THE ASSOCIATION BETWEEN DIVORCE AND PATTERNS OF CHILD ADJUSTMENT

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Abstract

Previous research has indicated that although children from divorced families on average are not as well adjusted as children from intact families, there is a great deal of variability in how these children adjust to the divorce of their parents. In an effort to investigate the within-group variability of children of divorced families the generalizability of clusters of adjustment found by E. M. Hetherington (1989, 1993) was investigated. Data were gathered from 137 boys and girls primarily between the ages of 12-14 years. Participants came from both divorced and intact families. Measures included the Child Behavior Checklist – Youth Self-Report (YSR), the Bar-On Emotional Quotient Inventory: Youth Version (EQ-I: YV), a measure of students' sense of school values and competence (SSVC), and an interview focusing on parents' marital histories.

Data for the main sample were submitted to a squared Euclidean cluster analysis using Ward's method of agglomeration. The stability and validity of the derived clusters was investigated via internal replication and a double-cross validation using multiple discriminant analysis. The clusters obtained from the main sample did not evidence a high level of consistency across different subsets of the sample and the correct classification rates were low thus indicating a lack of homogeneity within clusters and discreteness between clusters. No evidence was found for distinct patterns of adjustment within the sample. Possible explanations for the findings are discussed along with the issue of obtaining an adequate sample of children from divorced families.

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List of Abbreviations

Abbreviation of Instruments:

EQ-I: YV.....Emotional Quotient Inventory: Youth Version

SSVC .....Sense of School Values and Competence Questionnaire

YSR.....Youth Self-Report Scale

Abbreviations of the Various Groups Used for Analyses:

ADJ.....All participants (N=137) clustered on the original 13 variables

ADJ-1.....Random subsample of the ADJ group (N=68) used for validity purposes

ADJ-2.....Random subsample of the ADJ group (N=69) used for validity purposes

EXT.....Main sample (N=133) used for the analysis involving the Internalizing and Externalizing composites and the EQ-I: YV scales

EXT-1.....Random subsample of the EXT group (N=66) used for validity purposes

EXT-2.....Random subsample of the EXT group (N=67) used for validity purposes

1. Introduction

1.1 Divorce and Child Adjustment

The increase in the divorce rate in North America has been a subject of increasing concern. It has been estimated that approximately half of all first marriages initiated in recent years will be voluntarily dissolved (Cherlin, 1992). In terms of Canadian statistics, an estimated 36% of Canadian marriages are expected to end in divorce. In 1998 over 69,000 Canadian couples divorced and thirty-one percent of these divorces involved custody orders for approximately 40,000 children (Statistics Canada, 2000). Based on a recent Canadian study, it was found that approximately 21% of 10 year old children had experienced the divorce/separation of their parents (Marcil-Gratton, 1998). The increase in divorce has had major implications for the environments in which children are nurtured and socialized (Amato, 2000). The well-being of children whose parents have experienced marital transitions, such as divorce and remarriage, has received considerable attention from researchers, mental health workers, educators, politicians, and the press (Hetherington & Stanley-Hagan, 1999).

There is a great deal of diversity in the adjustment patterns of children who have experienced the divorce of their parents (Hetherington, 1993). Divorce and life in a single-parent family are often associated with an increase in stressful life events and disruptions in family functioning that place children at risk for developing problems in adjustment (Amato & Keith, 1991; Hetherington, 1985). Divorce may also, however, represent a chance for escape from conflict, for more harmonious, fulfilling relationships, and the opportunity for greater personal growth, individuation, and well-

being (Hetherington & Stanley-Hagan, 1999). Although it is agreed that divorce and other marital transitions (e.g., remarriage) can present children and families with new experiences, risks, and resources, there is some disagreement on how these factors detract from or contribute to the well-being of children (Hetherington, Bridges, & Insabella, 1998). Amato (2000) has noted that there is a contentious debate regarding the consequences of marital disruptions for both adults and children. He notes that some scholars view the two-parent family as the fundamental institution of society and the mechanism which allows children to develop into healthy, competent, and productive citizens. In contrast, other researchers support the perspective that both adults and children can find fulfillment and develop successfully in a variety of family structures. Although it is likely that few researchers can be categorized as wholeheartedly endorsing one perspective over the other, such a dichotomy is suitable for describing the literature on divorce and marital transitions.

