups of parents would experience more stress than parents of normative children.

Most of the research utilizing externalizing and internalizing populations has examined mothers' rather than fathers' experiences of stress. My own clinical experience suggests there are two likely reasons: (a) mothers are usually the primary child caregivers, and (b) they are the ones most likely to seek referral to a clinic. Among the studies comparing mother and father experiences, the findings generally show that mothers are more stressed than fathers, and that they perceive their children as having more behavioural/emotional problems, although between-parent correlations are still high (Asarnow & Horton, 1990; Baker, 1994; Cunningham et al., 1988; Eisenberg et al., 1989; Mash & Johnston, 1983; Webster-Stratton, 1988;1990). Based on these findings, it was hypothesized that:

Hypothesis #4  Mothers would experience more stress and rate the child as having more externalizing and internalizing problems than fathers.
Participants

Clinical participants consisted of 100 parents of school-aged children (target child) drawn from a pool of referrals from two community agencies providing psychological services to children. Non-clinical participants (control group) consisted of 23 parents of school-aged children who were recruited from psychology classes at the local university. Since different subgroups of clinical participants were involved in the examination of the major hypotheses, detailed descriptions of both clinical and non-clinical participants are deferred to the appropriate sections in the Results chapter.

The majority of clinical participants were recruited from Agency A (n = 81) which provides out-patient, in-patient, in-home, and/or in-school services to families with children up to 18 years of age who exhibit emotional/behavioural problems, communication disorders, information processing difficulties, and/or pervasive developmental disorders. A smaller subset was recruited from Agency B (n = 16) which provides group sessions for children aged 4 to 12 years who exhibit poor peer relationships and emotional/behavioural difficulties. Both agencies serve a large area in southwestern Ontario.
To be eligible for participation in the study, clinical parents were selected on the basis of whether their child met the following criteria: First, the target child did not have severe developmental delays (e.g., mental retardation), severe motor or language problems, and pervasive developmental disorders. Second, the primary parental referral complaint was child behavioural and/or emotional problems. Third, the target child was between 5 and 12 years of age. Finally, the target child was not receiving treatment at the time of the parents' participation in the study. The majority of parents, however, had sought prior professional help for their child's behavioural problems ($M = 2.64$ times, $SD = 3.06$).

Inclusion criteria for the control group were as follows: (a) parents never having sought psychological services for their child, (b) no major complaints of child behavioural/emotional problems, (c) Child Behaviour Checklist Total Problem T-score below 60, (d) no reports of developmental delays, severe motor or language problems, and signs of pervasive developmental disorders in the child, and (e) child between 5 and 12 years of age.

**Measures**

*Family Information Sheet (FIS).* The Family Information Sheet was developed specifically for the purpose of obtaining demographic information about the family, such as age, sex, education, socioeconomic status, and number of
family members. The FIS was also used to obtain information on potential stressors (e.g., employment status, presence of physical and emotional problems in the parent), resources (i.e., marital/partner satisfaction), and to verify that the inclusionary criteria were met (see Appendix A).

**Parenting Stress Index (PSI-Form 6).** The Parenting Stress Index (Abidin, 1990b; 1995), which was used to operationalize the X Factor of the ABCX model, is a screening and diagnostic measure designed to assess the degree of stress experienced in a parent-child system. The PSI takes into account the multidimensional and additive nature of stress. Accordingly, it identifies and assesses three sources (domains) of stress: child characteristics, parent characteristics, and situational/demographic life stress.

The PSI contains 101 items, rated by parent on a 5-point scale ranging from 1 = Strongly Agree to 5 = Strongly Disagree. The Child Domain assesses stress resulting from child characteristics that make it difficult for parents to fulfil the parental role. It consists of 47 items distributed across 6 subscales: (a) Adaptability (11 items)—degree to which the child is able to handle change and transition, (b) Demandingness (9 items)—pressures and demands the child places on the parent, (c) Mood (5 items)—negative child affect (i.e., depression and unhappiness), (d) Distractibility/Hyperactivity (9 items)—behaviours
often associated with ADHD, e.g., overactivity, distractibility, (e) Reinforces Parent (6 items)- the degree to which the parent perceives the parent-child relationship as rewarding, and (f) Acceptability (7 items)- the extent to which the child meets the parents' perceptions of the ideal child (Abidin, 1990b; 1995).

The Parent Domain (54 items) assesses stress resulting from aspects of the parent's own functioning and consists of 8 subscales: (a) Depression (9 items)- the extent to which the parents' emotional and physical energy is compromised, (b) Sense of Competence (13 items)- the ability to meet parenting demands, (c) Attachment (7 items)- the degree of emotional closeness to the child and involvement in the parental role, (d) Restriction of Role (7 items)- impact of the parental role on personal freedom and other life roles, (e) Social Isolation (6 items)- availability of social support, (f) Relationship with Spouse (7 items)- the availability of emotional and active support of parent's significant other, and (g) Parental Health (5 items)- degree of parental physical health (Abidin, 1990b; 1995).

The Life Stress Scale an 19-item scale which assesses stress outside the parent-child relationship. It assesses situational circumstances, such as death of relative, and loss of job which are believed to intensify parenting stress (Abidin, 1990b; 1995). This scale was utilized in the present study as a measure of psychosocial stressors.
The reliability coefficients of the PSI were computed based on the responses of the normative sample \( (n = 2633) \). Coefficients range from .70 to .83 for the subscales of the Child Domain, and from .70 to .84 for the subscales of the Parent Domain. The reliability coefficients for the Child and Parent Domains are .90 and .93, respectively. The reliability for the Total Stress Score is .95. Abidin (1990; 1995) states that these coefficients are sufficiently large to indicate a high degree of internal consistency for the measure. Test-retest reliability coefficients (for up to year long intervals) range from .55 to .82 for the Child Domain, .69 to .91 for the Parent Domain, and .69 to .96 for the Total Stress Score, providing strong support for the stability of the PSI scales. The PSI manual provides a series of study abstracts which support the concurrent, construct, discriminant, predictive, outcome measurement and factorial validity of the instrument (Abidin, 1990b; 1995).

The subscale scores are calculated by adding the weights of each item rating belonging to a particular subscale. The Domain score is obtained by adding all the subscale scores in a given Domain, while the PSI Total Stress score is derived by combining the two Domain scores. The normal range for the total score is from the 15th to the 80th percentile (raw score = 180-250). The manual provides interpretive information for high scores in the Total Score
(raw score >= 260), the Child (raw score >= 122) and Parent (raw score >= 153) Domains, and all the subscales.

Several of the PSI subscales draw upon specific child and parent characteristics which increased the probability that the PSI scales would share unwanted variance with some of the other measures (e.g., CBCL) in the present study. Anastopoulos et al.'s (1992) procedure (described more fully in the Results chapter) was followed whereby PSI subscales that correlated highly with major predictor variables were subtracted from the PSI-Total Score. The resulting score, the PSI-Adjusted Score, was selected to operationalize the X Factor (X) of the ABCX model (McCubbin & Patterson, 1983).

Child Behavior Checklist/4-18 (CBCL). The Child Behavior Checklist (Achenbach, 1991), which was used to operationalize the A Factor of the ABCX model, is a standardized self-report measure of children's competencies and behaviour/emotional problems as perceived by their parents or primary caregivers. The CBCL consists of two parts: the competence items (competence scales) and the problem items (syndrome scales).

The competence scales consist of parental reports of their child's participation in social activities, quality of relationships with various family members and friends, and various aspects of school functioning (Achenbach, 1991). The CBCL competence scores were not measured in the present study.
The CBCL syndrome scales were derived from two sets of principal components analyses of clinically referred children (n = 4497), and consist of the following scales: Withdrawn, Somatic Complaints, Anxious/Depressed, Social Problems, Thought Problems, Attention Problems, Delinquent Behavior, Aggressive Behavior, and Sex Problems. Second-order factor analyses of the syndrome scales resulted into 2 major groupings: Internalizing and Externalizing categories. The Internalizing score is defined as the sum of the scale scores of the Withdrawal, Somatic Complaints, and Anxious/Depressed scales, while the Externalizing score is defined as the sum of the scale scores of the Delinquent and Aggressive Behavior scales. Each of the problem items is scored on a 3-point Likert scale from Not True to Very True or Often True. The Total Problem score is computed by summing all the subscale scores items (Achenbach, 1991).

The test-retest reliability of CBCL item scores, as assessed from reports of parents of 72 non-referred 4-16 year olds at a one week interval was .996 for the competence items and .952 for the problem items (p < .001). The mean test-retest reliability of the CBCL scale scores was .87 for the competence scales and .89 for the problem scales. There was a minimal decline in CBCL problem scores over the one week interval, accounting for 2% of the variance in scale scores. The long-term stability of the problem scale scores was also supported; the mean stability correlations were
similar for both a one-year and two-year periods ranging from .71 to .74, which reflect a statistically significant degree of association. Good interparent agreement is also indicated with mean correlations of problem scales across sex/age groups ranging from .48 to .80. The mean correlations for the four sex/age groups ranged from .65 (for girls 4-11 years old) to .75 (for boys 4-11). There was also good agreement between ratings by mothers and fathers in classifying their children in the normal vs. clinical range. Achenbach (1991) also presented convincing evidence for the content validity, construct validity, and criterion-related validity of the CBCL scores.

Normal, borderline, and clinical ranges are designated for each of the scale scores of the CBCL, based on the significant differences between referred and non-referred children. Thus, T scores between 67 and 70 represent the borderline clinical range, with those below and above representing the normal and clinical range, respectively. For the Total Problem score, scores in the normative samples ranging from the 82nd to the 90th percentile were found to provide the most efficient discrimination for most sex/age groups. T scores of 60-63 which span these percentiles, demarcate the borderline clinical range, T < 60 the normal range, and T > 63, the clinical range (Achenbach, 1991). Externalizing, Internalizing and Total Problem Scores were
utilized to operationalize the A Factor of the ABCX (McCubbin & Patterson, 1983).

**General Health Questionnaire (GHQ-28).** The General Health Questionnaire (Goldberg & Hillier, 1979) is a 28-item screening questionnaire devised to detect the presence or absence of psychiatric symptoms (i.e., psychological well-being). The GHQ-24 was used to operationalize the B Factor (B1) of the ABCX model. The GHQ-28 detects two major classes of problems: (a) inability to carry out day-to-day activities, and (b) the appearance of distressing phenomena.

The scaled version of the GHQ-28 was created from the original 60-item GHQ. A series of principal component analyses of the original GHQ items of 523 consecutive attenders in primary care settings led to the construction of four 7-item scales: (A) Somatic Symptoms, (B) Anxiety and Insomnia, (C) Social Dysfunction, and (D) Severe Depression. All items had loadings higher than .51, and no item loaded significantly on any other scale but its own. Analyses were repeated on the final 28 items, and the 4 factors were found to account for 59% of the total variance. All questions loaded heavily on their assigned scales except for two items: "Have you recently had difficulty staying asleep?" which loaded on scale A and B, and "Have you recently found at times you couldn't do anything because your nerves were so bad?" which loaded on scales B and D. The subscales are not independent of one another (intercorrelations range from
.33 to .61) which reflects the presence of a general factor. This general factor accounts for 35% of the variance in the unrotated analysis (Goldberg & Hillier, 1979).

The principal components analyses on the 28 GHQ items were repeated on two additional large sets of the original GHQ's (n = 552, and n = 4247). Goldberg and Hillier (1979) found that the four factors accounted for 53% and 58% of the variance respectively, and that the loadings of the varimax rotation of these four factors were similar to the original data described above. Information on internal reliability was not provided by the authors. Concurrent validity was demonstrated by the fairly high correlation coefficients between GHQ scale scores and independent clinical ratings from the Clinical Interview Schedule (Goldberg & Hillier, 1979).

The GHQ-28 is scored on a 4-point Likert scale, ranging from 0 to 3. Subscales scores are calculated by adding the weights of each item rating, and the Total GHQ-28 score is obtained by adding all the subscale scores. Alternate scoring (0-0-1-1) and clinical cutoffs (score >= 5) are also provided (Goldberg & Hillier, 1979). The Total GHQ-28 score was used in the study to operationalize the B (B1) Factor of the ABCX (McCubbin & Patterson, 1983).

**Family Support Scale (FSS).** The Family Support Scale (Dunst, Trivette, & Jenkins, 1988) is a measure of perceived social support, and operationalized the B Factor (B2) of the
ABCX model. Specifically it measures the helpfulness of sources of support to families raising a young child. The FSS consists of 18 items, plus 2 respondent-initiated items, rated on a five-point scale ranging from Not at all Helpful to Extremely Helpful.

A principal components analysis yielded a six-factor solution which accounted for 62% of the variance: Factor I included informal kinship items, Factor II included social organization items, Factor III included formal kinship items, Factor IV contained immediate family items, Factor V contained the specialized professional services scale items, and Factor VI, generic professional services items. These Factors constitute the subscales of the measure (Dunst et al., 1988).

Reliability and validity were examined on a sample consisting of 139 parents of preschool retarded, handicapped, and developmentally at-risk children. The coefficient alpha and split-half reliability was .77 and .75, respectively. The test-retest reliability, taken one month apart, was .91, and, taken 18 months apart, was .47 (Dunst et al., 1988). The lower reliability coefficient at 18 months, while still significant (p<.05), may suggest that the measure is sensitive to situational changes. The criterion validity of the scale has been established in a number of studies that show the total scale score to be consistently related to a number of parent and family
outcomes (Dunst, 1985; Dunst et al., 1986; Frey et al, 1989).

A Total Support Scale Score is obtained by summing across the rated items, with higher scores indicating that the support received was perceived as helpful (Rodgers, 1993). As mentioned, the Total Scale Score was used in the study to operationalize the B(2) Factor of the ABCX model.

**Family Adaptability and Cohesion Evaluation Scales (FACES-II).** FACES-II (Olson, Bell, & Portner, 1982) is the second version of a measure designed to assess family cohesion and family adaptability, the two major dimensions of the Circumplex model, and among the most studied of the family resources.

The development of FACES II underwent three stages. Initially a group of 464 adults completed a 90-item version of the measure. The results of reliability and factor analyses led to the reduction of the number of items to 50. The internal consistency reliabilities for this 50-item measure were .91 for cohesion and .80 for adaptability. A test-retest reliability study using a sample of university students \( (n = 124) \) exhibited the following correlation: \( r = .83 \) for cohesion, \( r = .80 \) for adaptability, and .84 for the total FACES scale. The 50-item measure was subsequently administered to 2412 individuals in a nation-wide survey. Again reliability and factor analytic findings determined
exclusion of items, leading to the current 30-item version of FACES-II (Olson et al., 1982; Olson et al., 1985).

The internal consistency reliabilities for the 30-item measure were as follows: $r = .87$ for Cohesion, $r = .78$ for Adaptability, and $r = .90$ for the Total Scale. The correlation coefficients between cohesion and adaptability range from .25 to .65, but Olson et al. (1982) report that the common variance has not posed problems in research. In the present study the intercorrelation was $r = .68$. Adequate face, content, and concurrent validity have also been demonstrated (Olson et al., 1982).

FACES-II consists of 16 cohesion items and 14 adaptability items. The cohesion dimension consists of items assessing the following concepts: emotional bonding, coalitions, family boundaries, time, space, friends, decision-making, interests, and recreation. The adaptability dimension contains items relating to: leadership, assertiveness, negotiations, discipline, roles and rules. The items are rated on a 5 point scale from 1 = Almost Never to 5 = Almost Always (Olson et al., 1982).

In the present study, cohesion and adaptability scores were calculated in the manner specified by Olson et al. (1982) and Olson and Tiesel (1991), and were assigned a number from 1 to 8 based on the cutting points provided in the manual (Olson et al., 1982). Cutting points are available for the four levels of adaptability: rigid (1-2),
structured (3-4), flexible (5-6), and very flexible (7-8),
and cohesion: disengaged (1-2), separated (3-4), connected
(5-6), and very connected (7-8). To obtain the Family Type
Score, the Cohesion and Adaptability scores (ranging from 1
to 8) were summed together and divided by 2. The resulting
number can also be used to classify families as Balanced,
Mid-ranged and Extreme with the Balanced Types viewed as the
most viable for healthy family functioning (Olson et al.,
1985). The Family Type Score was used to operationalize the
B Factor (B3) of the ABCX model.

Ways of Coping Checklist-Revised (WOCC-R). The Revised
Ways of Coping Checklist (Vitaliano, Russo, Carr, Maiuro, &
Becker, 1985) is a measure designed to identify the thoughts
and actions used to manage specific situational demands.
The WOCC-R was created as a response to the methodological
problems of Folkman and Lazarus's Ways of Coping Checklist,
i.e., instability of factors, lack of generalizability to
clinical populations, and lack of construct and face
validity (Vitaliano et al., 1985).

Vitaliano et al. (1985) administered the original Ways
of Coping Checklist to three different samples: (a)
outpatients with anger and control problems, (b) spouses of
patients with senile dementia of the Alzheimer's type, and
(c) first and second year medical students. A principal
components analysis was performed on the medical student
samples' (n = 425) responses. Only items which had loadings
higher than .35 were retained, for a total of 42 items. The factor analysis resulted in six factors of which five constitute the scales of the WOCC-R: (1) Problem-Focused (15 items), (2) Seeks Social Support (6 items), (3) Blamed Self (3 items), (4) Wishful Thinking (8 items), and (5) Avoidance (10 items; Vitaliano et al., 1985).

The other two samples were used to determine the degree to which the resulting scales were superior to the original scales and were internally consistent and intercorrelated. The WOCC-R scales were deemed more reliable than the predecessor scales with reliabilities ranging from .73 to .85 in the spouses of Alzheimer's patients, from .76 to .88 in the psychiatric outpatients, and from .74 to .88 in the medical student population. The WOCC-R scales also share substantially less variance than the original scales, an important methodological improvement considering that the items were derived from a theory that views coping as multidimensional. Thus, the scales would be expected to approach independent dimensions (Vitaliano et al., 1985). Construct and concurrent validity were also demonstrated consistently across the samples. As well scales were unconfounded by demographic differences, such as age, education, and marital status (Vitaliano et al., 1985).

In the present study each participant was asked to complete the WOCC-R based on one specific stressful encounter that was typical of their experience with the
child (e.g., an episode of child non-compliance that the parent found to be upsetting). Each item was rated on a 4-point Likert scale from "does not apply and/or not used" to "used a great deal", thereby indicating the frequency with which each strategy was used (Vitaliano et al., 1985).

In the present study, the coping data were analyzed using relative scores (i.e., percentages) because it has been shown that they best represent the interplay among the various coping strategies that comprise the coping process (Vitaliano, Maiuro, Russo, & Becker, 1987). That is, first a mean item score (i.e., dividing the sum of the ratings of each scale by its respective number of items) was obtained for each scale. Consequently, a relative coping score for each scale was calculated by dividing the mean item score for each scale by the sum of the mean item scores of all five scales. This procedure controlled for difference in number of items within each scale and for individual differences in total coping efforts (Vitaliano et al., 1987). The relative coping scores were used in the present study to operationalize McCubbin and Patterson's (1983) C Factor of the ABCX model. A summary of the operationalization of the all the components of the ABCX model is provided in Figure 1.
**Figure 1.** Operationalization of the ABCX Factors.

A = stressor; B = resources; C = perception (coping); X = crisis (stress).
Procedure

The investigator enlisted the aid of intake workers and psychology interns for the recruitment of clinical participants. At Agency B the intake workers (social workers) performed the initial screening and informed parents of the research study, delivered a short statement summarizing its purpose (see Appendix B), and obtained verbal consent (see Appendix C) to the release of their telephone numbers to the investigator. At Agency A, in addition to the intake workers, the investigator obtained the assistance of two psychology interns who contacted individuals on the waiting lists, informed them of the study, and obtained their verbal consent to have the investigator telephone them to provide more details of the study. At Agency A the investigator also approached social workers that ran groups (4 in total) on parenting the challenging child and asked permission to speak to the parents about the study. At the initial group session, the investigator provided information about the study and obtained names and telephone numbers of interested parents who agreed to be contacted at home.