Remarriage is a common occurrence following divorce, and second-order marriages have an even greater likelihood of dissolution than first marriages (Cherlin, 1992). The multiple marital transitions experienced by some children of divorce may have varying effects. For the purpose of the present study, children from divorced families will be meant to refer to both children from divorced, single-parent families and children from remarried families unless otherwise specified. Although issues regarding remarriage will be touched upon, a thorough review of the literature focusing solely on remarriage is beyond the scope of this document.

Many comparisons have been made between children in divorced families and children in intact families. Although there is a general consensus that children in divorced families, on average, exhibit more problems than those in nondivorced families, there is less agreement as to the size and significance of these differences (Hetherington & Stanley-Hagan, 1999). A meta-analysis by Amato and Keith (1991) indicated that parental divorce was associated with lower well-being in children in the areas of academic achievement, conduct, psychological adjustment, self-esteem, and social relations. The study also found, however, that the differences between children from divorced and nondivorced families in these areas, although statistically significant, were weak. Other studies have found more pronounced differences in areas such as externalizing, social responsibility, and cognitive agency (Hetherington, 1991; Hetherington et al., 1992).

Despite this lack of consensus, it is agreed that the majority of children from divorced families do not exhibit severe or enduring behavior problems (Hetherington, 1999, Emery, 1999). Many parents and children experience an initial period of disrupted functioning after divorce. If the transition is not compounded by continued or additional stress and difficulty, most families recover within a 2-3 year period (Hetherington, 1993). Despite this generalization, most researchers and clinicians are becoming aware that children's responses to divorce, and the variables associated with it, are diverse and complex (Hetherington, 1999; Hetherington et al., 1998). Some children show intense and enduring deleterious outcomes, while others show delayed effects, seeming to adapt well initially but then having difficulties that emerge later

(Hetherington, 1993). Previous research also indicates that a minority of children are able to cope constructively with divorce, emerging as psychologically enhanced, competent, and fulfilled individuals (Hetherington & Stanley-Hagan, 1999). One crucial point that should be made, however, is that even though the majority of children from divorced families rarely show signs of clinical maladjustment, the psychological pain that they experience due to the divorce of their parents is personally significant and should not be overlooked by researchers (Thompson & Amato, 1999).

By using the traditional focus on differences in average levels of adjustment between children from divorced and nondivorced families, it is difficult to detect the variability in adjustment patterns of children whose parents have divorced (Hetherington, 1993; Emery, 1999). In response to this limitation, methods such as cluster analysis and structural equation modeling have been utilized to enable researchers to examine the diverse patterns of adjustment associated with divorce, and the relationships among mediating and moderating variables (Hetherington & Stanley-Hagan, 1999). The present study is an effort to further investigate the relationship between divorce and the psychosocial, emotional, and educational adjustment of children. Specifically, the primary goal of this study is to examine whether distinct patterns of adjustment can be identified among the children of divorced parents. Such patterns of adjustment would explain why there are sometimes dramatic differences, in terms of adjustment, found between children from divorced and intact families, and why there can also be little to no differences found. Although divorce is a risk factor associated with maladjustment, other characteristics (e.g., temperament, marital

conflict, resources in the community) likely play a role (in addition to the divorce process) in determining adjustment. Thus it would not be expected that all children from divorced families would be more poorly adjusted than children from intact families.

1.2 Theoretical Perspectives

There have been numerous theoretical approaches taken to investigate the relationship between divorce and child adjustment. A brief overview of the main theoretical perspectives, as identified by Amato (1993) and Hetherington and colleagues (1998), will be provided along with the general status of the theory in the current literature (as assessed by the above authors). Although some support for each of the perspectives exists, no one theory appears to adequately explain the relationship between divorce and child adjustment. The five theoretical perspectives that have received the most scrutiny in the literature include (a) the family structure hypothesis, (b) the individual risk perspective, (c) the parental stress perspective, (d) socioeconomic disadvantage, and (e) the family process perspective.

Much of the early research on divorce focused on the "optimal" family structure (Hetherington et al., 1998). It was assumed that two biological parents living together provided the healthiest environment for children's development (Amato, 1993). Any deviation from this model was deemed as problematic. The family structure hypothesis views mothers and fathers as vital resources for children. Parents provide emotional support, practical assistance, guidance, information, and supervision (Amato, 1993). Divorce leads to a reduction in these resources which in turn increases the likelihood of problem behaviors in children.

Various hypotheses have been investigated in order to determine the applicability of the family structure hypothesis. First, if parental absence is a critical factor in divorce, contact with a noncustodial parent, or a stepparent, should improve children's adjustment (Hetherington et al., 1998). Furthermore, children who experience the death of a parent should exhibit similar levels of adjustment when compared to children from divorced families (Amato, 1993).

In terms of contact with the noncustodial parent, findings indicate little support for the position that sheer frequency of contact facilitates positive adjustment in children (Amato & Keith, 1991). It does appear, however, that the quality of the contact with noncustodial parents does play a role in children's adjustment (Amato, 1993). Although the addition of a stepparent might compensate for the loss of a parent via divorce, there are other factors to consider. With the addition of a stepparent children must make the transition to living within a new family structure with a much more complex kin network and family dynamic (Hetherington et al., 1998). There is little support in the literature for the notion that children of divorce will have fewer problems if the custodial parent remarries than if he or she remains single (Amato, 1993; Hetherington et al., 1998). Interestingly enough, some findings have indicated that children in remarried families are more poorly adjusted than children in divorced, single parent or intact families. Another noteworthy finding is that remarriage has been associated with some improvement for the well-being of boys (e.g., Hetherington, Cox, & Cox, 1985).

In terms of the death of a parent, studies have found that although children who have lost a parent, due to either death or divorce, have more problems than those in nondivorced families, significantly more problems are found for children from divorced families when compared to children whose parents have died (Hetherington et al., 1998). As is characteristic of most of these perspectives, the family structure hypothesis receives mixed support. What does seem clear is that this perspective appears to be a somewhat simplistic approach and the evidence indicates that there are other relevant factors to consider other than the absence of a biological parent.

The individual risk perspective proposes that characteristics of both parents and children may influence their exposure and vulnerability to adversity (Hetherington et al., 1998). This perspective supports the notion that characteristics that are commonly thought to be the effects of divorce on children and adults (e.g., depression, antisocial behavior, etc.) are actually stable characteristics of the individuals who experience these transitions. Some adults possess characteristics such as antisocial behavior, depression, and poor problem-solving skills that place them at risk for experiencing marital discord and multiple marital transitions. Such characteristics are also likely to have an influence on other areas outside the family as well. Proponents of this approach therefore argue that the relationship between divorce and adjustment is spurious. Children may inherit these maladaptive qualities thus explaining the divorce-adjustment relationship. Studies have found that when antecedent levels of problem behaviors are controlled, differences between children from nondivorced and divorced families are greatly reduced (e.g., Cherlin et al., 1991). Although there are alternative explanations for these findings (e.g.,

the divorce process may begin long before physical separation, divorce may be the result of having a difficult child) there is evidence to support the notion that divorced families have certain stable characteristics (Jockin, McGue, & Lykken, 1996; Hanson, 1999). This perspective is also known as the selection hypothesis and will be elaborated on below.

The parental distress perspective proposes that a parent's response to stress is the relevant factor for determining a child's adjustment (Hetherington et al., 1998). Proponents of this approach argue that the mental health of parents in divorced families affects children's adjustment through diminished competence in their parenting (Hetherington, 1993). Parents who are experiencing a divorce are at risk for psychological disorders and various other health related difficulties (Hetherington et al., 1998). Studies have found that even temporary disruptions in parents' health, social, and psychological functioning may make it difficult to competently parent children who are dealing with the divorce and/or remarriage of their parents (e.g., Hetherington, 1989). This inept parenting likely has a negative effect on children's adjustment. Although this perspective has obtained some support in the literature, it is seen as only one component in understanding the relationship between divorce and child adjustment and also indicates that family process variables are perhaps more relevant in determining children's adjustment to divorce.

The economic hardship perspective assumes that it is the financial disadvantage experienced by many divorced families that is primarily responsible for the problems faced by children of divorce (Amato, 1993). The majority of children live with their

mothers following divorce, and custodial mothers often experience a severe decline in their standard of living following such a transition (Cherlin, 1992). This decline may increase the risk of various problems for children. For example, single mothers may not be able to afford resources that facilitate academic success (e.g., private lessons, computers, books) and limited finances may also negatively affect children's nutrition and health (Amato, 1993).