Once the parents agreed to be contacted, the investigator telephoned the primary caregiver (primarily the mother) within one week of obtaining the name, presented the general purpose and procedure of the study, and answered questions. If the individual agreed to participate, the
investigator arranged for a meeting at the respective agencies or at the parent's home within a two week interval. At that time, the investigator gave participants a packet containing the consent form (see Appendix D), and the questionnaires (i.e., FIS, PSI, CBCL, WOCC-R, GHQ-24, FACES-II, and FSS). The measures were presented in a counterbalanced order.

Participants were asked to sign the consent form, and complete the questionnaires in the order presented. Participants were assured that the data would remain confidential, and that all information received would be recorded using code numbers. The instructor verbally provided instructions as to the completion of each measure, and remained available to answer participant's questions. A subset of participants \((n = 11)\) requested that the questionnaires be mailed to their homes. Detailed instructions for completing the questionnaires were included in the package sent to them, as was a stamped, addressed envelope, and a telephone number where they could reach the investigator if they had any questions.

Participants were asked to enlist the other parent to take part in the study (however only a total of 13 fathers participated). Total completion time for a set of questionnaires ranged from 50 minutes to 2 hours. All participants were treated according to ethical standards for
research with human subjects (American Psychological Association, 1982).

Upon completion of the questionnaires, the participants were told that a summary of the study findings would be available upon request once the results were analyzed. Participants were also given a list of general strategies for coping with parental stress as a token of appreciation for participating in the study (see Appendix E). Furthermore, participants were provided with personal feedback within one week of completing the measures, although not all participants availed themselves of this opportunity.

Control participants were recruited through introductory and night psychology classes at the local university. The investigator delivered recruitment sheets to the instructors outlining the purpose, procedure, and inclusion criteria, and asked them to announce the information to their classes (see Appendix F). Interested parents were asked to provide their telephone numbers and were contacted by the investigator so that a mutually convenient time to complete the measures at the university could be arranged. Most instructors offered bonus marks for participation in the research. Control participants were also told that a summary of the research findings would be available upon request at the end of the study.
RESULTS

Overview of Data Analyses

The results of this research are organized in four sections. The first section describes analyses associated with the prediction of stress and the role of resources and coping as moderators utilizing the ABCX model as a framework. The second section describes comparisons of stress levels of parents of children with different types of behaviour problems, i.e., internalizing, externalizing, and normative behaviours. The third section delineates analyses involving comparisons of mothers and fathers with respect to parenting stress and perceptions of child problems. The fourth section contains additional analyses which address questions raised by the primary research findings. Each section begins with a description of the data screening procedures for examination of missing values, outliers, multicollinearity, and the fit between major study variables and assumptions underlying multivariate analyses as there are different procedures involved in the evaluation of grouped and ungrouped data. As well, each section includes a description of the subsample under study.

Purpose 1: Evaluation of Stress

The primary purpose of the study was to use McCubbin and Patterson's (1983) model as a framework to examine the relationship between stress, resources, and coping in
parents of clinic-referred children. For the major hypotheses associated with this purpose, parental stress was the dependent measure. Independent variables were stressor (child internalizing and externalizing behaviours & total problem behaviours), resources (family support, parental psychological well-being, family cohesion/ adaptability), coping strategies (5 scales of the revised Ways of Coping Checklist: problem-focused, seeks social support, blames self, avoidance, wishful thinking), and select background variables (i.e., those that attained statistically significant correlations with the parental stress measure).

**Data Screening**

Prior to data screening the decision was made to exclude the 19 clinical fathers from the analyses presented in this section. These cases were excluded because their small numbers made it very difficult to assess the potential contribution of gender.

There were two questionnaires with missing values for coping strategies and two for child behaviour problems. All missing values were replaced by the mean of all the cases on those variables. The variable of marital/partner satisfaction, which had missing values in 20% (n = 16) of the cases, was deleted. However, due to its potential importance in moderating stress levels it will be the focus of examination in a separate section.
Results of the evaluation of statistical assumptions led to a square root transformation of the Family Support Scale score, and of one demographic variable, the number of months participants were on the waiting list for services. These transformations were performed in order to reduce extreme positive skewness. The transformed variables were only utilized for analyses in the present section. There were no other serious violations of the assumptions of normality, linearity, and homoscedasticity. Finally, there was no evidence of high multicollinearity (i.e., $r > .70$) among variables.

One case was identified through Mahalanobis distance procedure as a multivariate outlier with $p < .001$. Inspection of the data indicated that this mother did not endorse any child behaviour problems, reported very high levels of social support and family resources, yet reported high levels of parental stress. Furthermore, this participant gave the personal impression that she was presenting her family in a very positive light. It is possible that her responses may have been affected by an alteration in the standardized administration of questionnaires (i.e., the investigator read aloud all questionnaire items). Therefore, this case was deleted, leaving 80 cases for analysis.
Demographics

The participants ranged in age from 24 to 54 years ($M = 34.15$, $SD = 5.51$). The majority were biological mothers of the target child, with the exception of 2 grand-mothers, one adoptive mother, and one step-mother. Of the 80 participants, 7 parents had other children with behavioural/emotional and developmental problems, including 4 children with ADHD/ADD, and 3 with autism. The sample was predominately Caucasian ($n = 77$), but included individuals of African-Canadian ($n = 2$) and Hispanic ($n = 1$) origin. Additional demographic data is presented in Table 1.

The target children included 66 boys and 14 girls ranging from 5 to 12 years of age ($M = 8.21$, $SD = 1.86$). All were attending regular kindergarten (2 in junior, 4 in senior kindergarten) through grade 7 classes. However, one child was also receiving some type of special education assistance, and one was in a Grade 1-2 split. Parent reports indicated that 31 children had received diagnoses of ADHD or ADD. Twenty-seven children were receiving stimulant medications (i.e., Ritalin); one was on an antidepressant (i.e., Prozac). With the exception of 10 children, all came from families in which there were 2 or more children in the home.

Preliminary Analyses

To reduce shared variance between the predictor and dependent variables, Anastopoulos et al.'s (1992) procedure
### Table 1

**Summary of Demographic Data for Clinical Participants**

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
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<tr>
<td><strong>Marital Status</strong></td>
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<td></td>
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<tr>
<td>Single</td>
<td>13</td>
<td>16.3</td>
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<tr>
<td>Married</td>
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<td>Living Together</td>
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<td>Divorced/Separated</td>
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<td>25.1</td>
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<td><strong>Education Level</strong></td>
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<td></td>
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</tr>
<tr>
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<td>15.0</td>
</tr>
<tr>
<td>Trade School/College</td>
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<td>35.0</td>
</tr>
<tr>
<td>Some University</td>
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<tr>
<td>University</td>
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<td>8.8</td>
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<tr>
<td>Full-Time</td>
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<tr>
<td>Part-Time</td>
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<td>32.5</td>
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<td>Not Employed</td>
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<td><strong>Socioeconomic Status (SES)</strong></td>
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</tr>
<tr>
<td>I</td>
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<td>II</td>
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<td>III</td>
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<td>IV</td>
<td>17</td>
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<tr>
<td>V</td>
<td>13</td>
<td>16.3</td>
</tr>
<tr>
<td><strong>Medical Problems</strong></td>
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<td></td>
</tr>
<tr>
<td>No</td>
<td>58</td>
<td>72.5</td>
</tr>
<tr>
<td>Yes</td>
<td>22</td>
<td>27.5</td>
</tr>
<tr>
<td><strong>History of Counselling/Therapy</strong></td>
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<td></td>
</tr>
<tr>
<td>No</td>
<td>46</td>
<td>57.5</td>
</tr>
<tr>
<td>Yes</td>
<td>34</td>
<td>42.5</td>
</tr>
</tbody>
</table>

**Note.** SES was determined by Hollingshead's (1975) Four Factor Index of Social Status. The SES categories are: I = major business, professional; II = medium business, minor professional, technical; III = skilled craftsmen, clerical, sales worker; IV = machine operator, semiskilled worker; V = unskilled labourer, menial service worker.
was initially followed whereby correlations were calculated between subscales of the Parent Stress Index (PSI; Factor X) and the major predictor variables, in this case the CBCL Internalizing score (Factor A), CBCL Externalizing score (Factor A), General Health Questionnaire (GHQ) Total score (Factor B), the Family Support Scale (FSS) Total score (Factor B), the Family Adaptability and Cohesion Scales (FACES) Family Type score (Factor B), and each of the five Ways of Coping subscale scores (Factor C). Any PSI subscale score with significant correlations ($p < .01$) with any of the other variables was to be subtracted from the PSI-Total score. In the present study, however, all the PSI subscales correlated significantly with one or more predictor measures (see Table 2). As the purpose of this procedure was to make the resulting score a "purer" measure of parental stress, it was decided that excluding PSI subscales that shared more than 25% of their variance with one or more predictors would be a step towards that goal. The selection of the 25% cutoff was based on a trade-off between reducing sufficient unwanted variance and retaining as many of the PSI subscales as possible. Accordingly, the Demandingness, Depression, and Health PSI subscales scores were subtracted from the PSI-Total score. The resulting PSI-Adjusted score was used in all subsequent analyses.

For comparison with prior research, the unadjusted PSI Total scores were also computed ($M = 277.35$, $SD = 40.08$).
Table 2

Correlation Coefficients between PSI Scales and Measures of Resources and Coping Strategies

<table>
<thead>
<tr>
<th>PSI Scales</th>
<th>CBCL EXT</th>
<th>CBCL INT</th>
<th>FACES</th>
<th>FSS</th>
<th>GHQ</th>
<th>PF</th>
<th>SSS</th>
<th>BS</th>
<th>AV</th>
<th>WT</th>
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<td>Child Domain</td>
<td>.53***</td>
<td>.27*</td>
<td>-.19</td>
<td>.03</td>
<td>.37**</td>
<td>-.19</td>
<td>-.24*</td>
<td>.16</td>
<td>.00</td>
<td>.33**</td>
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<tr>
<td>Adaptability</td>
<td>.40***</td>
<td>.26*</td>
<td>-.14</td>
<td>.14</td>
<td>.33**</td>
<td>-.20</td>
<td>.00</td>
<td>.13</td>
<td>- .08</td>
<td>.11</td>
</tr>
<tr>
<td>Acceptability</td>
<td>.27*</td>
<td>.25*</td>
<td>-.27*</td>
<td>.00</td>
<td>.33**</td>
<td>-.14</td>
<td>-.15</td>
<td>.11</td>
<td>-.05</td>
<td>.23*</td>
</tr>
<tr>
<td>Demandingness</td>
<td>.52***</td>
<td>.22</td>
<td>.01</td>
<td>.07</td>
<td>.32**</td>
<td>-.22*</td>
<td>-.25*</td>
<td>.25*</td>
<td>-.05</td>
<td>.31**</td>
</tr>
<tr>
<td>Mood</td>
<td>.30**</td>
<td>.24*</td>
<td>-.11</td>
<td>.05</td>
<td>.19</td>
<td>-.04</td>
<td>-.01</td>
<td>-.02</td>
<td>-.11</td>
<td>.13</td>
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<tr>
<td>Distract</td>
<td>.44***</td>
<td>.10</td>
<td>-.08</td>
<td>.01</td>
<td>.19</td>
<td>-.09</td>
<td>-.34**</td>
<td>.10</td>
<td>.16</td>
<td>.32**</td>
</tr>
<tr>
<td>Rein. Parent</td>
<td>.26*</td>
<td>.10</td>
<td>-.29**</td>
<td>-.21</td>
<td>.18</td>
<td>-.08</td>
<td>-.25*</td>
<td>.05</td>
<td>.12</td>
<td>.31**</td>
</tr>
<tr>
<td>Parent Domain</td>
<td>.35**</td>
<td>.30**</td>
<td>-.32**</td>
<td>-.28*</td>
<td>.58***</td>
<td>-.30**</td>
<td>-.26*</td>
<td>.29*</td>
<td>.11</td>
<td>.28*</td>
</tr>
<tr>
<td>Depression</td>
<td>.19</td>
<td>.33**</td>
<td>-.23*</td>
<td>-.14</td>
<td>.52***</td>
<td>-.40***</td>
<td>-.21</td>
<td>.43***</td>
<td>.04</td>
<td>.22*</td>
</tr>
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<td>Attachment</td>
<td>.31**</td>
<td>-.03</td>
<td>-.37**</td>
<td>-.12</td>
<td>.19</td>
<td>.00</td>
<td>-.21</td>
<td>.02</td>
<td>.05</td>
<td>.18</td>
</tr>
<tr>
<td>Restrict of Role</td>
<td>.39***</td>
<td>.33**</td>
<td>-.04</td>
<td>-.21</td>
<td>.45***</td>
<td>-.20</td>
<td>-.26*</td>
<td>.21</td>
<td>.13</td>
<td>.23*</td>
</tr>
<tr>
<td>Competence</td>
<td>.25*</td>
<td>.04</td>
<td>-.47***</td>
<td>-.27*</td>
<td>.37**</td>
<td>-.31**</td>
<td>-.28*</td>
<td>.22</td>
<td>.14</td>
<td>.38***</td>
</tr>
<tr>
<td>Social Isolation</td>
<td>.24*</td>
<td>.38***</td>
<td>-.18</td>
<td>-.39***</td>
<td>.40***</td>
<td>-.18</td>
<td>-.18</td>
<td>.20</td>
<td>.21</td>
<td>.07</td>
</tr>
<tr>
<td>Relat. Spouse</td>
<td>.19</td>
<td>.12</td>
<td>-.13</td>
<td>.01</td>
<td>.35**</td>
<td>-.24*</td>
<td>.00</td>
<td>.15</td>
<td>-.02</td>
<td>.11</td>
</tr>
<tr>
<td>Parent Health</td>
<td>.15</td>
<td>.29**</td>
<td>-.20</td>
<td>-.27*</td>
<td>.58***</td>
<td>-.01</td>
<td>-.16</td>
<td>.10</td>
<td>-.02</td>
<td>.02</td>
</tr>
<tr>
<td>PSI-Total</td>
<td>.50***</td>
<td>.33**</td>
<td>-.30**</td>
<td>-.16</td>
<td>.56***</td>
<td>-.29*</td>
<td>-.29*</td>
<td>.26*</td>
<td>.07</td>
<td>.35**</td>
</tr>
<tr>
<td>PSI-ADJ</td>
<td>.50***</td>
<td>.30**</td>
<td>-.33**</td>
<td>-.16</td>
<td>.51***</td>
<td>-.27**</td>
<td>-.28*</td>
<td>.21</td>
<td>.09</td>
<td>.34**</td>
</tr>
</tbody>
</table>

Note. CBCL EXT = CBCL Externalizing Behaviours; CBCL INT = CBCL Internalizing Behaviours; FACES = Family Cohesion & Adaptability; FSS = Family Support Scale; GHQ = General Health Questionnaire; PF = Problem-Focused Coping; SSS = Seeks Social Support; BS = Blames-Self; AV = Avoidance Coping; WT = Wishful Thinking; PSI-ADJ = PSI Adjusted score.

* p < .05. ** p < .01. *** p < .001.
Relative to those reported for the normative sample, these results reflect an extremely high level of parenting stress, falling above the 90th percentile (Abidin, 1995). Means and standard deviations for all of the measures are presented in Table 3.

Preliminary analyses were also conducted to identify demographic variables that were significantly correlated with parental stress. Given the large ratio of potential variables to participants, only background variables with significant associations ($p < .01$) with parental stress were to be included as covariates in further analyses. Table 4 summarizes associations between demographic variables and PSI-Adjusted score. As shown, only Target Child Sex was significantly related to parental stress ($p < .01$), with girls being associated with higher levels of stress.

McCubbin and Patterson's (1983) model implies that the B and C Factors serve as moderators of the A-X relationship. In other words, resources and coping are expected to differentially affect the strength of the relationship between the stressor and stress. The process of testing for moderation with continuous variables involves adding the product of the moderator and independent variable to the regression equation, while controlling for each of the component variables (Baron & Kelly, 1986; Cohen & Cohen, 1983). Thus product terms were computed separately for each type of child behaviour problem (internalizing,
<table>
<thead>
<tr>
<th>Measures</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parental Stress</td>
<td>213.16</td>
<td>31.54</td>
</tr>
<tr>
<td>Internalizing Behaviours</td>
<td>66.23</td>
<td>9.93</td>
</tr>
<tr>
<td>Externalizing Behaviours</td>
<td>67.99</td>
<td>9.08</td>
</tr>
<tr>
<td>Cohesion &amp; Adaptability</td>
<td>4.43</td>
<td>1.59</td>
</tr>
<tr>
<td>Family Social Support</td>
<td>4.18</td>
<td>1.15</td>
</tr>
<tr>
<td>Psychological Distress</td>
<td>23.84</td>
<td>10.69</td>
</tr>
<tr>
<td>Coping Strategies:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problem-Focused</td>
<td>.30</td>
<td>.11</td>
</tr>
<tr>
<td>Seeks Social Support</td>
<td>.23</td>
<td>.12</td>
</tr>
<tr>
<td>Blames Self</td>
<td>.15</td>
<td>.10</td>
</tr>
<tr>
<td>Avoidance</td>
<td>.14</td>
<td>.05</td>
</tr>
<tr>
<td>Wishful Thinking</td>
<td>.18</td>
<td>.09</td>
</tr>
</tbody>
</table>
Table 4

Correlation Coefficients between Parental Stress and Background Variables

<table>
<thead>
<tr>
<th>Demographic Variables</th>
<th>Parental Stress</th>
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</thead>
<tbody>
<tr>
<td>Parent Age</td>
<td>-.08</td>
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<tr>
<td>Marital Status</td>
<td>-.02</td>
</tr>
<tr>
<td>Socioeconomic Status</td>
<td>-.15</td>
</tr>
<tr>
<td>Psychosocial Stress</td>
<td>.05</td>
</tr>
<tr>
<td>Presence of Physical/Medical Problems</td>
<td>.15</td>
</tr>
<tr>
<td>History of Therapy/Counselling</td>
<td>.12</td>
</tr>
<tr>
<td>Number of Family Members in Home</td>
<td>.10</td>
</tr>
<tr>
<td>Months on Waiting List</td>
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</tr>
<tr>
<td>Number of Children</td>
<td>.15</td>
</tr>
<tr>
<td>Target Child Sex</td>
<td>-.29*</td>
</tr>
<tr>
<td>Target Child Age</td>
<td>.04</td>
</tr>
<tr>
<td>Child's Medication Status</td>
<td>.12</td>
</tr>
<tr>
<td>Number of Times Sought Help for Target Child</td>
<td>.02</td>
</tr>
</tbody>
</table>

* p < .01.
externalizing, and total problem behaviours) and family support, family cohesion/adaptability, psychological distress, and percentage of active coping. Percentage of active coping is a composite score consisting of the sum of the percentage of the Ways of Coping subscales considered the most effective, that is, Problem-Focused Coping and Seeks Social Support. This composite was used to further reduce the substantial variable-to-cases ratio.

**Primary Analyses**

**Hypothesis #1**

Hypotheses 1 (a-g) predicted the direction of the relationships between the stressor, parental stress, resources, and coping strategies. That is, it was expected that perceived child externalizing and internalizing behaviours, parental psychological distress, and emotion-focused types of coping (avoidance, blamed self, wishful thinking) would be positively correlated with parental stress. Social support and problem-focused coping would be negatively correlated with parental stress. Furthermore, it was expected that social support and family cohesion/adaptability would be negatively correlated with perceptions of child internalizing and externalizing behaviours, while a positive relationship was expected between perceptions of child externalizing and internalizing behaviours and parental psychological distress. As mentioned previously, marital/partner satisfaction was
dropped from the present analyses, but the hypothesis (1c) relating to this variable will be explored in a later section.