The economic hardship perspective has received mixed support. If financial difficulties adequately explained the relationship between divorce and child adjustment then it would be expected that differences in adjustment between children in divorced and intact families are reduced or eliminated if postdivorce family income is statistically controlled (Amato, 1993). Studies have found that differences still remain after such an analysis (Amato & Keith, 1991; Simons et al., 1996). It would also be expected that children in father-custody families and stepfamilies would exhibit fewer behavior problems than those in divorced mother-custody households given that the former tend to have higher income levels than divorced, nonremarried mothers (Hetherington et al., 1998). Although children in father-custody families do show fewer problems than those in mother-custody households, a difference still remains even when income is statistically controlled (Clarke-Stewart & Hayward, 1996, cited in Hetherington et al., 1998). As noted above, children from stepfamilies are rarely found to have fewer problems in adjustment when compared to children from mother-custody families (Amato & Keith, 1991). Although some studies have found that as much as half the effects of divorce on children's adjustment are attributable to economic factors (e.g.,

McLanahan & Sandefur, 1994) others have found no direct effects for income (Demo & Acock, 1996, cited in Hetherington et al., 1998). Hetherington and her colleagues (1998) note that studies that have found direct effects have had representative samples but inadequate measures for other relevant variables (e.g., family process variables). Alternatively, other studies have found that the negative effects of economic hardship and family structure can be mediated by inept parenting (Simons & Johnson, 1996).

The family process perspective holds that although the variables mentioned above may impact children's adjustment, they are largely mediated by disruptions in family relationships and interactions (Hetherington et al., 1998). Proponents of this approach argue that without disruptions in family functioning, it is unlikely that divorce will compromise children's adjustment. As with the individual risk perspective, this approach argues that the relationship between divorce and child adjustment is spurious and that family process variables largely mediate the consequences of divorce and marital transitions. Family process variables include interparental conflict, parenting styles, and the quality of the relationship between the child and various parental figures (e.g., biological parents, stepparents) (Hetherington et al., 1998).

The family process perspective has received a good deal of support in the literature (Hetherington, 1998; Amato, 1993). In support of interparental conflict influencing children's adjustment, it has been found that children in high-conflict, nondivorced families have more problems in psychological adjustment and self-esteem than do those in divorced families or in low-conflict, nondivorced families (Amato & Keith, 1991). Parent-child relationships are also important in that it has been found that

when parents are authoritative and the family environment is harmonious and cohesive, differences between the adjustment of children in divorced families and those in nondivorced families are reduced (Hetherington et al., 1998).

Although the family process perspective has received the most support in recent literature it has not explained the whole relationship between divorce and child adjustment. Studies have found that even when family process variables are accounted for there still remains a significant relationship between child adjustment and divorce (Hanson, 1999). Researchers have begun to realize that attempting to estimate the relative effects of the above variables is not a productive solution and that no single model can account for the relationship between divorce and child adjustment (Hetherington et al., 1998; Amato, 1993).

In a recent review, Amato (2000) categorized the numerous theories and conceptual perspectives that have been used to explain the relationship between divorce and child adjustment into two main categories. The majority of studies on divorce have made the assumption that divorce is a stressful transition to which children and adults must adjust. The divorce-stress-adjustment perspective is a combination of various stress theories that have been presented in the literature and, due to the numerous commonalities among these theories, a general theory was deemed appropriate (Amato, 2000). This perspective views divorce as a process that begins while the couple lives together and ends long after the legal divorce is concluded. This process typically sets into motion numerous events that are considered to be stressful (e.g., loss of contact with one parent, economic decline, periods of increased conflict). Such stressors, in

turn, lead to an increased risk of negative emotional, behavioral, and health outcomes for both children and adults. The severity and duration of these deleterious outcomes varies from person to person, depending on the presence and combination of mediating and moderating factors (i.e., risk and protective factors).