As shown in Table 5, the majority of these hypotheses received strong support. There were, however, three exceptions. Family social support was not related to perceptions of child internalizing or externalizing behaviours, and had only a marginally negative relationship with parental stress \((p < .08)\). Family cohesion/adaptability was also not related to perceptions of child internalizing and externalizing behaviours. In addition, avoidance and blames self, two emotion-focused strategies, were unrelated to parental stress, although the relationship between blames-self and parental stress approached significance \((p < .07)\).

**Hypothesis #2**

A hierarchical multiple regression was performed to assess Hypothesis 2, the extent to which stressor, resources, and coping strategies are related to the prediction of parental stress, and the extent to which resources and coping strategies moderate the stressor-stress relationship. Target Child Sex was entered in the first step. Child Internalizing and Externalizing Scores, measures of McCubbin and Patterson's A Factor, were both entered in the second step. Subsequently, the composite coping score was entered in the third step (C Factor). The
Table 5

Correlation Coefficients between Stressor, Stress, Resources, and Coping

<table>
<thead>
<tr>
<th>Measures</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Parental Stress</td>
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<td></td>
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<td></td>
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<td></td>
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<tr>
<td>2. Internalizing Beh.</td>
<td>.30*</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>3. Externalizing Beh.</td>
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<td>.28*</td>
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<td></td>
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<td>4. Cohesion/Adaptability</td>
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<td>.11</td>
<td>.00</td>
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<td>5. Psychological Distress</td>
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<td>.40***</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Social Support</td>
<td>-.17</td>
<td>-.02</td>
<td>.05</td>
<td>.43***</td>
<td>-.19</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Coping Strategies:**

<table>
<thead>
<tr>
<th>Measures</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. Problem-Focused</td>
<td>-.27*</td>
<td>-.15</td>
<td>-.05</td>
<td>-.06</td>
<td>-.29*</td>
<td>-.09</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Seeks Social Support</td>
<td>-.28*</td>
<td>-.15</td>
<td>-.22</td>
<td>.32**</td>
<td>-.26*</td>
<td>.42***</td>
<td>-.19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Blames Self</td>
<td>.21</td>
<td>.12</td>
<td>-.13</td>
<td>-.11</td>
<td>.26*</td>
<td>-.19</td>
<td>-.55***</td>
<td>-.25*</td>
<td></td>
</tr>
<tr>
<td>10. Wishful Thinking</td>
<td>.34**</td>
<td>.12</td>
<td>.30**</td>
<td>-.17</td>
<td>.27*</td>
<td>-.08</td>
<td>-.26*</td>
<td>-.52***</td>
<td>-.11</td>
</tr>
<tr>
<td>11. Avoidance</td>
<td>.09</td>
<td>.22</td>
<td>.24*</td>
<td>-.03</td>
<td>.16</td>
<td>-.23*</td>
<td>-.14</td>
<td>-.39***</td>
<td>-.04</td>
</tr>
</tbody>
</table>

*p < .05.  **p < .01.  ***p < .001.
FACES Family Type score, GHQ Total score, and the FSS score (B Factor) were entered simultaneously in the fourth block. The product terms (to test for moderating effects) were all entered in the final block. These terms were based on standardized scores in order to reduce multicollinearity between the main effects and the corresponding interaction effects (Conway & Terry, 1992; Finney, Mitchell, Cronkite, & Moos, 1984).

Table 6 displays the standardized regression coefficients (β), R² change, R, R², and adjusted R². Results of the hierarchical regression indicate that child sex contributes significantly to parental stress, accounting for 8% of the variance (i.e., having a daughter with behaviour problems contributes to more parental stress). After controlling for child sex, child internalizing and externalizing problems (Factor A) are the best predictors of parental stress, accounting for 24% of the variance explained. As can be seen in Table 6, child externalizing, but not internalizing, behaviours are significantly and positively related to parental stress. The addition of active coping accounted for a small, but significant 8% of the variance explained. Interestingly, coping did not contribute significantly to the prediction when all the predictor variables were taken into account. Family cohesion/adaptability, family support, and psychological distress (Factor B) accounted for an additional 12% of the
Table 6
Hierarchical Regression of Child Behaviour Problems, Coping, Resources, and Interaction Terms on Parental Stress (n = 80)

<table>
<thead>
<tr>
<th>Predictor</th>
<th>R² change</th>
<th>F change</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Target Child Sex</td>
<td>.08</td>
<td>7.19**</td>
<td>-.08</td>
</tr>
<tr>
<td>2. Child Externalizing Behaviour</td>
<td>.24</td>
<td>13.12***</td>
<td>.36**</td>
</tr>
<tr>
<td>Child Internalizing Behaviour</td>
<td></td>
<td></td>
<td>.08</td>
</tr>
<tr>
<td>3. Active Coping</td>
<td>.08</td>
<td>9.87**</td>
<td>-.16</td>
</tr>
<tr>
<td>4. Family Cohesion &amp;</td>
<td>.12</td>
<td>6.05***</td>
<td>-.28**</td>
</tr>
<tr>
<td>Adaptability</td>
<td></td>
<td></td>
<td>.25*</td>
</tr>
<tr>
<td>Psychological Distress</td>
<td></td>
<td></td>
<td>.04</td>
</tr>
<tr>
<td>Family Support</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Ext x Coh/Adapt</td>
<td></td>
<td></td>
<td>.00</td>
</tr>
<tr>
<td>Ext x Distress</td>
<td>-.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ext x Support</td>
<td>.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ext x Coping</td>
<td>.03</td>
<td>0.55</td>
<td>.02</td>
</tr>
<tr>
<td>Int x Coh/adapt</td>
<td></td>
<td></td>
<td>-.12</td>
</tr>
<tr>
<td>Int x Distress</td>
<td>-.07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Int x Support</td>
<td>-.09</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Int x Coping</td>
<td>-.03</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Multiple R  .74
R²  .55
Adjusted R²  .45
F  5.23
p < .0001

Note. β coefficients are those computed at the final step. Ext = Externalizing Behaviours; Int = Internalizing Behaviours.

* p < .05.  ** p < .01.  *** p < .001.
variance, with low levels of family cohesion/adaptability and high levels of distress contributing significantly to the prediction of parental stress. Family support did not emerge as a significant predictor of parental stress. Inclusion of the product terms did not account for any significant increase in $R^2$ in the parental stress scores. Therefore, it appears that in this sample resources and coping do not function as moderators of the stressor-stress relationship.

The previous hierarchical multiple regression was repeated replacing child internalizing and externalizing behaviours with total problem behaviours as the A Factor. Table 7 displays the standardized regression coefficients ($\beta$), $R^2$ change, $R$, $R^2$, and adjusted $R^2$. As can be seen, results are virtually identical to the previously described analysis utilizing child internalizing and externalizing behaviours. That is, after controlling for child sex, total problem behaviours accounted for 24% of the variance explained. The addition of active coping (Factor C) accounted for a significant 8% of the variance explained. Again, coping did not contribute significantly to the prediction when all the predictor variables were taken into account. Family cohesion/adaptability, family support, and psychological distress (Factor B) accounted for an additional 11% of the variance, with low levels of family cohesion/adaptability and high levels of distress
Hierarchical Regression of Total Child Behaviour Problems, Coping, Resources, and Interaction Terms on Parental Stress (n = 80)

<table>
<thead>
<tr>
<th>Predictor</th>
<th>$R^2$ change</th>
<th>$F$ change</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Target Child Sex</td>
<td>.08</td>
<td>7.19**</td>
<td>-.08</td>
</tr>
<tr>
<td>2. Total Problem Behaviours</td>
<td>.24</td>
<td>26.70***</td>
<td>.35***</td>
</tr>
<tr>
<td>3. Active Coping</td>
<td>.07</td>
<td>8.74**</td>
<td>-.17</td>
</tr>
<tr>
<td>4. Family Cohesion &amp; Adaptability</td>
<td>.11</td>
<td>5.23**</td>
<td>-.27**</td>
</tr>
<tr>
<td>Psychological Distress</td>
<td></td>
<td></td>
<td>.21*</td>
</tr>
<tr>
<td>Family Support</td>
<td></td>
<td></td>
<td>.03</td>
</tr>
<tr>
<td>5. Tot x Coh/Adapt</td>
<td>.02</td>
<td>.55</td>
<td>-.05</td>
</tr>
<tr>
<td>Tot x Distress</td>
<td></td>
<td></td>
<td>-.13</td>
</tr>
<tr>
<td>Tot x Support</td>
<td></td>
<td></td>
<td>-.11</td>
</tr>
<tr>
<td>Tot x Coping</td>
<td></td>
<td></td>
<td>-.07</td>
</tr>
</tbody>
</table>

Total Multiple $R$ = .72  
$R^2$ = .52  
Adjusted $R^2$ = .45  
$F$ = 7.49  
$P < .0001$

Note. $\beta$ coefficients are those computed at the final step. 
Tot = Total Problem Behaviours.

* $P < .05$  
** $P < .01$  
*** $P < .001$. 
contributing significantly to the prediction of parental stress. Family support did not emerge as a significant predictor of parental stress. Again, the product terms did not account for any significant increase in $R^2$, indicating that resources and coping do not appear to function as moderators of the stressor-stress relationship.

Since significant interaction effects were not detected, a third multiple regression analysis was performed to assess only main effects for coping, resources, and child behaviour problems, and to assess the contribution of other forms of coping strategies. Target Child Sex was again entered in the first step. Child Internalizing and Externalizing Scores were both entered in the second step. Subsequently, the four Ways of Coping scores (i.e., percentage of Problem-focused, Seeks Social Support, Avoidance, Wishful Thinking coping) were entered together in the third step. Only four of the five proportional scores could be entered simultaneously because the value of the fifth (i.e., Blames Self) can be determined by the preceding four (Lewis-Beck, 1980; Lapp & Collins, 1993). The FACES Family Type score, GHQ Total score, and the FSS score were entered simultaneously in the final block.

Table 8 displays the $\beta$ coefficients, $R^2$ change, $R$, $R^2$, and adjusted $R^2$. The results are very similar to the previously described models. That is, after controlling for child sex, child internalizing and externalizing problems
Table 8

Hierarchical Regression of Child Behaviour Problems, Coping, and Resources on Parental Stress (n = 80)

<table>
<thead>
<tr>
<th>Predictor</th>
<th>R² change</th>
<th>F change</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Target Child Sex</td>
<td>.08</td>
<td>7.19**</td>
<td>-.12</td>
</tr>
<tr>
<td>2. Child Externalizing Behaviour</td>
<td>.24</td>
<td>13.12***</td>
<td>.41***</td>
</tr>
<tr>
<td>Child Internalizing Behaviour</td>
<td></td>
<td></td>
<td>.09</td>
</tr>
<tr>
<td>3. Problem-Focused Coping</td>
<td>.12</td>
<td>3.82**</td>
<td>-.23*</td>
</tr>
<tr>
<td>Seeks Social Support</td>
<td></td>
<td></td>
<td>-.12</td>
</tr>
<tr>
<td>Avoidance</td>
<td></td>
<td></td>
<td>-.13</td>
</tr>
<tr>
<td>Wishful Thinking</td>
<td></td>
<td></td>
<td>-.02</td>
</tr>
<tr>
<td>4. Family Cohesion &amp; Adaptability</td>
<td>.11</td>
<td>5.82**</td>
<td>-.25**</td>
</tr>
<tr>
<td>Psychological Distress</td>
<td></td>
<td></td>
<td>.24*</td>
</tr>
<tr>
<td>Family Support</td>
<td></td>
<td></td>
<td>-.03</td>
</tr>
</tbody>
</table>

Total Multiple R = .74
R² = .55
Adjusted R² = .49
F = 8.5
p < .0001

Note. β coefficients are those computed at the final step

* p < .05
** p < .01
*** p < .001
accounted for 24% of the variance explained. Of the child behaviours, externalizing problems again were highly and positively related to parental stress. Family cohesion/adaptability, family support, and psychological distress accounted for an additional 11% of the variance with low levels of family cohesion/adaptability and high levels of distress contributing significantly to the prediction of parental stress. Again, family support did not emerge as a significant predictor. The addition of the coping strategies accounted for a significant 12% of the variance. Problem-focused coping was significantly associated with lower levels of stress, the only one of the coping strategies significantly predicting parental stress. The overall model accounted for a significant 55% (49% adjusted) of the variance, which is the same percentage accounted for by the previous models.

**Elaboration Analyses.** The results of the multiple regression analyses indicate that family support, family cohesion/adaptability, psychological distress, and active coping are not moderators of the stressor-stress relationship, although they each, with the exception of family support, contribute to the prediction of stress. The finding of non-significant interaction effects was somewhat surprising, considering the research evidence that strongly supports the thesis that resources and coping strategies are moderators of stress. However, a regression
solution is extremely sensitive to the combination of variables contained in it, particularly if the variables are intercorrelated, as they were in this case (Tabachnick & Fidell, 1989). Therefore, an alternate procedure for assessing moderator effects was utilized.

Elaboration analysis was suggested by Finney et al. (1984) as a different approach to examining moderating and mediating effects. Babbie (1990;1992) describes the elaboration paradigm as a logical framework used to assist researchers in understanding their data. This paradigm can be useful in making the relationship between two variables (e.g., stress and child behaviour problems) more discernable through the introduction of additional variables (e.g., the mediating/moderating variables; Babbie, 1992; Finney et al. 1984).

The sample of 80 mothers was used to re-examine whether family support, psychological distress, family cohesion/adaptability, and active coping were moderators of the stressor-stress relationship. In this form of analysis the nature of the relationship between child behaviour problems and stress is explored by dividing the sample into subgroups on the basis of scores of a control (or grouping) variable, i.e., the one hypothesized to be a moderator. Thus, participants were dichotomized via a median split into High and Low groups on each of the four resource and coping variables, i.e., family social support, psychological
distress, cohesion/adaptability, and active coping. The cutoff scores for the High and Low groups are presented in Table 9.

Correlation coefficients were computed between child internalizing, externalizing, and total problem behaviours and parental stress for each of the High-Low groups. These new correlations, also known as partial relationships, were subsequently compared to the original zero-order correlations between the same variables in the entire sample (n = 80). The elaboration model specifies that comparisons between the partial relationships and the original relationship can lead to one of three conclusions: (a) If the relationship between stressor and stress in both High and Low groups is essentially the same as that of the total sample, then the grouping variable has no influence on that relationship, i.e., it is not a mediator or moderator, (b) If the relationship disappears or is reduced in both groups when compared to that of the entire sample, then the grouping variable is considered to be a mediator, i.e., it accounts for the relationship between the stressor and stress, and (c) If one of the subgroup relationships is reduced while the other one remains the same or is stronger than that of the total sample relationship, this means that the grouping variable is a moderator, i.e., it specifies the conditions under which the originally observed relationship occurs (Babbie, 1990; 1992; Finney et al., 1984).
Table 9
Cuttoff Scores for the High and Low Groups Based on Scores on Measures of Resources and Coping

<table>
<thead>
<tr>
<th>Measures</th>
<th>High Group</th>
<th>n</th>
<th>Low Group</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Support Scale</td>
<td>&gt;= 18</td>
<td>38</td>
<td>&lt;= 17</td>
<td>42</td>
</tr>
<tr>
<td>FACES Family Type Score</td>
<td>&gt;= 5.0</td>
<td>37</td>
<td>&lt;= 4.5</td>
<td>43</td>
</tr>
<tr>
<td>General Health Questionnaire</td>
<td>&gt;= 23</td>
<td>39</td>
<td>&lt;= 22</td>
<td>41</td>
</tr>
<tr>
<td>Active Coping</td>
<td>&gt;= .51</td>
<td>42</td>
<td>&lt;= .50</td>
<td>38</td>
</tr>
</tbody>
</table>

Note.  >= greater than; <= less than.

Specific cutoff scores were selected on the basis of obtaining approximately equal numbers of participants per group.
Table 10 presents the Pearson product-moment correlation coefficients between total problem behaviours, externalizing behaviours, and internalizing behaviours and parental stress for each of the 8 subgroups. The outcomes are summarized in three separate sections below.

**Total Problem Behaviours.** As can be seen in Table 10, the correlations between total problem behaviours and parental stress are significant in both High and Low family cohesion/adaptability, psychological distress, and active coping subgroups. Thus, they do not appear to be substantially different from the total sample correlation ($r = .51$, $p < .001$). These findings support the results of the multiple regression analyses that family cohesion/adaptability, psychological distress, and active coping do not function as moderators of the stressor-stress relationship.

The relationship between total problem behaviours and stress differs in the High and Low family support groups: stressor and stress are highly correlated in the Low family support group, while there is no such significant relationship in the High family support group. This finding, where one partial relationship is the same or larger than the original and one is much smaller, implies that family support serves as a moderator. That is, the relationship between total problem behaviours and parental stress is magnified when parents did not perceive having a
### Table 10

**Correlation Coefficients Between Stressor-Stress for Groups Based on Measures of Resources and Coping**

<table>
<thead>
<tr>
<th>Variables</th>
<th>TOT</th>
<th>EXT</th>
<th>INT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Social Support</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>.19</td>
<td>.32</td>
<td>.03</td>
</tr>
<tr>
<td>Low</td>
<td>.72***</td>
<td>.59***</td>
<td>.46**</td>
</tr>
<tr>
<td><strong>Cohesion &amp; Adaptability</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>.44**</td>
<td>.50**</td>
<td>.18</td>
</tr>
<tr>
<td>Low</td>
<td>.67***</td>
<td>.59***</td>
<td>.48***</td>
</tr>
<tr>
<td><strong>Psychological Distress</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>.58***</td>
<td>.54***</td>
<td>.30</td>
</tr>
<tr>
<td>Low</td>
<td>.46**</td>
<td>.49***</td>
<td>.22</td>
</tr>
<tr>
<td><strong>Active Coping</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>.42**</td>
<td>.47**</td>
<td>.16</td>
</tr>
<tr>
<td>Low</td>
<td>.61***</td>
<td>.50***</td>
<td>.38*</td>
</tr>
</tbody>
</table>

**Note.** TOT = correlation between PSI and Total Problem Behaviour scores; EXT = correlation between PSI and Externalizing Behaviour scores; INT = correlation between PSI and Internalizing Behaviour scores.

The total sample (n = 80) correlation coefficients are:
- PSI and CBCL Total Behaviour Scores, r = .54***;
- PSI and CBCL Externalizing Scores, r = .51***;
- PSI and CBCL Internalizing Scores, r = .30**.

* p < .05  
** p < .01  
*** p < .001
supportive social environment, while it is reduced for parents with strong perceived social support.

**Externalizing Behaviours.** The overall pattern of findings for the relationship between externalizing behaviours and parental stress are similar to those described previously for total problem behaviours. That is, family cohesion/adaptability, psychological distress and active coping do not function as moderators of the relationship between externalizing behaviours and parental stress, while social support does appear to serve that function (see Table 10, page 120).

**Internalizing Behaviours.** As seen in Table 10 (page 120), family support also appears to be a moderator of child internalizing behaviours and stress. That is, the relationship between child internalizing problems and parental stress is significant in the Low family support group (as it is in the total sample) while it is non-significant in the High social support group.

The association between internalizing behaviours and parental stress is different in the High and Low subgroups of family cohesion/adaptability and active coping. The stressor-stress relationship is not significant in the High subgroups, but is significant in the Low subgroups. This suggests that family cohesion/adaptability and active coping may be moderators of internalizing behaviours and stress. That is, the relationship between child internalizing
behaviours and parental stress is stronger when parents do not perceive having a cohesive and adaptable family environment and do not utilize active types of coping. The same relationship is reduced for parents who utilize active coping and perceive having cohesive and adaptable family environments.

The relationship between child internalizing behaviours and stress was not significant in either the High or Low psychological distress group. This indicates that psychological distress may be a mediator of the relationship between internalizing behaviours and parental stress (see page 117 for a review).

**Summary of Purpose #1**

Hypotheses 1a, 1b, and 1f were supported. Parental stress was positively correlated with perceived child internalizing and externalizing behaviours and psychological distress, while it was negatively associated with problem-focused coping. As well, perceptions of child internalizing and externalizing behaviours were positively associated with parental distress. Hypothesis 1g was partly supported. That is, wishful thinking was related positively to parental stress, while blames-self and avoidance coping were not. Hypothesis 1e was not supported. That is, cohesion/adaptability was unrelated to perceptions of child internalizing and externalizing behaviours. Hypothesis 1d
was also not supported, i.e., social support was unrelated to stress and to perceptions of child behaviour problems.

Hypothesis 2 was partially supported. Factor B and Factor C of the ABCX model did not appear to be moderators of the stressor-stress relationship utilizing multiple regression analyses. That is, the relationship between perceptions of child behaviour problems (Factor A) and parental stress (Factor X) did not depend on distress levels, family cohesion/adaptability, family support, or on the coping strategies used. Rather, child behaviour problems, resources, and coping strategies contributed in an additive way (independently) to the prediction of parental stress levels (see Figure 2).

However, utilizing the elaboration model led to a different pattern of findings in which resources and coping did function as moderators of the stressor-stress relationship. That is, social support did moderate the relationship between externalizing, internalizing, and total problem behaviours and parental stress. Family cohesion/adaptability, psychological distress, and active coping did not function as moderators of the relationship between externalizing problems and stress, and total behaviour problems and stress. These same resources and coping strategies, with the exception of psychological distress, did, however, appear to be moderators of the relationship between internalizing behaviours and parental stress.
Figure 2. Main effects versus moderator effects. On the top, stressor (A), resources (B), and coping (C) contribute in an additive manner to stress (X). On the bottom, the hypothesized role of resources (B) and coping (C) as moderators of the relationship between stressor (A) and stress (X).
Purpose 2: Between Group Comparisons

A second purpose of the study was to assess whether parents of children with internalizing, externalizing, and non-problem behaviours experience different levels of stress. Evaluation of this purpose involved a subset of the mothers identified in the previous section plus a group of non-clinical controls.

Data screening

Four male non-clinical participants were excluded from the present analyses for the same reasons previously specified, that is, there were not enough cases to conduct meaningful comparisons with mothers. As well, two female non-clinical participants were excluded because they endorsed a clinically high level of behaviour problems in their child (CBCL Total T-Score > 63). Thus a total of 17 mothers remained in the nonclinical group (control group).

Following Achenbach's (1991) guidelines, clinical target children were classified as Externalizing if the following criteria were met: (a) their Total Problem Score exceeded the clinical cutoff (T > 63), and (b) the difference between their Externalizing and Internalizing T scores was at least 10 points or more. In the classification of children as Internalizing, one criterion was modified in order to increase child membership in the group. That is, children were classified as Internalizing if the difference between their Internalizing and
Externalizing T scores was 8 points or more, in addition to their Total Problem score exceeding the clinical cutoff.

Hence, in addition to the control group, the sample for the present analyses included 18 parents of externalizing children and 16 parents of internalizing children. Results of evaluation of assumptions of normality, linearity, and homogeneity of variance for each of the three groups were satisfactory.

**Demographics**

Non-clinical participants ranged from 21 to 43 years of age \((M = 32.91, \ SD = 7.40)\). They were predominately Caucasian with the exception of 2 African-Canadian individuals. All were biological parents of the target child. Target children (8 male, 9 female) ranged in age from 5 to 11 years \((M = 7.71, \ SD = 1.90)\). All were attending regular senior kindergarten to Grade 6 classes. Twelve came from families with two or more children living at home.

The mothers of the externalizing children ranged from 26 to 40 years of age \((M = 34.33, \ SD = 3.82)\). All were of Caucasian descent. The majority were biological parents of the target child, with the exception of one adoptive mother. Eleven parents \((60\%)\) had received prior help for their child's problems \((M = 2.12 \text{ times}, \ SD = 2.89)\). The number of months the parents were waiting for service ranged from 0–8 months \((M = 2.33, \ SD = 2.44)\). The target externalizing
children (2 female, 16 male) ranged in age from 5 to 11 years \( (M = 8.39, \ SD = 2.2) \), and were all attending regular Kindergarten (1 junior, 2 senior kindergarten) through Grade 7 classes. Four of the children were receiving Ritalin. All but 2 children had other siblings living at home.

The mothers of the internalizing children were between 26 to 44 years of age \( (M = 33.38, \ SD = 5.46) \). Two participants were African-Canadian, the rest Caucasian. Fourteen parents (87.5%) had received help in the past for their children's problems \( (M = 3.00 \ \text{times}, \ SD = 3.26) \). Parents were waiting for service an average of 3.18 \( (SD = 3.33) \) months. Internalizing children (2 female, 14 male) ranged in age from 6 to 12 \( (M = 9.01, \ SD = 1.57) \) years. All were attending regular Grade 2 to Grade 6 classes; one was in a Grade 1-2 split. Six children were on Ritalin at the time of the study. With the exception of 5 children, all came from families where there were two or more children in the home. Additional demographic information on all three groups is presented in Table 11.

**Preliminary Analyses**

A series of analyses was performed to test for group differences on various demographic and psychosocial variables. Bonferroni corrections were used to control for Type I error rate. One-way ANOVAs did not reveal significant differences between groups on parent age,
Summary of Demographic Data for Externalizing, Internalizing, and Control Groups

<table>
<thead>
<tr>
<th>Variable</th>
<th>External</th>
<th>Internal</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Marital Status</td>
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</tr>
<tr>
<td>Single</td>
<td>3</td>
<td>16.7</td>
<td>3</td>
</tr>
<tr>
<td>Married</td>
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<td>66.7</td>
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<tr>
<td>Living Together</td>
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<td>2</td>
</tr>
<tr>
<td>Divorced/Separated</td>
<td>3</td>
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<td>7</td>
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<tr>
<td>Education Level</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>High School or Less</td>
<td>7</td>
<td>38.9</td>
<td>4</td>
</tr>
<tr>
<td>Some Trade School/College</td>
<td>2</td>
<td>11.1</td>
<td>4</td>
</tr>
<tr>
<td>Trade School/College</td>
<td>7</td>
<td>38.9</td>
<td>4</td>
</tr>
<tr>
<td>Some University</td>
<td>2</td>
<td>11.1</td>
<td>3</td>
</tr>
<tr>
<td>University</td>
<td>0</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Employment Status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-Time</td>
<td>3</td>
<td>16.7</td>
<td>4</td>
</tr>
<tr>
<td>Part-Time</td>
<td>8</td>
<td>44.4</td>
<td>4</td>
</tr>
<tr>
<td>Not Employed</td>
<td>7</td>
<td>38.9</td>
<td>8</td>
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<td>Socioeconomic Status (SES)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>I</td>
<td>0</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>II</td>
<td>5</td>
<td>27.8</td>
<td>1</td>
</tr>
<tr>
<td>III</td>
<td>5</td>
<td>27.8</td>
<td>7</td>
</tr>
<tr>
<td>IV</td>
<td>4</td>
<td>22.2</td>
<td>5</td>
</tr>
<tr>
<td>V</td>
<td>4</td>
<td>22.2</td>
<td>3</td>
</tr>
<tr>
<td>Medical Problems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>13</td>
<td>72.2</td>
<td>12</td>
</tr>
<tr>
<td>Yes</td>
<td>5</td>
<td>27.8</td>
<td>4</td>
</tr>
<tr>
<td>History of Counselling/Therapy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>13</td>
<td>72.2</td>
<td>11</td>
</tr>
<tr>
<td>Yes</td>
<td>5</td>
<td>27.8</td>
<td>5</td>
</tr>
</tbody>
</table>

Note. SES was determined by Hollingshead's (1975) Four Factor Index of Social Status, where I = major business, professional; II = medium business, minor professional, technical; III = skilled craftsmen, clerical, sales worker; IV = machine operator, semiskilled worker; V = unskilled labourer, menial service worker.
target child age, psychosocial stress, and number of individuals in the family. The internalizing and externalizing groups did not differ with respect to perceived total child behaviour problems, number of months they have been waiting for services and the number of times they have sought help for their child's behavioural difficulties. The three groups did differ on socioeconomic status ($F = 4.20, p < .05$), with post-hoc comparisons indicating that control parents possessed significantly higher social status levels than parents of internalizing children. Consequently, social status was used as a covariate in the primary analysis comparing parent stress levels across the three groups.

Chi-square analyses did not reveal differences between the groups on parental history of seeking help for emotional problems, employment status, and marital status (this variable was collapsed into 2 groups, single and married/living together, in order to meet assumptions for a Chi-square analysis). The two clinical groups did not significantly differ with regards to the medication status of the target child, i.e., whether or not the child was on psychotropic medication.

It was not possible to test for difference between the three groups on the variables of presence of parental physical/medical problems and sex of target child using a Chi-Square analysis because of an expected frequency of less
than five in 50% of the cells for each variable. Observation of frequency data for presence of physical/medical problems revealed that the majority of the parents did not report any problems. However, a t-test conducted to compare stress levels of parents with and without physical/medical problems revealed that parents with physical/medical problems reported significantly more stress ($t = 2.13, p < .05$) than parents without physical/medical problems. Therefore, presence of physical/medical problems was used as a covariate in the primary analysis.

With regards to child sex, observation of the frequency data revealed that the nonclinical group had a greater number of female children ($n = 9$) than either the internalizing ($n = 2$) or externalizing ($n = 2$) group. The discrepancy between the control and the clinical groups with regards to child sex is probably representative of differences in clinical and nonclinical populations in general. A t-test was conducted to compare stress levels between parents (both clinical and non-clinical) of female and male children and revealed no significant difference. Thus, it appears that for the present subsample child sex does not significantly influence parental stress levels.

A series of one-way ANOVAS was conducted to test for group differences in resources (i.e., parental psychological distress, family cohesion/adaptability, family support) and the five coping strategies. The results indicated that the
groups differed with respect to parental psychological distress ($F = 5.46, p < .01$). Follow-up with a Scheffe test indicated that the mothers of internalizing children were significantly different at the .05 level from the nonclinical parents. That is, mothers of internalizing children endorsed higher levels of psychological distress than nonclinical mothers; there was no difference between the clinical groups. Consequently, in addition to socioeconomic status and presence of physical/medical problems, parental psychological distress was used as a covariate in the primary analysis. There were no other differences between the groups on family support, family cohesion/adaptability, and percentage of coping strategies used. Means and standard deviations of all the variables are presented in Table 12.

**Primary Analyses**

Hypothesis #3 predicted that parents of children with predominately externalizing behaviours would experience more stress than parents of children with predominately internalizing behaviours, given similar resources and coping strategies. Both groups of clinical parents were expected to experience more stress than the nonclinical parents.

A one-way ANCOVA was used to perform a test of this hypothesis. Tabachnick and Fidell (1989) state that a common use of ANCOVA in correlational research is to
Table 12

Group Means and Standard Deviations of Stress, Resources, and Coping Strategies

<table>
<thead>
<tr>
<th>Measures</th>
<th>Internalizing n = 16</th>
<th>Externalizing n = 18</th>
<th>Control n = 17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parental Stress</td>
<td>207.50 (27.91)</td>
<td>214.78 (26.76)</td>
<td>165.47 (21.69)</td>
</tr>
<tr>
<td>Problem Beh.</td>
<td>73.00 (6.84)</td>
<td>69.38 (3.79)</td>
<td>49.29 (7.17)</td>
</tr>
<tr>
<td>Cohesion &amp; Adaptability</td>
<td>4.75 (1.46)</td>
<td>4.56 (1.68)</td>
<td>5.08 (1.51)</td>
</tr>
<tr>
<td>Family Social Support</td>
<td>19.44 (11.55)</td>
<td>20.61 (9.08)</td>
<td>24.17 (5.88)</td>
</tr>
<tr>
<td>Coping Strategies:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problem-Focused</td>
<td>.29 (.07)</td>
<td>.29 (.09)</td>
<td>.31 (.09)</td>
</tr>
<tr>
<td>Seeks Support</td>
<td>.24 (.13)</td>
<td>.24 (.29)</td>
<td>.29 (.11)</td>
</tr>
<tr>
<td>Blames Self</td>
<td>.17 (.10)</td>
<td>.12 (.08)</td>
<td>.14 (.08)</td>
</tr>
<tr>
<td>Avoidance</td>
<td>.14 (.07)</td>
<td>.15 (.05)</td>
<td>.12 (.06)</td>
</tr>
<tr>
<td>Wishful Thinking</td>
<td>.16 (.08)</td>
<td>.20 (.08)</td>
<td>.14 (.07)</td>
</tr>
</tbody>
</table>
adjust for prior differences associated with the covariates, thus allowing a clearer examination of the independent-dependent variable relationship. Therefore, in the present analysis the scores on the parental stress measure would be adjusted to what they would be if all parents had scored identically on the covariates, i.e., psychological distress, physical/medical problems, and socioeconomic status. The independent variable for the ANCOVA was type of child behaviour problems (Externalizing, Internalizing, and No Problem). The dependent variable was parental stress. Covariates were psychological distress, social status, and presence of physical/medical problems. Besides the usual requirements of homogeneity of variance and normality which have already been addressed, ANCOVA requires homogeneity of regression. There was no significant interaction between the covariates and the independent variable indicating acceptable levels of homogeneity of regression. In addition, there were no multivariate outliers in the respective groups (identified through Mahalanobis distance and inspection of scatterplots).

Two of the three covariates provided significant adjustment to the parental stress measure. The β value of .43 for psychological distress was significantly different from zero ($t = 4.22, p < .001$), as was the β value of −.21 for socioeconomic status ($t = -2.11, p < .05$). Presence of
physical/medical problems did not significantly adjust parental stress levels ($\beta = .08, t = .80, p = n.s.$)

After adjusting for the covariates, results of the ANCOVA indicated that parental stress varied significantly with type of child behaviour problem, with $F (2, 45) = 10.96, p < .0001$. The strength of the relationship between the adjusted level of parental stress and child behaviour problems was moderate, with $\eta^2 = .328$. Thus 32.8% of the variance in the adjusted parent stress scores is associated with child behaviour problems.

The adjusted group means, as displayed in Table 13, show that parents of externalizing children experience the most stress, followed by parents of internalizing children, while control parents experience the least amount of stress. The results of planned comparisons revealed that parents of externalizing children reported significantly more stress than parents of internalizing children ($t = 2.22, p < .05$). Control parents reported significantly less stress than the combined group of parents of internalizing and externalizing children, with $t = 3.75, p < .0001$.

**Summary of Purpose #2**

Hypothesis #3 was supported. The three groups differed on the amount of stress experienced, and the differences were in the predicted direction for each of the three groups. That is, parents of children with externalizing problems experienced significantly more stress than parents
Unadjusted and Adjusted Mean Parental Stress Scores for Levels of Child Behaviour Problems

<table>
<thead>
<tr>
<th>Child Behaviour Problems</th>
<th>Unadjusted Mean</th>
<th>Adjusted Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Problems</td>
<td>165.47</td>
<td>177.34</td>
</tr>
<tr>
<td>Internalizing</td>
<td>207.50</td>
<td>196.73</td>
</tr>
<tr>
<td>Externalizing</td>
<td>214.78</td>
<td>213.67</td>
</tr>
</tbody>
</table>
of children with internalizing problems. As expected, mothers of both externalizing and internalizing children experienced more stress than mothers of children with no behaviour problems.

Purpose 3: Between Parent Comparisons

The final purpose of the study was to examine differences in stress levels and perceived child behaviour problems between mothers and fathers. For the present analysis, participants consisted of families (n = 13) in which both parents took part in the study.

Data Screening

Two fathers had missing values on the Ways of Coping Questionnaire. They were both replaced by the mean scores of all the male clinical participants on that measure. Inspection of the distributions of the variables did not reveal serious departures from normality nor violations of the assumption of homogeneity of variance.

Demographics

The mothers were between 26 and 42 years of age (M = 33.31, SD = 5.15). The fathers ranged in age from 26 to 41 years (M = 34.77, SD = 5.70). One mother was of African-Canadian descent, the rest Caucasian. Eleven participants were married and 2 were in a common-law relationship. Two participants were adoptive parents, 2 were step-fathers, and the rest were biological parents of the target child. Parents had sought prior help for their children an average
of 2.23 times (SD = 3.21) and had been waiting from 0 to 6 months for service (M = 1.38, SD = 1.94). Other demographic information on the parents is presented in Table 14.

The target children (3 female, 10 male) ranged from 5 to 10 years of age (M = 7.31, SD = 2.06), and attended regular Kindergarten (2 junior, 1 senior kindergarten) to Grade 5 classes. Seven children were taking Ritalin, 1 was taking Prozac. Two were only children and the rest had other siblings living at home.

**Primary Analyses**

Hypothesis #4 stated that mothers would experience more stress and rate their child as having more behaviour problems than fathers. Two paired-sample t-tests were conducted to test this hypothesis. There were no significant differences between the parents, suggesting that mothers and fathers experience similar levels of stress and share similar perceptions of their child's behaviour problems.

A series of paired-sample t-tests was also conducted to examine potential differences in perceptions of family cohesion/adaptability, psychological distress, family support, and percentage of coping strategies used (i.e., problem-focused, seeks social support, wishful thinking, blames self, and avoidance). Again, there were no differences between the parents on any of these variables. Means and standard deviations of the variables, as well as
<table>
<thead>
<tr>
<th>Variable</th>
<th>Mothers</th>
<th></th>
<th>Fathers</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td><strong>Education Level</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High School or Less</td>
<td>3</td>
<td>23.1</td>
<td>2</td>
<td>15.4</td>
</tr>
<tr>
<td>Some Trade School/College</td>
<td>2</td>
<td>15.4</td>
<td>2</td>
<td>15.4</td>
</tr>
<tr>
<td>Grade School/College</td>
<td>3</td>
<td>23.1</td>
<td>7</td>
<td>53.8</td>
</tr>
<tr>
<td>Some University</td>
<td>2</td>
<td>15.2</td>
<td>1</td>
<td>7.7</td>
</tr>
<tr>
<td>University</td>
<td>3</td>
<td>23.1</td>
<td>1</td>
<td>7.7</td>
</tr>
<tr>
<td><strong>Employment Status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-Time</td>
<td>5</td>
<td>38.5</td>
<td>12</td>
<td>92.3</td>
</tr>
<tr>
<td>Part-Time</td>
<td>3</td>
<td>23.1</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Not Employed</td>
<td>5</td>
<td>38.5</td>
<td>1</td>
<td>7.7</td>
</tr>
<tr>
<td><strong>Medical Problems</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>9</td>
<td>69.2</td>
<td>10</td>
<td>76.9</td>
</tr>
<tr>
<td>Yes</td>
<td>4</td>
<td>30.8</td>
<td>3</td>
<td>23.1</td>
</tr>
<tr>
<td><strong>History of Counselling/Therapy</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>8</td>
<td>61.5</td>
<td>5</td>
<td>38.5</td>
</tr>
<tr>
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<td>5</td>
<td>38.5</td>
<td>8</td>
<td>61.5</td>
</tr>
</tbody>
</table>
t-values for the between-parent differences are presented in Table 15.

Inspection of mother and father mean stress and child behaviour scores (see Table 15) revealed that mothers had relatively higher mean stress levels and higher mean child behaviour problems scores than fathers. It is possible that the small sample size may have decreased the test's power to detect potential differences between the parents.

Section 4: Additional Analyses

This section provides further clarifications and elaborations on analyses presented in previous sections. The first subsection takes a closer look at the nature of the differences between parents of internalizing, externalizing, and control children with regards to stress levels. The second subsection looks at the role of marital/partner satisfaction as a potential moderator of the stressor-stress relationship.

**Parental Stress**

In an earlier section, it was shown that mothers of children with externalizing problems exhibited more stress than mothers of children with internalizing problems, and that both groups of clinical mothers experienced more stress than mothers of non-clinical children. This finding stimulated further questions as to the nature of these stress differences, that is, what specific child or parent characteristics differentiated the three groups?
Table 15
Comparison of Means on Parent Perceptions of Stress, Stressor, Resources, and Coping Strategies

<table>
<thead>
<tr>
<th>Measures</th>
<th>Mothers</th>
<th>Fathers</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parental Stress</td>
<td>217.08 (.34.22)</td>
<td>203.85 (36.54)</td>
<td>1.00</td>
</tr>
<tr>
<td>Child Problem Behaviours</td>
<td>70.92 (6.8)</td>
<td>68.46 (8.33)</td>
<td>1.17</td>
</tr>
<tr>
<td>Cohesion &amp; Adaptability</td>
<td>5.19 (1.16)</td>
<td>5.38 (1.50)</td>
<td>.69</td>
</tr>
<tr>
<td>Family Social Support</td>
<td>21.85 (5.74)</td>
<td>21.46 (10.71)</td>
<td>.14</td>
</tr>
<tr>
<td>Parental Distress</td>
<td>20.15 (7.3)</td>
<td>23.46 (16.23)</td>
<td>.60</td>
</tr>
<tr>
<td>Coping Strategies:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problem-Focused</td>
<td>.29 (.12)</td>
<td>.31 (.12)</td>
<td>.48</td>
</tr>
<tr>
<td>Seeks Social Support</td>
<td>.26 (.10)</td>
<td>.23 (.08)</td>
<td>.66</td>
</tr>
<tr>
<td>Blames Self</td>
<td>.15 (.10)</td>
<td>.13 (.07)</td>
<td>.68</td>
</tr>
<tr>
<td>Avoidance</td>
<td>.14 (.05)</td>
<td>.17 (.05)</td>
<td>1.85</td>
</tr>
<tr>
<td>Wishful Thinking</td>
<td>.16 (.09)</td>
<td>.15 (.08)</td>
<td>.08</td>
</tr>
</tbody>
</table>
The PSI-Adjusted score, the measure of parental stress, is comprised of the Child and Parent Domains, each consisting of five subscales measuring different facets of stress. Two one-way MANCOVAs were used to test for differences between mothers of internalizing, externalizing and non-clinical children with respect to stressful parent and child characteristics as measured by the Parent and Child Domains, respectively.

**Parent Domain**

In the first one-way MANCOVA the dependent variables were the subscales of the Parent Domain (Attachment, Restriction of Role, Sense of Competence, Social Isolation, and Relationship with Spouse). The covariates were psychological distress and socioeconomic status. Since presence of physical/medical problems did not provide significant adjustment to the parental stress measure (as shown in a previous section), it was not included as a covariate in the present analyses. Results of the evaluation of assumptions of normality, homogeneity of variance-covariance matrices, and linearity were satisfactory. Wilks' Lambda was used to evaluate multivariate statistical significance.

Results of the MANCOVA indicated that after adjusting for the covariates there were overall group differences for the five dependent variables \( F(10, 84) = 2.21, p < .05 \). These results reflect a moderate association between group
status (internalizing, externalizing, no problem) and the combined dependent variables, with \( \eta^2 = .37 \). The effects of the covariates on the subscales are presented in Table 16. Means and adjusted means for each group on the five Parent Domain subscales are presented in Table 17.

Planned comparisons with Bonferroni corrections were conducted between the means of two clinical groups and between the combined means of the clinical groups and the mean of the control group on each of the five PSI Parent Domain subscales (see Table 18). As shown, mothers of children with externalizing behaviours had significantly higher mean scores (higher = more stress) on the Sense of Competence subscale than mothers of internalizing children. There were no other significant differences between the clinical groups, nor were there any significant differences between the clinical and control groups of mothers.

**Child Domain**

A second MANCOVA was utilized to test for group differences in stressful child characteristics. The dependent variables were the Child Domain subscales (Adaptability, Acceptability, Mood, Distractibility/Hyperactivity, and Reinforces Parent). Covariates were parental psychological distress and socioeconomic status. Results of the evaluation of assumptions of normality, homogeneity of variance-covariance matrices, and linearity were satisfactory.
Table 16
Effects of Covariates on the PSI Parent Domain Subscales

<table>
<thead>
<tr>
<th>Subscales</th>
<th>$\beta$</th>
<th>SE</th>
<th>$t$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attachment</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological Distress</td>
<td>.12</td>
<td>.05</td>
<td>.78</td>
</tr>
<tr>
<td>Socioeconomic Status</td>
<td>.01</td>
<td>.05</td>
<td>.07</td>
</tr>
<tr>
<td><strong>Restriction of Role</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological Distress</td>
<td>.48</td>
<td>.06</td>
<td>3.62***</td>
</tr>
<tr>
<td>Socioeconomic Status</td>
<td>-.22</td>
<td>.06</td>
<td>-1.78</td>
</tr>
<tr>
<td><strong>Sense of Competence</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological Distress</td>
<td>.45</td>
<td>.07</td>
<td>3.71***</td>
</tr>
<tr>
<td>Socioeconomic Status</td>
<td>-.28</td>
<td>.07</td>
<td>-2.40*</td>
</tr>
<tr>
<td><strong>Social Isolation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological Distress</td>
<td>.30</td>
<td>.06</td>
<td>2.31*</td>
</tr>
<tr>
<td>Socioeconomic Status</td>
<td>-.29</td>
<td>.06</td>
<td>-2.25*</td>
</tr>
<tr>
<td><strong>Relationship with Spouse</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological Distress</td>
<td>.35</td>
<td>.07</td>
<td>2.33*</td>
</tr>
<tr>
<td>Socioeconomic Status</td>
<td>-.20</td>
<td>.07</td>
<td>-1.39</td>
</tr>
</tbody>
</table>

* $p < .05$
*** $p < .001$
<table>
<thead>
<tr>
<th>Subscales</th>
<th>INT M</th>
<th>INT Adj M</th>
<th>EXT M</th>
<th>EXT Adj M</th>
<th>CONTROL M</th>
<th>CONTROL Adj M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attachment</td>
<td>12.50</td>
<td>12.27</td>
<td>15.44</td>
<td>15.46</td>
<td>12.47</td>
<td>12.68</td>
</tr>
<tr>
<td>Restriction of Role</td>
<td>20.69</td>
<td>18.81</td>
<td>20.22</td>
<td>20.12</td>
<td>16.71</td>
<td>18.68</td>
</tr>
<tr>
<td>Sense of Competence</td>
<td>31.19</td>
<td>28.90</td>
<td>35.00</td>
<td>34.83</td>
<td>27.77</td>
<td>30.23</td>
</tr>
<tr>
<td>Social Isolation</td>
<td>17.31</td>
<td>15.99</td>
<td>13.22</td>
<td>13.07</td>
<td>12.06</td>
<td>13.54</td>
</tr>
<tr>
<td>Relationship with Spouse</td>
<td>19.06</td>
<td>17.62</td>
<td>20.28</td>
<td>20.18</td>
<td>18.53</td>
<td>20.07</td>
</tr>
</tbody>
</table>

**Note.** Adj M = Adjusted Means; INT = mothers of internalizing children; EXT = mothers of externalizing children; CONTROL = mothers of non-clinical children.
### Table 18

**Planned Comparisons for Groups on the Parent Domain Subscales**

<table>
<thead>
<tr>
<th>Subscales</th>
<th>Planned Comparisons</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attachment</td>
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<td>.94</td>
</tr>
<tr>
<td></td>
<td>EXT &gt; CON</td>
<td>2.43*</td>
</tr>
<tr>
<td>Restriction of Role</td>
<td>INT, EXT &gt; CON</td>
<td>.50</td>
</tr>
<tr>
<td></td>
<td>EXT &gt; CON</td>
<td>.81</td>
</tr>
<tr>
<td>Sense of Competence</td>
<td>INT, EXT &gt; CON</td>
<td>.95</td>
</tr>
<tr>
<td></td>
<td>EXT &gt; INT</td>
<td>3.33**</td>
</tr>
<tr>
<td>Social Isolation</td>
<td>INT, EXT &gt; CON</td>
<td>.72</td>
</tr>
<tr>
<td></td>
<td>INT &gt; EXT</td>
<td>2.04*</td>
</tr>
<tr>
<td>Relationship with Spouse</td>
<td>INT, EXT &gt; CON</td>
<td>.67</td>
</tr>
<tr>
<td></td>
<td>EXT &gt; INT</td>
<td>1.39</td>
</tr>
</tbody>
</table>

**Note.** INT = mothers of internalizing children; EXT = mothers of externalizing children; CON = mothers of non-clinical children.

With Bonferroni adjustments, the critical significance level for individual t-tests was $p < .005$.

* $p < .05$

** $p < .01$
The MANCOVA showed overall group differences for the five dependent variables ($F(10, 84) = 3.81, p < .001$) after adjusting for the covariates. These results also revealed a high association between group status and the combined subscales, with $\eta^2 = .53$. Effects of the covariates on the dependent measures are presented in Table 19. Means and adjusted means for each group on the five Child Domain subscales are presented in Table 20.

Planned comparisons with Bonferroni corrections were conducted between the two clinical groups and between the combined clinical group and control group on each of the five PSI Child Domain subscales (see Table 21). As shown, the two clinical groups had higher scores on the Acceptability, Adaptability, Mood, and Distractibility subscales than the mothers of the non-clinical children. There were no significant differences between mothers of internalizing and externalizing children.

**Summary**

There was one group difference with respect to stressful parent characteristics. Mothers of externalizing children felt less competent in meeting parenting demands than mothers of children with internalizing problems. There were no differences between the clinical and the control groups.

The three groups also differed with regards to stressful child characteristics. The two groups of clinical mothers view their children as being less adaptable to their
### Table 19

**Effects of Covariates on PSI Child Domain Subscales**

<table>
<thead>
<tr>
<th>Subscales</th>
<th>$\beta$</th>
<th>SE</th>
<th>t</th>
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</thead>
<tbody>
<tr>
<td><strong>Acceptability</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological Distress</td>
<td>.31</td>
<td>.05</td>
<td>2.55*</td>
</tr>
<tr>
<td>Socioeconomic Status</td>
<td>-.09</td>
<td>.05</td>
<td>-.76</td>
</tr>
<tr>
<td><strong>Adaptability</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological Distress</td>
<td>.26</td>
<td>.08</td>
<td>2.09*</td>
</tr>
<tr>
<td>Socioeconomic Status</td>
<td>-.12</td>
<td>.08</td>
<td>-1.03</td>
</tr>
<tr>
<td><strong>Mood</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Psychological Distress</td>
<td>-.05</td>
<td>.04</td>
<td>-.40</td>
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<tr>
<td>Socioeconomic Status</td>
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<td>.04</td>
<td>-.37</td>
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<tr>
<td><strong>Distractibility</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological Distress</td>
<td>.21</td>
<td>.07</td>
<td>1.61</td>
</tr>
<tr>
<td>Socioeconomic Status</td>
<td>.11</td>
<td>.07</td>
<td>.89</td>
</tr>
<tr>
<td><strong>Reinforces Parent</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological Distress</td>
<td>.20</td>
<td>.06</td>
<td>1.42</td>
</tr>
<tr>
<td>Socioeconomic Status</td>
<td>-.16</td>
<td>.06</td>
<td>-1.12</td>
</tr>
</tbody>
</table>

* $p < .05$
<table>
<thead>
<tr>
<th>Subscales</th>
<th>INT M</th>
<th>INT Adj M</th>
<th>EXT M</th>
<th>EXT Adj M</th>
<th>CONTROL M</th>
<th>CONTROL Adj M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acceptability</td>
<td>17.75</td>
<td>16.88</td>
<td>16.94</td>
<td>16.93</td>
<td>12.18</td>
<td>13.06</td>
</tr>
<tr>
<td>Adaptability</td>
<td>33.19</td>
<td>31.82</td>
<td>33.18</td>
<td>33.09</td>
<td>24.00</td>
<td>25.44</td>
</tr>
<tr>
<td>Distractibility</td>
<td>27.63</td>
<td>27.18</td>
<td>31.00</td>
<td>31.13</td>
<td>21.88</td>
<td>22.20</td>
</tr>
<tr>
<td>Reinforces Parent</td>
<td>13.38</td>
<td>12.51</td>
<td>15.17</td>
<td>15.09</td>
<td>10.06</td>
<td>11.01</td>
</tr>
</tbody>
</table>

**Note.** Adj M = Adjusted Means; INT = mothers of internalizing children; EXT = mothers of externalizing children; CONTROL = mothers of non-clinical children.
Table 21

Planned Comparisons for Groups on the Child Domain Subscales

<table>
<thead>
<tr>
<th>Subscales</th>
<th>Planned Comparisons</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acceptability</td>
<td>INT, EXT &gt; CON</td>
<td>3.37**</td>
</tr>
<tr>
<td></td>
<td>EXT &gt; INT</td>
<td>.03</td>
</tr>
<tr>
<td>Adaptability</td>
<td>INT, EXT &gt; CON</td>
<td>3.58***</td>
</tr>
<tr>
<td></td>
<td>EXT &gt; CON</td>
<td>.62</td>
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<tr>
<td>Mood</td>
<td>INT, EXT &gt; CON</td>
<td>4.40***</td>
</tr>
<tr>
<td></td>
<td>INT &gt; EXT</td>
<td>.48</td>
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<tr>
<td>Distractibility</td>
<td>INT, EXT &gt; CON</td>
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<td></td>
<td>EXT &gt; INT</td>
<td>2.06*</td>
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<tr>
<td>Reinforces Parent</td>
<td>INT, EXT &gt; CON</td>
<td>1.76</td>
</tr>
<tr>
<td></td>
<td>EXT &gt; CON</td>
<td>1.56</td>
</tr>
</tbody>
</table>

*Note.* INT = mothers of internalizing children; EXT = mothers of externalizing children; CON = mothers of non-clinical children.

With Bonferroni adjustments, the critical significance level for individual t-tests was \( p < .005 \).

* \( p < .05 \)

** \( p < .01 \)

*** \( p < .001 \)
environment, unhappier, more distractible/hyperactive, and possessing more undesirable characteristics (i.e., not meeting their expectations in terms of emotional, physical, or intellectual characteristics) than do mothers of children with no behaviour problems. The two clinical groups did not differ with respect to stressful child characteristics.

Marital/Partner Satisfaction

Within the framework of the ABCX model, marital/partner satisfaction can be considered a resource that can potentially moderate the relationship between stressor and stress. Hypotheses relating to this variable were not examined in the regression analyses since 20% of the sample of 80 mothers reported not having a spouse or partner. For the present analyses, the sample consisted of mothers (n = 64) with spouses or partners.

The Family Information Sheet contained an item which asked participants to rate their overall satisfaction with their primary interpersonal relationship (see Appendix A) on a scale ranging from 0 (extremely dissatisfied) to 5 (extremely satisfied). There was a strong, negative correlation between responses to this item and the Relationship with Spouse subscale of the PSI (r = -.49, p < .001). This finding suggests that this item can be considered a valid indicator of marital/partner satisfaction.
Hypothesis 1c predicted that marital/partner satisfaction would be negatively correlated with both parental stress and perceptions of children's internalizing and externalizing behaviours. Results of Pearson-product moment correlations indicated that marital/partner satisfaction was indeed negatively correlated with parental stress ($r = -0.29$, $p < 0.05$), but that it was not related to child internalizing ($r = -0.06$, $p = n.s.$) and externalizing ($r = 0.00$, $p = n.s.$) behaviours.

The elaboration paradigm was used to assess whether marital/partner satisfaction served as a moderator of the relationship between stressor and stress. Thus, mothers were classified into two groups, High Satisfaction ($n = 37$) and Low Satisfaction ($n = 27$), based on their responses to the marital/partner satisfaction item. That is, mothers in the High Satisfaction group had endorsed a score of 4 or 5 on the item, whereas mothers in the Low Satisfaction group had endorsed scores of 3 or less. The two groups of mothers did not differ with regards to marital status.

Correlation coefficients were computed between child internalizing, externalizing, and total problem behaviours and parental stress for the High-Low Satisfaction groups, and subsequently compared to the correlations between the same variables for the entire sample ($n = 64$). As shown in Table 22, the correlations between externalizing behaviours and parental stress and total problem behaviours and stress
Table 22

Correlation Coefficients Between Stressor-Stress for Groups Based on Scores on Marital/Partner Satisfaction

<table>
<thead>
<tr>
<th>Variable</th>
<th>INT</th>
<th>EXT</th>
<th>TOT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marital/partner Satisfaction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>.38*</td>
<td>.59***</td>
<td>.63***</td>
</tr>
<tr>
<td>Low</td>
<td>.08</td>
<td>.50**</td>
<td>.35*</td>
</tr>
</tbody>
</table>

Note. INT = correlation between PSI and Internalizing behaviour scores; EXT = correlation between PSI and Externalizing behaviour scores; TOT = correlation between PSI and Total Problem behaviour score.

The total sample (n = 64) correlation coefficients are:
- PSI and CBCL Internalizing Scores, r = .28*;
- PSI and CBCL Externalizing Scores, r = .55***;
- PSI and CBCL Total Problem Scores, r = .55***.

* p < .05
** p < .01
*** p < .001
were significant in both the High and Low Satisfaction groups. In the sample of 64 mothers, child externalizing and total problem behaviours were also significantly associated with parental stress. This pattern suggests that marital/partner satisfaction is not likely a moderator of the relationship between externalizing and parental stress and total problem behaviours and stress.

The correlations between internalizing behaviours and parental stress differed for the High and Low Satisfaction groups. The High satisfaction group had a significant association between internalizing behaviours and stress, while the Low satisfaction group had a non-significant association between the same variables. This finding implies that marital/partner support serves as a moderator: the relationship between child internalizing behaviours and stress is pronounced when parents are more satisfied with their interpersonal relationship. The same relationship is greatly reduced for parents who report less satisfaction in their interpersonal relationships.

In summary, marital/partner satisfaction was significantly associated with lower levels of perceived parental stress, while the relationship between marital satisfaction and perceived child behaviour problems was not significant. Utilizing the elaboration model, there was some indication that marital satisfaction moderated the relationship between child internalizing behaviours and
stress, but it did not serve as a moderator of the relationship between externalizing and total problem behaviours and parental stress.

General Summary of the Results

McCubbin and Patterson's (1983) model (Adjustment Phase) was utilized as a framework to examine the extent to which child behaviour problems, resources, and coping strategies predict parental stress, and whether family resources and coping strategies moderate the relationship between child behaviour problems and stress. This research also assessed the impact of various child behaviour problems (internalizing, externalizing, normative behaviours) on parental stress levels, and examined differences between mothers and fathers with respect to their stress levels and perceptions of child problems. The main findings of this investigation are summarized below.

Evaluation of Stress

The relationship between the variables comprising the components of the ABCX model were first examined. Parental stress (Factor X) was positively correlated with perceptions of child internalizing (Factor A) and externalizing behaviours (Factor A), psychological distress (Factor B), marital satisfaction (Factor B) and wishful thinking (Factor C). Parental stress was negatively associated with problem-focused coping (Factor C). Parental stress was unrelated to family social support (Factor B), blames-self (Factor C),
and avoidance coping (Factor C). Perceptions of child internalizing and externalizing behaviours were each positively correlated with psychological distress, but were unrelated with family cohesion/adaptability, marital satisfaction, and family social support.

When the A, B, and C Factors were considered together in the regression analyses, each factor contributed substantially to the prediction of Factor X. Perceptions of child externalizing behaviours, problem-focused coping, family cohesion/adaptability, and parental psychological distress were the strongest predictors of parental stress. Child internalizing behaviours, family social support and emotion-focused types of coping did not significantly predict parental stress.

Utilizing regression analyses, coping and resources did not appear to moderate the stressor-stress relationship as suggested by McCubbin and Patterson (1983). However, using the elaboration paradigm a different pattern of findings emerged. That is, it was shown that family support moderated the relationship between child behaviour problems (internalizing, externalizing, and total problem behaviours) and parental stress. In addition, active coping and family cohesion/adaptability moderated the relationship between internalizing behaviours (but not externalizing or total problem behaviours) and parental stress. Psychological distress was not a moderator, but appeared to be a mediator
of the relationship between internalizing problems and parental stress. Marital/partner satisfaction was examined separately and was found to be a moderator of the relationship between child internalizing behaviours and parental stress (using elaboration analysis).

Between Group Comparisons

Internalizing, Externalizing, and Control Groups

Comparisons of the three groups of mothers of children with internalizing, externalizing, and normative behaviours suggested that parents of children with externalizing problems experience the most parental stress. Supplementary analyses revealed that parents of externalizing children felt less competent in the parenting role compared to parents of children with internalizing problems. There were no differences between clinical and control groups with respect to stressful parent characteristics (PSI-Parent Domain).

Both groups of clinical parents reported experiencing more stress with regards to their child's characteristics (PSI-Child Domain) than did parents of children with no behaviour problems. A closer examination showed that clinical parents perceived their children as being unhappier, less amenable to change, more distractible, and possessing more undesirable characteristics than did non-clinical parents.
Mothers and Fathers

Comparisons between pairs of mothers and fathers did not reveal any differences with respect to parental stress, perceptions of child behaviour problems, resources, and coping strategies.
The primary purpose of the present study was to utilize the ABCX model as a conceptual framework for the evaluation of stress in mothers of children with internalizing and externalizing behaviours. A second purpose was to compare stress levels across mothers of children with primarily internalizing, externalizing, and normative behaviours. The final purpose was to examine differences between mothers and fathers with respect to their experiences of stress and perceptions of child behaviour problems. The findings pertaining to each of the aforementioned objectives will be reviewed and discussed in turn. Subsequently, the clinical implications and methodological limitations of the study will be explored, and directions for future research will be discussed.

Evaluation of Stress

In the context of McCubbin and Patterson's (1983) ABCX model, mothers who perceive high levels of behaviour problems in their children should also experience high levels of stress. As expected, in the present study mothers who perceived their children as having high levels of externalizing and internalizing behaviours (Factor A) also reported experiencing high levels of stress (Factor X). These findings are consistent with the bulk of the research in this area (e.g., Anastopoulos et al., 1992; Baker, 1994;
According to the present conceptualization of the ABCX model, however, the experience of stress depends on perceptions of resources and coping, in addition to the stressor. In other words, the B and C Factors moderate the relationship between the A and X Factors.

In the present study, the role of resources and coping as moderators was somewhat ambiguous. That is, different results emerged depending on the type of analysis used. On the one hand, findings of hierarchical multiple regression analyses revealed that the relationship between child behaviour problems and stress did not depend on resources and coping. On the other hand, elaboration analyses showed that select resources and coping strategies affected the relationship between stressor and stress.

Specifically, regression results revealed that the relationship between each type of behaviour problem (i.e., internalizing and externalizing) and parental stress was independent of maternal psychological distress (Factor B), family cohesion/adaptability (Factor B), family social support (Factor B), and use of active coping (Factor C). When level of overall child behaviour problems (encompasses attention, thought, and social difficulties in addition to internalizing and externalizing behaviours) was employed as a stressor, similar findings emerged. That is, the positive
and significant relationship between the severity of overall child problem behaviours and stress appeared to be independent of resources and coping. These findings were contrary to predictions, and thus prompted the use of alternate analyses.

Results of elaboration analyses (see pages 115-122 for a review) revealed a different pattern of findings. Family social support moderated the relationship between child externalizing problems and stress. That is, mothers possessing a high degree of perceived social support reported less stress associated with their child's externalizing problems, while mothers with lower levels of perceived social support reported more stress associated with their child's externalizing behaviours. These findings are consistent with research conducted on varied populations, such as parents of non-clinic children (Wertlieb et al., 1987), parents of developmentally delayed children (Dunst, Trivette, & Cross, 1986), and homemakers (Lu, 1995), which indicates that social support serves as a buffer against stress, maladjustment, and other forms of distress. Results of elaboration analyses suggest that individuals in a person's environment can help relieve some of the stress associated with having a child with externalizing problems. Mothers who perceive their partners, relatives, friends, and/or community agencies as supportive and helpful in child-rearing are likely
recipients of encouragement and empathy. Having a means of sharing their frustrations and concerns may protect mothers from the negative impact of problematic child behaviours.

In these alternate analyses, psychological distress, family cohesion/adaptability, and active coping did not function as moderators. These findings corroborated the results of the multiple regression analysis, i.e., that the relationship between child externalizing behaviours and stress did not depend on quality of family environment, active coping, and parental distress.

Elaboration analyses revealed a different pattern of findings with regards to child internalizing problems. In this case, family social support, family cohesion/adaptability, and active coping influenced the stressor-stress relationship. That is, mothers who perceived having a high degree of social support, and/or a cohesive and adaptable family environment, and/or engaged in a greater percentage of active coping experienced less stress associated with their child's internalizing behaviours. Conversely, mothers found these behaviours more stressful if they engaged in less active coping, and/or did not perceive having a cohesive and adaptable family environment, and/or perceived having low levels of social support. These results run counter to those of the regression analysis, but are consistent with the predictions generated through the ABCX model.
Unlike the aforementioned three variables, psychological distress did not appear to moderate the relationship between internalizing behaviours and parental stress. In the present study there was no significant relationship between perceptions of internalizing behaviours and stress for mothers with high levels of psychological distress, nor was there such a relationship for mothers with low levels of distress. According to the elaboration model, this finding suggests that psychological distress may be responsible for the significant association between perceptions of child internalizing problems and parental stress. In other words, psychological distress may be a mediator.

Consequently, it is possible that parents with symptoms such as depression, anxiety, somatic and sleep disturbances, may have a tendency to perceive similar problems in their children (i.e., internalizing behaviours), which in turn leads to greater parental stress. An alternate explanation could be that psychological distress contributes to higher levels of parental stress which subsequently leads to perceptions of more internalizing behaviours. Due to the correlational nature of the present study, the direction of causation (or causation itself) cannot be determined. Nonetheless, the present study revealed that mothers of internalizing children experienced less stress than mothers of externalizing children, but reported higher levels of
psychological distress. This lends support to the former supposition, that is, the association between psychological distress and internalizing problems may be responsible for the experience of stress.

Elaboration analysis was also used to examine whether resources and coping moderated the relationship between overall behaviour problems and stress. Similar findings emerged as those for externalizing behaviours. That is, social support moderated the relationship between stressor and stress, while family cohesion/adaptability, active coping, and psychological distress did not. These findings ostensibly indicate that there is not much that parents can do to reduce the stress associated with their child's problematic behaviours, besides obtaining social support. Such a finding is puzzling and runs counter to predictions from the ABCX model and to intuitive expectations that people with strong individual and family resources and effective coping skills should experience improved functioning (i.e., experience less stress) over individuals who do not possess these assets.

The role of marital/partner satisfaction as a resource was examined separately since a large portion of the sample reported not having a spouse or partner. Results of elaboration analysis revealed that the relationship between child externalizing problems and parental stress did not depend on level of marital satisfaction. It appears that
externalizing behaviours may be so disruptive that having a supportive and caring partner does not offer much protection (similar findings were revealed for the relationship between overall child behaviour problems and stress).

Marital/partner satisfaction did, however, appear to moderate the relationship between internalizing behaviours and parental stress, but it did not serve a protective role as did family social support, cohesion/adaptability, and active coping. That is, mothers reporting more satisfaction with their partners also revealed a stronger association between internalizing behaviours and stress. This relationship was less pronounced when parents were less satisfied in their interpersonal relationships. One possible explanation for this counterintuitive finding is that parents who are experiencing distress in their relationships may be less attuned to their child's problems, particularly to behaviours which are not distracting or disturbing. Mothers who are satisfied with the quality of their interpersonal relationships may be more likely to focus attention on their child and thus notice and report the internalizing behaviours.

The finding that the function of cohesion/adaptability, active coping, and marital satisfaction as moderators is dependent on type of child behaviour problem was surprising. However, there is a likely explanation for this unanticipated finding. Externalizing behaviours, such as
aggression, acting out, and non-compliance are inherently disruptive and most, if not all, parents would find these behaviours and associated stressors impacting negatively on their lives. Furthermore, the influence of these behaviours is likely to extend outside the family and affect individuals in the community (e.g., baby-sitters, teachers, classmates) which would necessitate further interventions and adjustment from the parents. Webster-Stratton (1990) provides some examples of the hardships parents of children with externalizing problems face: stressful contacts with teachers, fears of going out in public because of embarrassment due to disruptive child behaviour, sibling competition for equal parental time, and limited free time because of restricted child care options. Hence, it is possible that being psychologically well-adjusted, having a cohesive and adaptable family environment, a supportive spouse, and possessing effective coping strategies does not offer adequate protection from the demands of having a child with a high level of externalizing behaviours. Having a supportive and helpful social circle does appear to be important in alleviating stress, however. While interpretations of helpfulness of sources of support could not be ascertained in the present study, it is reasonable to assume that behaviours such as reassurance, acceptance, and advice about child management would be perceived by mothers as being helpful. Receiving emotional and informational
support may lead parents to change their negative perceptions of their child's problematic behaviours and consequently reduce the magnitude of stress they experience.

Unlike externalizing problems, internalizing behaviours are not conspicuous, nor are they likely to be disruptive. As well, it is possible that some parents may have trouble determining the boundaries between normal personality traits versus psychological problems (e.g., Is my child depressed or just naturally quiet and shy? Is my child dependent or anxious?). Parents who attempt to directly address their children's internalizing behaviours, who solicit help from others, and who live in cohesive, supported, and adaptable family environments may have a greater capacity to deal with ambiguities pertaining to their child's behaviours, and consequently perceive these behaviours as less stressful. The role of ambiguity as a potential stressor has received some research attention (e.g., Boss, 1992). Thus, for parents who perceive primarily internalizing problems in their children, improving the quality of social support, family functioning, and use of more active coping may reduce the level of stress associated with internalizing problems.

Much of the aforementioned discussion has been grounded on the results of elaboration analyses. However, findings from elaboration analyses differed from those obtained through multiple regression analyses. A question arises as to why there were different patterns of findings with
regards to resources and coping as moderators of the stressor-stress relationship. One factor which may have limited the efficacy of the regression model is the inclusion of correlated variables, as a regression solution is sensitive to the combination of variables contained in the solution (Tabachnick & Fidell, 1989). While none of the predictors was multicollinear to an unacceptable degree, quite a few were significantly associated, making it probable that the interaction terms, entered in the final step, could not contribute unique variance to the prediction of stress. In elaboration analysis, each potential moderator was introduced separately in the attempt to discern the nature of the relationship between child behaviour problems and stress. Thus this method circumvents the problem of shared variance among variables.

The findings of the elaboration analyses, however, need to be subjected to careful scrutiny as there are some obvious limitations to the model. The first drawback is that the control or grouping variables (i.e., the potential moderators) were examined in isolation from each other. That is, this model mechanically isolated each individual resource and coping strategy, providing separate examinations of how they moderated the stressor-stress relationship. Therefore, although it appears to eliminate the multicollinearity problem, the model cannot adequately reflect real-life relationships, nor can it examine the
dynamic interplay among these variables. Thus, its ability to explore complex multivariate relationships is limited.

Another limitation of the elaboration model is that it does not objectively specify the criteria by which a partial relationship is considered the same or different from the original relationship. The researcher is left to use his/her judgment as to what constitutes a substantial difference, as there are no statistical tests available to assess differences between a sample and a subset of that same sample. In the present study, a significant difference between the partial and original relationship was a priori defined as one in which the partial relationship did not achieve statistical significance. In other words, if the partial relationship was not statistically significant, then it was considered substantially different from the original relationship (which was significant in all cases).

From the discussion of the discrepant findings between regression and elaboration analyses, the conclusion can be drawn that there is uncertainty as to the conditions under which specific resources and coping strategies serve as moderators or even whether they serve as moderators at all. However, an unequivocal finding based on all three regression analyses was that each component of the ABCX model was successful in predicting parental stress. That is, Factor A (internalizing and externalizing behaviours, total child behaviours), Factor B (psychological distress,
cohesion/adaptability, social support), and Factor C (active coping, problem-focused, seeks social support, wishful thinking, & avoidance coping) all contributed unique variance to Factor X (parental stress). The following discussion pertains to the results of a multiple regression analysis that was specifically performed to assess the contributions of individual behaviour problems, resources, and various coping strategies to the prediction of stress.

For the A Factor, child externalizing behaviours strongly predicted parental stress. Child internalizing behaviours, however, did not significantly predict stress. This finding was initially surprising considering that the bivariate correlation between internalizing behaviours and parental stress was significant. One possible explanation is statistical in nature. That is, as Tabachnick and Fidell (1989) report, significance tests are sensitive to the unique variance a variable adds to the prediction. Thus, an important variable, such as internalizing behaviours, that shares variance with another in the analysis (e.g., externalizing behaviours) may appear non-significant even though both variables together may account for a large proportion of the variance (Tabachnick & Fidell, 1989).

There is another more likely explanation why perceptions of child internalizing behaviours did not significantly predict parental stress. As discussed previously, elaboration analyses revealed that the
relationship between internalizing behaviours and stress was affected by different levels of family social support, cohesion/adaptability, and active coping. As well, psychological distress was implicated as being a central component of that relationship. Thus, within the context of all the resource and coping variables, perceptions of internalizing behaviours may be less meaningful in the prediction of stress.

For the B Factor, family cohesion/adaptability and psychological distress significantly predicted parental stress. These findings corroborate the results of the bivariate correlations which revealed that mothers reporting high levels of psychological distress also experienced a high degree of parental stress, while mothers reporting very cohesive and adaptable family environments also reported experiencing significantly less parental stress. Such findings are consistent with existing research (Breen & Barkley, 1988; Cunningham et al., 1988; Donenberg & Baker, 1993; Webster-Stratton, 1988).

Family social support did not emerge as a significant predictor of parental stress. Family social support also did not have a significant bivariate correlation with parental stress (although it did approach significance). These findings were unexpected as considerable research has shown that high levels of perceived social support are associated with low levels of stress (e.g., Barrera, 1986;
Johnston & Pelham, 1990; Koeske & Koeske, 1990; Webster-Stratton, 1989). One explanation for the present findings involves the measure. That is, the Family Support Scale asks respondents to rate the helpfulness of 18 potential sources of support to their family. The ratings are summed to provide a global perceived social support score. However, all the sources of support listed in the measure cannot be expected to be equally effective in reducing parental stress; some may not even be relevant for these parents (e.g., early childhood intervention program). In fact, there is research evidence pointing to the differential effects of sources of support (e.g., spouse versus friends) in alleviating familial stress (Jackson, 1992). Perhaps utilizing separate social support scores, calculated for different groups of individuals (e.g., immediate family members, extended family, professional services) would have provided a more sensitive assessment of perceptions of social support in parents of children with behaviour problems.

However, in view of the results from elaboration analyses, measurement issues cannot be the sole explanation for the inability of the family social support measure to predict parental stress in the present sample. It is also possible that the significant positive correlation between the Seeks Social Support coping strategy and the Family Support Scale prevented the latter measure from adding
unique variance to parental stress. As well, it is possible that a simple linear relationship between social support and stress does not exist for this population.

For the C Factor, only problem-focused coping was a significant predictor of stress in the presence of all the other variables. Prior studies linking coping strategies and parental stress have not been conducted with parents of clinic-referred children with internalizing and externalizing behaviours. However, the present finding that problem-focused coping is negatively associated with stress is consistent with a major body of research illustrating that problem-focused types of coping are related to increased adjustment (e.g., Frey et al., 1989; Miller et al., 1992; Myers et al., 1992; Timko et al., 1992; Vitaliano et al., 1990). As well, it is consistent with the pioneering work of Pearlin and Schooler (1978) which showed that parenting strains were most effectively handled via problem-focused coping.

The coping strategies of seeking social support and wishful thinking did not significantly predict parental stress, even though they each had statistically significant bivariate correlations with the parental stress measure. Again, one possible explanation is statistical in nature which is similar to the one given for the failure of internalizing behaviours to predict stress. That is, seeking social support and wishful thinking strategies are
highly and significantly intercorrelated and are each
correlated with problem-focused coping. These
intercorrelations may limit their ability to contribute
unique variance to parental stress.

Avoidance coping did not significantly predict parental
stress, but neither did it have a significant bivariate
relationship with stress. Emotion-focused types of coping,
such as avoidance, have generally been shown to be less
effective when dealing with family issues and stressful
parenting situations (Barnett et al., 1990; Miller et al.,
1992; Pearlin & Schooler, 1978). One possible reason for
the non-significant relationship between avoidance and
stress may be that such a strategy is not applicable to the
present sample. That is, all the parents were seeking
professional help for their children's problems, which
suggests that they may have been less likely to circumvent
child-related difficulties. In fact, examinations of the
coping strategy means revealed that avoidance was used
infrequently (see Table 3, page 104). Another explanation
for the non-significant association could be that avoiding
specific stressful situations involving the child is not
usually a viable option, particularly when a child engages
in aggressive and destructive behaviours that necessarily
invoke some form of parental intervention. It is likely
very difficult to ignore such an overpowering stressor.
In addition to the aforementioned stressors, resources, and coping strategies, select demographic variables (which can potentially function as moderators) and their relationship to parental stress were also examined. Target child sex was the only demographic variable that significantly predicted stress. That is, it appears that being the mother of a daughter is associated with greater stress. This finding can be explained if one looks to the literature on social development. One commonly found pattern of sex differences is that boys tend to be more physically aggressive, assertive, and dominant than girls (Bee, 1997). Parents therefore may expect and tolerate a certain degree of disruptive and unruly behaviours in their boys. Similar behaviour in girls may be deemed deviant, as they may expect their daughters to be well-behaved and relatively compliant with their requests. Hence, girls presenting with behaviour problems run counter to parents' expectations, contributing to increased levels of stress. It should be noted, however, that other studies in the area have not found child sex differences with regards to parental stress (Anastopoulos et al., 1992; Baker & McCal, 1995; Befera & Barkley, 1985; Breen & Barkley, 1988; Eyberg et al., 1992).

In summary, the findings of the multiple regression analyses showed that the A, B, and C Factors contributed in an incremental fashion to the prediction of stress, although
not all individual stressors, resources, and coping strategies were equally important. As well, the relationship between overall level of child problem behaviours (as well as internalizing and externalizing behaviours) and parental stress did not depend on Factor B (parental psychological distress, family cohesion/adaptability, family social support) or Factor C (active coping). Alternate analyses, however, revealed that the relationship between child problematic behaviours and stress changed as a function of social support. Furthermore, cohesion/adaptability and active coping served as moderators of the relationship between internalizing behaviours and stress, while psychological distress may have been a mediator. These findings raise the interesting possibility that specific resources may serve different functions (i.e., either as moderators, mediators, or neither).

Comparison of Clinical and Control Groups

A second purpose of the present study was to examine differences in parental stress across groups of mothers of children with primarily internalizing, externalizing, and normative behaviours, while controlling for resource, coping, and sociodemographic differences. The findings revealed, consistent with predictions, that mothers of children with predominately externalizing behaviours experienced more stress than mothers of children with predominately internalizing behaviours. The two clinical
groups of mothers experienced more stress than a control
group of mothers with normative children.

The finding that parents of children with externalizing
behaviours experience the most stress makes intuitive sense,
given the disruptive nature of externalizing problems.
Interestingly, examination of stress differences between
mothers of children with externalizing and internalizing
problems had not, until now, been an explicit focus of
study. The vast majority of the studies in the area have
compared parents of children belonging to various diagnostic
categories and often have not revealed substantial stress
differences among parents of different groups of clinic-
referred children (e.g., Asarnow & Horton, 1990; Breen &
Barkley, 1988; Donenberg & Baker, 1993). Considering the
high comorbidity rates among diagnoses, the finding that
parental stress is not disorder-specific is to be expected.
For example, among the disruptive disorders (e.g., ADHD, CD,
ODD) comorbidity rates range from 45% to 85%, while for
disruptive and nondisruptive disorders (e.g., ADHD/
depression) they range from 11% to 51% (McConaughy & Skiba,
1993). Thus, the use of dichotomous diagnoses may mask
specific externalizing and internalizing behaviours that may
be more predictive of parental stress, and may also miss
significant behaviours that do not reach diagnostic levels.
Keeping in mind that there is also a high comorbidity
between externalizing and internalizing behaviours
(McConaughy & Skiba, 1993), the results of the present study highlight the importance of focusing on child behaviours as continuous variables. An interesting question for further exploration would be to compare the utility of diagnostic categories versus type and/or severity of child behaviour problems in differentiating and predicting parental stress.

Stating that mothers of externalizing children experienced more stress than mothers of internalizing children leaves unanswered the question of the nature of these stress differences. To address this question, the specific child characteristics and aspects of parental functioning that comprised the parental stress construct were compared across mothers of internalizing, externalizing, and normative children.

In terms of stressful child characteristics, there were significant differences between the clinical and control groups of mothers. That is, the combined group of clinical mothers reported that their children had a harder time handling transitions and change, were more distractible/hyperactive, withdrawn and sad, and possessed less desirable characteristics than did mothers of normative children. Differences in stressful child characteristics were to be expected due to the selection procedures (i.e., one of the criteria for inclusion in the control group was the presence of nonclinical levels of behaviour problems in the target child).
One stressful child characteristic did not
differentiate the clinical and control groups. That is,
there was no difference with regards to the degree to which
the mothers found interactions with their child rewarding.
This finding was unexpected, considering the conflictual and
aversive parent-child interactions that often characterize
families of children with behavioural problems (Mash &
Johnston, 1990). One explanation could be that the clinical
mothers responded in a socially desirable manner. That is,
in view of cultural expectations that mothers should
experience their child as a source of happiness, they may
have been reluctant to admit that this was not the case
(i.e., the child is not a source of positive reinforcement).
Another explanation may involve the participants'
characteristics. That is, the clinical mothers had actively
sought help for their children's problems and had
volunteered to participate in the present study, so it is
possible that this sample is not a representative of all
clinical mothers. As well, the majority of the clinical
mothers had received help in the past, both for their
children and for themselves. Thus, it is likely that they
have learned to better understand their child and themselves
and in the process have found interactions with their
children more gratifying (and within the range of the
nonclinical mothers).
There were no significant differences between mothers of internalizing and externalizing children with respect to the aforementioned stressful child characteristics. At first glance this was surprising as it was expected that mothers of externalizing children might report more stress due to distractible behaviours and mothers of internalizing children to report more stress due to their child's withdrawn and sad mood. However, as the parental stress measure had already been adjusted to remove subscales that correlated highly with both externalizing and internalizing behaviours, group differences regarding stressful child characteristics may have been attenuated. In summary, the five stressful child characteristics assessed by the adjusted parent stress measure did not discriminate between mothers of internalizing and externalizing children.

There were no significant differences between the combined group of clinical mothers and the control mothers with regards to parent characteristics and family context variables (i.e., sense of competence, social isolation, role restriction, relationship with spouse, and emotional closeness to child). This finding was unexpected considering prior research has revealed differences between clinical and control groups on similar variables (e.g., Breen & Barkley, 1988; Fuller & Rankin, 1994; Mash & Johnston, 1983). However, in a recent study, Baker and McCal (1995), who also found no differences between clinical
and control groups on parenting stress attributable to parent characteristics, suggest that measurement differences may account for the contrasting findings. That is, prior research (e.g., Breen & Barkley, 1988, Mash & Johnston, 1983) has utilized earlier versions of the PSI and different scoring procedures (Baker & McCal, 1995).

It should also be noted that in the present sample 29% of the clinical target children were taking medication for control of symptoms. While there is no way of knowing how symptom control influenced the clinical mothers' ability to function, it is reasonable to assume that stress associated with the parenting role may have been diminished, making it more similar to the control mothers. Another consideration is that mothers who exhibited great amounts of stress in relation to their parenting functions may have chosen not to participate in the present study.

One significant difference was found between the clinical groups of mothers with regards to parental functioning. That is, mothers of children with externalizing behaviours perceived themselves as being less competent in meeting parenting demands than mothers of children with internalizing behaviours. Parents who do not have a high sense of competence with their child are also likely to have insufficient knowledge of child development, a limited range of child management skills, and lack reinforcement in the parenting role (Abidin, 1995). Other
research has similarly demonstrated that parents of children with externalizing disorders perceive themselves as less skilled and knowledgable as parents and/or derive less comfort and satisfaction from the parenting role (Donenberg & Baker, 1993; Eisenberg et al., 1989; Johnston, 1996; Johnston & Mash, 1989; Lewis-Abney, 1993; Mash & Johnston, 1983; Mouton & Touma, 1988; Rostain et al., 1993). It is likely that parents of externalizing children have had to expend considerable energy managing and adapting to their child's negative behaviours over a relatively long period of time. Due to a history of unsuccessful child experiences, by the time parents have sought professional help they likely feel overwhelmed by their child's aggressive, demanding, noncompliant behaviours, and have translated these feelings to the belief they are ineffectual and inadequate parents.

The stress differences between clinic and control mothers appear to be primarily child-related, while the differences between mothers of internalizing and externalizing children are primarily due to the parent's own functioning. However, other factors not a focus of the present study may also have contributed to these stress differences. For example, externalizing children have also been found to demonstrate more problems in cognitive, academic, and social functioning compared to children with internalizing children (McConaughy, Achenbach & Gent, 1988).
Further research is needed to determine the nature of parental stress differences and how they develop in relation to child behaviour problems.

Comparison of Mothers and Fathers

The third purpose of the present study was to compare perceptions of stress and child behaviour problems between pairs of mothers and fathers. The findings revealed, contrary to expectations, that there were no gender differences with respect to stress levels and perceptions of child behaviour problems. Past research studies exploring gender differences in this population have provided mixed results, with some finding differences in stress and/or perceptions of child behaviour problems (Cunningham et al., 1988; Eisenberg et al., 1989), others finding no differences (Johnston, 1991; Stanger & Lewis, 1993), while still others finding differences with regards to stress levels, but not perceptions of child behaviour problems (Baker, 1994; Webster-Stratton, 1988).

The finding of no gender differences runs counter to intuitive expectations that mothers, who assume primary caregiver responsibilities and spend more time with the child, would be more likely to perceive problematic behaviours and thus experience higher levels of parental stress. However, the assumption that mothers in this sample indeed spent the most time with the child may have been erroneous. It is possible that as parents share child care
responsibilities in an equitable fashion, they may appear more similar in their adjustment to stress of family life (Barnett & Baruch, 1987; Deater-Deckard & Scarr, 1996). However, another likely reason for the non-significant results may have been due to the very small number of mother-father dyads, which meant there may have been insufficient power to detect significant differences. This explanation is strengthened by the observation that the mother and father means were in the expected direction.

Clinical Implications

Clinical experience indicates that a large number of parents seeking help for their child's problematic behaviours primarily focus on the child and the effects of the behaviour problems on the parent-child relationship. Consequently, they may be less likely to discuss (or even be asked about) their own feelings of distress. It has been illustrated in this paper that parents of children with internalizing and externalizing behaviours experience considerable stress and disruptive functioning. Though the present study focused on the negative impact of the child's behaviours on the parent, there is little question that poor family or parental functioning also influences the child in ways that exacerbate the child's behaviour problems and parent's subsequent perceptions of these difficulties (Abidin, 1992). For example, parental stress has been linked to harsh, authoritarian parenting which in turn is
associated with negative child outcomes (Deater-Deckard & Scarr, 1996; Janssens, 1994; Messer & Gross, 1995; Whipple & Webster-Stratton, 1991). Therefore, it is important to incorporate assessment of parent stress in clinical evaluations of children.

By conveying to parents an awareness of the stress they are experiencing and how it has contributed to alterations in family interactions and functioning, clinicians can establish an empathic context for clinical evaluation and treatment (Modrcin & Robinson, 1991). The Double ABCX model can subsequently serve as a guide for a multi-dimensional clinical assessment of factors that contribute to stress (beyond perceptions of child behaviour problems). That is, clinicians can assess the family's strengths and capabilities (both at the individual and family level), psychological distress, quality of social support available, coping strategies employed, and the meaning the family members imbue the situation involving the child. The clinician can use the information to help families build on existing strengths and/or target future areas of intervention. It is particularly important for clinicians to address parental psychological and marital distress as these variables have been associated with poor parent training outcomes (Griest & Forehand, 1982). It is also important that clinicians ask each family member (including the father, target child and siblings) about their
experiences (e.g., what changes have occurred since the child's problems were first noticed), and how the family as a whole has attempted to adjust to the demands. Such questions communicate concern about the entire family, and will likely foster a better working relationship between the parents and clinician (Modrcin & Robinson, 1991).

Obtaining a clear picture of parental perceptions of specific child behaviour problems is also important because the role of resources and coping as moderators of stress depends on the type of behaviour problem. For parents who perceive primarily internalizing problems, help in improving social support, family functioning, and use of active coping may reduce the level of stress associated with internalizing problems. However, for parents who perceive primarily externalizing problems, it appears that only increasing social support may be helpful in alleviating the stress associated with externalizing behaviours. Therefore, assessment of support is crucial for these families. If support is found to be lacking, clinicians can help parents identify potential sources of support. If parents perceive that needed support is unavailable from friends and family, they should be encouraged to participate in parent support groups. Evaluations of family support programs have shown that participation results in decreased feelings of social isolation, and concomitant changes in the negative perception of the child (Cautley, 1980; Telleen et al.,
As seen in the present study, enhancing perceptions of the child's behaviour will very likely reduce parental stress. The importance of social support was also evidenced through comments made to the researcher. That is, a portion of the mothers in this sample had in the past attended support groups where they had been exposed to other parents with equally challenging children. More than one mother commented that discussions on parenting problems and the knowledge that there were other parents with similar difficulties was a great relief.

Clinicians also need to be sensitive to the insecurities about competence in the parenting role that parents of children with primarily externalizing problems are likely to have, as they may perceive the assessment process and associated interventions as blaming them for the child's difficulties. If parents indeed possess limited parenting skills, they may be gently encouraged to read appropriate literature or to participate in programs that impart knowledge in child development and child management (Abidin, 1995). Remediation of deficient parenting skills is particularly critical as it has been suggested that poor problem-solving skills with respect to child management can lead to child abuse and neglect (Hansen, Pallotta, Tishelman, Conaway, & MacMillan, 1989). In general, suggestions and interventions may be framed as attempts to understand what is happening to the family as result of the
child's behaviours; this sets the stage for an atmosphere of trust that communicates to the parents that they are understood and that they can safely discuss issues that would be helpful to the whole family and to the child with the presenting problems (Modrcin & Robinson, 1991).

Limitations of Present Study

As most clinical research of this nature, the findings of the present study must be viewed in the context of several methodological limitations. First of all, there is a possibility of bias due to the nature of the sample. In the original conceptualization of the study it was proposed that participants be drawn from a pool of consecutive referrals to the clinics. However, intake workers expressed reservations in burdening parents with the demands of a study upon initial contact, particularly if they appeared under strain. Thus, to expedite the data collection process, the procedure was modified by asking interns to contact parents who were on the waiting lists for services, and to obtain permission to release their names to the researcher. Two problems arose from this procedure. First, interns were unable to reach all parents on the list, particularly those who were not home during regular working hours. Hence, as the sample pool primarily consisted of parents who were home during regular working hours, it likely included a high proportion of unemployed or part-time workers. Thus, generalizations need to be made cautiously
within the boundaries of these sample characteristics.

A second problem was that the length of time parents were waiting for services varied considerably. It is unclear how this variable may have impacted on parents' willingness to participate in the study, as there is no information on the parents who chose not to release their names to the researcher. Even though the variable of length of time on the waiting list was statistically controlled (and found not be associated with parental stress), recruitment of participants from the waiting list precluded a comprehensive test of the ABCX model, as all parents could not be assessed at the theoretical point of crisis, that is, when they contacted the clinic for help.

Another related limitation also raises the question of representativeness of the sample and thus the extent to which the findings can be generalized to all parents of children with externalizing and internalizing problems. That is, information was not obtained on the parents who declined to participate in the study. There is a possibility that parents who participated were psychologically better adjusted or possessed more resources than the non-participants. However, the mean of the parental stress measure revealed that the participants experienced very high levels of stress, comparable to those found in other clinical samples (e.g., Abidin, 1995).
A third problem with the present study was that adequate information was not obtained regarding the type of help parents received in the past for their child's problems. The vast majority of parents in the study had sought prior help for their child's difficulties. This represents a clinical reality in view of the stability and chronicity of internalizing and externalizing disorders and their typically early onset (Bowen et al., 1995; Verhultz & Van der Ende, 1992). In the present study only the number of times parents sought prior help was recorded and controlled. However, information on the kinds of assistance parents received could have been useful in clarifying the nature of their existing resources and coping strategies. For example, in the present study a parent who had previously attended one parent training group and another who had taken her child to the pediatrician for the behaviour problems would both report having sought help one time. However, it is likely that upon completion of a parent training course a parent would possess a fund of knowledge that could be drawn upon when encountering parenting challenges that is quite different than the parent that visited a medical doctor. Obtaining such qualitative data would have provided a rich understanding of the types of resources parents acquired during exposure to a long-term stressor (i.e., child behavior problems.)
Another limitation of the present study involves the criteria used to classify children in the internalizing group. That is, the inclusion criteria for the internalizing group were made less stringent than Achenbach (1991) suggested in order to increase child membership in the group and to ensure approximately equal numbers of children in the internalizing, externalizing, and control groups. This amendment may have reduced the likelihood of significant differences between the internalizing and externalizing groups with regards to stressful parent and child characteristics. It should be noted however that few children present with primarily internalizing behaviours. For example, a study found that 10% of a sample of 366 clinical children were classified as Internalizing (McConaughy & Skiba, 1993). As well, in a recent study 359 children were surveyed to obtain a sample of 10 depressed children (Messer & Gross, 1995). In the present case, practical constraints (i.e., time limitations) precluded similar exhaustive searches for "pure" internalizing children.

Another limitation was the small sample size used in the comparison of mothers and fathers with respect to stress and child behaviour problems. As mentioned, the recruitment of fathers was largely unsuccessful as only 13 couples participated in the study (over 50% of the sample was married). The lack of participation on behalf of the
fathers may have been partly due to a procedural oversight. That is, the investigator primarily made telephone contact with mothers, who were predominately the ones that had agreed to the release of their names for the purpose of the study. Once the mother's participation was garnered, she was asked to encourage the participation of her spouse or partner. However, many of the mothers stated that the fathers were too busy or believed they would not be interested, and it cannot be ascertained if they actually presented the fathers with the study information. Perhaps more fathers would have participated if the researcher had talked to them directly, although it does not seem very likely in view of intern reports that fathers consistently did not express any interest in the study. Another plausible explanation for the lack of paternal interest could reflect the social role of fathers as being less involved in the care of their children. In any case, the small sample size precluded a conclusive test of the third hypothesis.

A final limitation involves measurement issues. The present study relied exclusively on self-report measures in assessing stressor, stress, resources, and coping and is subsequently vulnerable to the problem of common method variance. Although including observational or multiple informant reports would have eliminated this problem and may have thus led to a different pattern of findings, in the
present study parental perceptions were of primary importance. In fact, for many of the variables in the present study (e.g., stress, coping) self-report is the primary source of data. Lazarus and Folkman's (1984) argument that it is preferable to persist with one single method (e.g., self-report) until stable findings are generated, appears particularly applicable to the research on the adjustment of parents of children with behaviour problems.

Directions for Future Research

A primary focus for future research should be to improve the methodology used to assess parental stress. First of all, it is imperative that researchers develop and use theoretical frameworks to guide their work. A number of conceptual models exist in the child psychopathology literature that emphasize the bidirectional relationships among childhood pathology, family characteristics, and the socio-cultural context (Mash, 1991). These same models can be modified to examine child influences on the family. The present study provided an initial attempt at theory-guided research by using McCubbin and Patterson's (1983) well-established model to generate hypotheses and predictions.

One major strength of the Double ABCX model is that it takes the time factor into account, that is, it acknowledges that each family member is part of a dynamic system that is continually changing to a larger or smaller degree (McCubbin
Unfortunately the present study (like the majority in the area) is cross-sectional in nature and could not assess the complex processes by which family members obtain additional resources to meet the challenges of their child's problematic behaviours, and the ways in which appraisals of the child, resources, and other aspects of the stressful situation are altered over time. Longitudinal designs can best uncover and describe these processes.

Longitudinal designs can also be useful in addressing one of the still unanswered questions in the area: is parental stress a cause, effect, or independent of the child's behaviour problems (Fischer, 1990). However, a more fruitful area of research would be to acknowledge that reciprocal parent-child influences exist and focus on understanding the complex causal network linking parental stress and child behaviour problems. Various contextual factors (e.g., marital satisfaction, social support) that are implicated in parental stress (and perhaps in child problems) were introduced in the present study. Dysfunctional parenting (not addressed in the present study) is another factor that has been associated with parental stress and with development of child behaviour problems (Abidin, 1992; Downey & Coyne, 1990; Patterson, 1980) and can provide additional insight into the mechanisms through which parental behaviours influence parent-child
interactions, and subsequently, parental stress. Future studies need to use larger samples and more sophisticated statistical procedures (e.g., structural equation modelling) in order to explore the nature of the links among the multifaceted processes involved in the development of stress.

Most of the research in the area of parental stress and child behaviour problems has focused primarily on mothers. Even assessment of family variables, such as the family adaptability and cohesion often reflect the individual's, primarily the mother's, perceptions. However, mothers are just one part of a system of interacting units and relationships (Goldenberg & Goldenberg, 1991). The sample under study needs to be broadened by moving away from the mothers and including fathers, target child, siblings, and grand-parents to provide a more accurate reflection of a family's strengths and weaknesses, and an understanding of how family subsystems affect each other (see Kazak, 1992, for a discussion of the use of families as a unit of measurement in research).

Another fruitful area for future research is the examination of family members' cognitions and appraisals pertaining to the stressful situation (e.g., McCubbin and Patterson's, 1983, C Factor). The present study utilized parental self-reports; thus, all the obtained information on child behaviours, resources, stress and coping could be viewed as reflecting parental cognitive processes. However,
a variety of specific parental cognitions exist that can potentially influence and moderate parental stress levels, and which would offer a conceptualization of the C Factor more in line with McCubbin and Patterson's (1983) intent. For example, attributions for child behaviours have received some research attention (e.g., Geller & Johnston, 1995; Mash & Johnston, 1990; Sobol, Ashbourne, Earn, & Cunningham, 1989). One can see that whether or not parents perceive their child's misbehaviours as intentional or beyond the child's personal control would differentially influence parental stress levels. Other related cognitive variables, such as self-efficacy and parental locus of control, that have been extensively studied in relation to child behaviour problems and/or parental behaviours (e.g., Day, Factor, & Sziba-Day, 1991; Campis, Lyman, & Prentice-Dunn, 1986; Janssens, 1994; Roberts, Joe, & Rowe-Hallbert, 1992) appear promising as potential moderators or mediators of the stressor-stress relationship.

There is also a pressing need for the development of new, well-standardized and psychometrically sound measures of parental stress. Abidin's (1990; 1995) Parenting Stress Index is the most widely used measure of parental stress. However, it has been used inappropriately in research seeking to link child behaviour problems with stress. As addressed in this paper, using the PSI to determine whether or not a significant association exists between child
behaviour problems and stress will lead to an artificially inflated correlation, as the PSI includes the hypothesized source of the stress (child behaviour problems) along with the outcome (e.g., parental depression, health, spousal support). Alternate measures of parental stress should focus on assessing dimensions that impact on the parenting role, such as knowledge of child development, parental self-esteem, disciplinary styles, parenting skills, and competence.

Conclusion

The present study provided an evaluation and comparison of stress in mothers of children with internalizing and externalizing behaviours. More specifically, the study examined the role of resources and coping as predictors and moderators of the stressor-stress relationship. Findings revealed that child behaviour problems, resources, and coping added unique variance to the prediction of stress. In addition, family cohesion/adaptability, family support, and active coping moderated the relationship between internalizing behaviours and stress, but only social support moderated the relationship between externalizing problems and overall severity of problems and stress. Mothers of externalizing children reported more stress than mothers of internalizing and normative children. Mothers and fathers did not differ with respect to perceptions of child behaviour problems and stress.
Certain methodological limitations (e.g., cross-sectional design, non-representative sample) provide constraints on the robustness of these results. Nonetheless, the present study contributes to the existing literature in three major ways. First of all, the study provided an examination of stress in parents of children with internalizing and externalizing behaviours under the umbrella of a well-established theoretical framework. Second, the study attempted to make a methodological improvement over previous studies by taking into account that high degree of correspondence between measures of child behaviour problems and parental stress. Finally, the study is the only one to compare the degree of stress experienced by mothers of children with different types of behaviour problems (i.e., internalizing, externalizing, and normative behaviours) in contrast to the practice of comparing stress levels of parents of children who belong to specific diagnostic groups.


APPENDIX A

Family Information Sheet
Family Information Sheet

1. Age: ______

2. Sex (Circle One): Male Female

3. Marital Status: 
   (Circle One)
   Single Married Remarried
   Married Living Together Widowed
   Separated Widowed
   Divorced

4. Highest level of education completed (Circle One):
   Grade 8 or less
   Some High School
   High School Diploma or Equivalent
   Some trade school or community college
   Trade school or College Diploma
   Some University
   University degree
   Other (please specify)__________________

5. Presently Employed (Circle One):
   Yes, Full-Time
   Yes, Part-Time
   No

6. Occupation (give title and brief job description):
   ____________________________________________

7. Presence of physical or medical problems (Circle One): 
   (Optional) No
   Yes (specify)______________________________
   ________________________________

8. Have you ever sought professional help for emotional problems?
   (Optional) No
   Yes (specify)______________________________
   ________________________________

9. What is your ethnic background? (Optional)________________

10. Number of children living in the home:__________
In completing the rest of the items on this page, please refer to the child that you are most concerned about (i.e., the child that is presently receiving or is in the process of receiving help)

Date of Birth: __________________

Age: __________

Grade: ________

Sex (Circle One): Male Female

Your Relationship to the Child: (Circle One) biological parent adoptive parent step-parent foster parent other (specify) __________________________

Does your child have: (Circle appropriate response)

Severe Medical or Physical Problems? No Yes (specify) ______________________

Chronic Illness? No Yes (specify)______________________

Severe Visual or Hearing Problems? No Yes (specify)______________________

Learning Difficulties? No Yes (specify)______________________

Developmental Delay? No Yes (specify)______________________

Other Difficulties (specify)? ______________________

____________________________________________________________________
More questions regarding the child you are most concerned about:

1. Is your child presently taking any medication? (please circle)
   Yes (please specify) ______________________
   ______________________
   No

2. Have you sought prior help for your child's present difficulties?
   Yes (how many times?) ______________________
   No
11. On this page and the following 3 pages, please refer to each of the other children in your household.

Child #2

Date of Birth:__________________

Age:________

Grade:_______

Sex (Circle One): Male Female

Your Relationship to the Child (Circle One) biological parent adoptive parent step-parent foster parent other (specify)__________________________

Does your child have: (Circle appropriate response)

Severe Medical or Physical Problems? No Yes (specify)__________________________

Chronic Illness? No Yes (specify)__________________________

Severe Visual or Hearing Problems? No Yes (specify)__________________________

Learning Difficulties? No Yes (specify)__________________________

Developmental Delay No Yes (specify)__________________________

Other Difficulties (specify)? ________________________________
______________________________
Child #3

Date of Birth:____________________

Age:__________

Grade:________

Sex (Circle One):  Male   Female

Your Relationship to the Child (Circle One) biological parent
adoptive parent
step-parent
foster parent
other (specify)____________________

Does your child have: (Circle appropriate response)

Severe Medical or Physical Problems?  No
Yes (specify)____________________

Chronic Illness?  No
Yes (specify)____________________

Severe Visual or Hearing Problems?  No
Yes (specify)____________________

Learning Difficulties?  No
Yes (specify)____________________

Developmental Delay?  No
Yes (specify)____________________

Other Difficulties (specify)?

______________________________

______________________________
Child #4

Date of Birth:__________

Age:________

Grade:______

Sex (Circle One): Male Female

Your Relationship to the Child (Circle One)
biological parent
adoptive parent
step-parent
foster parent
other (specify)________________________

Does your child have: (Circle appropriate response)

Severe Medical or Physical Problems?
No
Yes (specify)________________________

Chronic Illness?
No
Yes (specify)________________________

Severe Visual or Hearing Problems?
No
Yes (specify)________________________

Learning Difficulties?
No
Yes (specify)________________________

Developmental Delay?
No
Yes (specify)________________________

Other Difficulties (specify)?
________________________________________
________________________________________
Child #5

Date of Birth:____________________

Age:________

Grade:_______

Sex (Circle One):  Male    Female

Your Relationship to the Child (Circle One) biological parent adoptive parent step-parent foster parent other (specify)________________________

Does your child have:  (Circle appropriate response)

Severe Medical or Physical Problems?  No  Yes (specify)________________________

Chronic Illness?  No  Yes (specify)________________________

Severe Visual or Hearing Problems?  No  Yes (specify)________________________

Learning Difficulties?  No  Yes (specify)________________________

No  Yes (specify)________________________

Other Difficulties (specify)?  __________________________

________________________
12. Number of adults living in the home for the past 6 months (excluding yourself): __________

13. For each of the adult members in your household, please complete the following:

**Family Member #1**

Age: _______ Sex (Circle One): Male Female

Relationship to You (Circle One): Spouse Partner Parent Grand-parent Sibling Other (specify) ________________

Highest level of education completed (Circle One):

Grade 8 or less  
Some High School  
High School Diploma or Equivalent  
Some Trade School or Community College  
Trade School or College Diploma  
Some University  
University Degree  
Other (specify) ________________

Presently Employed (Circle One)  
Yes, Full-time  
Yes, Part-time  
No

Occupation ________________

Presence of physical or medical problems  
No  
Yes (specify) ________________

Presence of emotional problems  
No  
Yes (specify) ________________
Family Member #2

Age: ________  Sex (Circle One):  Male  Female

Relationship to You (Circle One):  Spouse  Partner  Parent  Grand-parent  Sibling  Other (specify) ________________

Highest level of education completed (Circle One):

Grade 8 or less  Trade School or College Diploma
Some High School  Some University
High School Diploma or Equivalent  University Degree
Some Trade School or Community College  Other (specify) ________________

Presently Employed (Circle One)  Yes, Full-time
Yes, Part-time
No

Occupation  __________________________

Presence of physical or medical problems  No
Yes (specify) __________________________

Presence of emotional problems  No
Yes (specify) __________________________
# Family Member #3

**Age:**

**Sex (Circle One):** Male  Female

**Relationship to You (Circle One):**
- Spouse
- Partner
- Parent
- Grand-parent
- Sibling
- Other (specify) __________________________

**Highest level of education completed (Circle One):**

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**Presently Employed (Circle One):**
- Yes, Full-time
- Yes, Part-time
- No

**Occupation**

- __________________________

**Presence of physical or medical problems**
- No
- Yes (specify) __________________________

**Presence of emotional problems**
- No
- Yes (specify) __________________________
Family Member #4

Age:_________  Sex (Circle One):  Male  Female

Relationship to You (Circle One):
Spouse
Partner
Parent
Grand-parent
Sibling
Other (specify) __________________________

Highest level of education completed (Circle One):
Grade 8 or less
Some High School
High School Diploma or Equivalent
Some Trade School or Community College
Trade School or College Diploma
Some University
University Degree
Other (specify) __________________________

Presently Employed (Circle One)
Yes, Full-time
Yes, Part-time
No

Occupation

Presence of physical or medical problems
No
Yes (specify) __________________________

Presence of emotional problems
No
Yes (specify) __________________________
Please rate your overall level of satisfaction with your relationship on a scale from 0 to 5, where 0 represents "Extremely Dissatisfied" and 5 represents "Extremely Satisfied".
APPENDIX B

Intake Workers/Psychology Intern Statements
Participant Recruitment Form
For Intake Staff

Primary Investigator: Catherine Tsagarakis, MA
Supervisor: Robert Orr, Ph.D. C. Psych.

Inclusion Criteria:

1. no evidence of developmental delay
2. no severe motor or language problems
3. no pervasive developmental disorder
4. referral complaint of behavioural/emotional problems

Statement to parents:

A doctoral student at the University of Windsor is conducting research examining parents' experiences with raising a child with behavioural difficulties. The study involves filling out a set of questionnaires, and will take approximately 1 and 1/2 hours to complete. Individual feedback of your findings will be provided by the primary investigator. Would you be willing to allow the researcher to contact you and give you more detailed information about the study?

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Participant Recruitment Form

Primary Investigator: Catherine Tsagarakis, MA
Supervisor: Robert Orr, Ph.D. C. Psych.

Statement to parents:

- A doctoral candidate at the University of Windsor is conducting research examining parents' experiences with raising children with behavioural difficulties. The opportunity to participate in this study is being made available to individuals on the waiting list.

- The study involves filling out a set of questionnaires, and will take approximately 1 to 1 1/2 hours to complete. Time & place can be arranged with the researcher (she is willing to come to your home).

- Individual feedback of your findings will be provided.

- Participation or non participation in the study will not in any way influence your position on the waiting list.

- Would you be willing to allow the researcher to contact you and give you more detailed information about the study?

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APPENDIX C

Verbal Consent Forms
WINDSOR REGIONAL CHILDREN'S CENTRE
VERBAL RELEASE

____________________________________ verbally authorizes the Windsor Regional
(Name of Parent/Legal Guardian)

Children's Centre to release his/her name and telephone number to Catherine

Tsagarakis, M.A.

Catherine Tsagarakis will subsequently contact the aforementioned individual to provide
more detailed information about the study and to schedule a mutually convenient time
for participation.

____________________________________  ______________________
Intake Worker  Date
I, ________________________________ (please print)

authorize the Windsor Group Therapy Project to release my name and telephone number to Catherine Tsagarakis, M.A.

Catherine Tsagarakis will subsequently contact the aforementioned individual to provide more detailed information about the study and schedule a mutually convenient time for participation.

Participant’s Signature ____________________________ Date __________

Witness’s Signature ____________________________ Date __________
APPENDIX D

Consent Forms

245
The purpose of the present study is to gain a better understanding of your experiences with living and/or raising a child with behavioural difficulties.

For this study you will be asked to complete a series of questionnaires. They include rating your child’s difficulties, your own stress levels, the way you cope, resources available to your family, your relationship with significant people in your life, your own physical and emotional well-being, and other dimensions of family life. Completion of the questionnaires will take approximately 1 to 1 and 1/2 hours.

To confirm your consent for participation, please sign this form. This study has been approved by the Department of Psychology Ethics Committee at the University of Windsor and by the Windsor Regional Children’s Centre Research Evaluation Committee. Should you have any concerns prior to or after signing this form, please feel free to contact any of the following persons:

Investigator: Catherine Tsagarakis, M.A. 253-4232 ext. 2217
Supervisor: Robert Orr, Ph.D. 253-4232 ext. 2215
Ethics Committee: Roland Engelhart, Ph.D. 253-4232 ext. 2222
Evaluation Committee: Kathryn Cianci 257-5215

- I understand that I may ask any questions concerning the study prior to or after signing this form.

- I understand that my data will remain confidential even though the results of the study may be published. As well, the Windsor Regional Children’s Centre will be informed that I have or will participate in the study.

- I understand that participation is completely voluntary and that I have the right to withdraw from the study at any time by contacting Kathryn Cianci, Coordinator of Clinical Records, at 257-5215.

- I understand that participation or nonparticipation in the study will not in any way influence the course of our family’s involvement at the Windsor Regional Children’s Centre.

- I understand that I can receive a summary of the research findings by contacting the investigator at the end of the study, and that I may request individual feedback of my findings.

- I understand that there are no known potential risks associated with this study. The major benefit will be increasing my understanding of the stresses associated with raising a child with behavioural difficulties. As well, the information gained from participating in this procedure may be useful for treatment purposes. Therefore, I may request that my findings be presented to my child’s case manager.

I, __________________________ (please print), have carefully studied and understood this agreement, and I therefore freely consent to participate in this procedure.

_____________________________  __________________________
Signature Date

_____________________________  __________________________
Investigator’s Signature Date
The purpose of the present study is to gain a better understanding of your experiences with living and/or raising a child with behavioural difficulties.

For this study you will be asked to complete a series of questionnaires. They include rating potential child difficulties, your own stress levels, the way you cope, resources available to your family, your relationship with significant people in your life, your own physical and emotional well-being, and other dimensions of family life. Completion of the questionnaires will take approximately 1 and 1/2 hours.

To confirm your consent for participation, please sign this form. This study has been approved by the Department of Psychology Ethics Committee. Should you have any concerns prior to or after signing this form, please feel free to contact any of the following persons:

Investigator: Catherine Tsagarakis, M.A. 253-4232 ex. 2217
Supervisor: Robert Orr, Ph.D. 253-4232 ex. 2222
Ethics Committee: Sylvia Voelker, Ph.D 253-4232 ex. 2249

- I understand that I may ask any questions concerning the study prior to or after signing this form.
- I understand that my data will remain confidential even though the results of the study may be published.
- I understand that participation is completely voluntary and that I have the right to withdraw from the study at any time.
- I understand that participation or nonparticipation in the study will not in any way influence the course of our family’s involvement with the Windsor Group Therapy Project.
- I understand that I can receive a summary of the research findings by contacting the investigator at the end of the study, and that I may request individual feedback of my findings.

I, ____________________________ (please print), have carefully studied and understood this agreement, and therefore I freely consent to participate in this procedure.

__________________________________________  ________________
Signature                                 Date

__________________________________________  ________________
Investigator’s Signature                   Date
Conducted by: Catherine Tsagarakis, M.A.
Supervised by Robert Orr, Ph.D.
Department of Psychology
University of Windsor

The purpose of the present study is to gain a better understanding of your experiences with living and/or raising a child.

For this study you will be asked to complete a series of questionnaires. They include rating potential child difficulties, your own stress levels, the way you cope, resources available to your family, your relationship with significant people in your life, your own physical and emotional well-being, and other dimensions of family life. Completion of the questionnaires will take approximately 1 and 1/2 hours.

To confirm your consent for participation, please sign this form. This study has been approved by the Department of Psychology Ethics Committee. Should you have any concerns prior to or after signing this form, please feel free to contact any of the following persons:

Investigator: Catherine Tsagarakis, M.A. 977-8739
Supervisor: Robert Orr, Ph.D. 253-4232 ext. 2215
Ethics Committee: Roland Engelhart, Ph.D. 253-4232 ext. 2222

- I understand that I may ask any questions concerning the study prior to or after signing this form.
- I understand that my data will remain confidential even though the results of the study may be published.
- I understand that participation is completely voluntary and that I have the right to withdraw from the study at any time.
- I understand that I can receive a summary of the research findings by contacting the experimenter at the end of the study, and that I may request individual feedback of my findings.

I, ____________________________ (please print), have carefully studied and understood this agreement, and therefore I freely consent to participate in this procedure.

_________________________________  _________________________
Signature                        Date

_________________________________  _________________________
Investigator’s Signature         Date
APPENDIX E

Strategies for Coping with Parental Stress
STRATEGIES FOR COPING WITH PARENTAL STRESS

1. Take time for yourself. Taking care of your own emotional and physical health is just as important as taking care of your children's needs (i.e., go for walks, exercise, spend time with friends, etc.).

2. Take time as a couple. When you nurture your relationship, you will have more energy for parenting and will be better able to support each other and work as a team.

3. When feeling stressed and out of control "Take Time Out", try breathing deeply and slowly for approximately 1 minute until you feel calm and in control of your feelings.

4. Hold family meetings. Allow everyone a chance to speak and be heard. Focus on what works, not just on what is wrong. Communicate openly with family members in a responsible non-blaming manner.

5. Pin-point the problem. Think of what can be done to correct the problem to create positive change. Then act on the solutions identified.

6. When a problem cannot be changed, focus on what can be done to cope better (i.e., reduce stress by limiting commitments, set priorities, etc.).
7. Be informed. Parenting is a tough job! The more you know, the more control you will have in dealing with parenting problems more effectively. Literature on parenting can be found at any book store, such as:

* South Shore Book Store on Chatham Street
* the Resourceful Child on Pelissier
* Coles Book Store

8. Ask for help and support when you need it. Problems only get bigger when we try to carry the burden alone. Use family friends, support groups when available. Seek professional help when needed. Some support groups available are:

* St. Mary's Learning Centre, 795 Giles Blvd. East. Windsor,
  Tel. 252-9696
* The Well-Come Centre, 142 McKay Ave. Windsor,
  Tel. 971-7595

9. Provide consistent discipline, firm limits, and adequate supervision for your child. Your child's behaviours will improve, and consequently you will feel less stressed.

10. Set aside some time, and plan activities for the whole family to do together (e.g., go on vacation, eat meals). The family feels happier when there is closer involvement among family members.
APPENDIX F

Participant Recruitment Form
A graduate student, Catherine Tsagarakis, is presently conducting research examining parents' experiences with raising children between the ages of 6-11.

The study involves filling out a set of questionnaires examining variables such as stress, coping, physical & emotional well-being, and other dimensions of family life. Completion of the questionnaires will take approximately 1 to 1 and 1/2 hours.

To be eligible for participation in this study the following criteria need to be met:
1) parents/guardians should have at least one child between the ages of 6 to 11
2) children in the family should show no evidence of developmental delays, severe motor or language problems
3) children should not be receiving or be in the process of receiving services for behavioural and/or emotional problems.

The participants' spouses or partners are also welcome, and even encouraged, to participate in the study.

Interested individuals should write their names and telephone numbers in the spaces provided below. The investigator will contact them to provide further information (e.g., date and time of the study) or answer any questions.

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Catherine Tsagarakis was born on May 21, 1968 in St. John's, Newfoundland. In June, 1986 she graduated from high school in Rethymonn, Crete, Greece. In September, 1986 she enrolled in the philosophical and social studies programme at the University of Crete. Catherine transferred to McGill University, Montreal, Quebec in September, 1988 and graduated with a Bachelor of Arts degree (Psychology) in June, 1990. Since September, 1990 she has been registered in the doctoral program in Adult Clinical Psychology at the University of Windsor. Catherine completed her Master of Arts degree requirements in October, 1992. At the present, she is involved in research and teaching.