Viewing divorce as a process as opposed to a single event is beneficial in that it allows for researchers to gain a wider understanding of the accompanying consequences for both children and adults (Amato, 2000). From this perspective, the first effects of divorce could occur years before separation and legal dissolution. Spouses may spend considerable time and effort trying to improve the relationship or simply ignore the problematic issues. Both methods could influence various aspects of a child's and parent's life. Another aspect of this perspective is the realization that members of divorcing families can experience different trajectories of stress and adjustment. As noted above, the combination of mediating and moderating variables can influence the consequences of divorce for children. For example, an older child may experience relief at the physical separation of his or her parents due to the subsequent reduction in conflict and stress in the home. Alternatively, a younger child in the same family may experience considerable anxiety because he does not comprehend fully why his parent is leaving.

In addition to age, numerous other variables may influence the effect of divorce on children's adjustment. A child's cognitive characteristics, gender, ethnicity, social support, and access to community services are all possible moderating factors (Amato, 2000). It has become clear that the configuration of both moderating and mediating

variables can facilitate resilience in some children whereas others become vulnerable to developing difficulties in various areas (Amato, 2000). Proponents of the divorce-stress adjustment perspective explicitly focus on the contingencies that lead to negative, positive, or mixed outcomes for individuals from divorced families. The difficulty with this approach is that as families experience marital transitions, the various risk and protective factors fluctuate. Situations change during and following divorce and there are significant differences among children in the balance of risk and protective factors over time (Hetherington & Stanley-Hagan, 1999). The interactions between individual, family, and extrafamilial risk and protective factors are associated with "diverse developmental trajectories and with children's vulnerability or resiliency in coping with divorce" (Hetherington &Stanley-Hagan, 1999, p.130). This complex relationship among relevant variables likely plays a role in the sometimes conflicting results found regarding the adjustment of children experiencing marital transitions (Hetherington et al., 1998).

The main alternative to the divorce-stress-adjustment perspective is the selection perspective which is based on the notion that poorly adjusted people are selected out of marriage (Amato, 2000). Adults are seen as possessing problematic personal and social characteristics (e.g., antisocial personality traits, depression) that predispose them to divorce and also exhibit signs of poor adjustment after the marriage ends. In terms of children, it is assumed that at least some child problems are present during the marriage and that they are caused by dysfunctional family patterns that are the result of inherent parental characteristics (e.g., antisocial personality traits). Problematic characteristics

may be genetically predisposed as well, based on recent findings (see Jockin, McGue, & Lykken, 1996). Studies do support the notion that some child difficulties are present prior to divorce (e.g., Cherlin et al., 1991) and adults who have antisocial personality traits, are depressed, and have a history of psychological problems, do have an increased risk of getting divorced (Amato, 2000). In contrast to the divorce-stress-adjustment perspective, which assumes that marital disruption causes adjustment problems, the selection perspective assumes that adjustment problems cause marital disruption (Amato, 2000).

Researchers appear to be reaching a consensus that both the selection perspective and the divorce-stress adjustment perspective are valid when looking at the relationship between divorce and child adjustment (e.g., Hetherington, 1998; Amato, 2000). Evidence can be found to support both approaches and the purpose of the above discussion is to emphasize the myriad of hypotheses that have been investigated and the difficulty that underlies establishing a well-defined theory on this complex issue.

1.3 Literature Review

The relationship between divorce and child adjustment has been investigated by researchers from a variety of disciplines. Amato (2000) has noted that "the extent and diversity of divorce scholarship pose[s] a sobering challenge to any reviewer attempting to synthesize current knowledge on this topic" (p. 1270). Various reviews of the literature have been published in recent years (e.g., Hetheringtonet al., 1998; Hetherington, 1999; Amato, 2000) and one of the difficulties in gaining a comprehensive understanding of this area is that the existing studies cover a wide

variety of topics and age ranges and it becomes difficult to comprehend the broader picture of how children adjust to the divorce of their parents.

Due to the abundance of empirical studies, the present review will primarily focus on studies conducted since 1991 with strong methodological approaches. Specifically, I will primarily include studies that have used larger samples of children (over 100 participants) between the ages of 9-15 years.

Emery (1999) has identified some key methodological issues that are relevant to the investigation of divorce and child adjustment. One issue that must be addressed in divorce research is that of the generalization of findings (Emery, 1999). Emery notes that many researchers and consumers of research have erroneously generalized findings from small unrepresentative samples to the entire population of families who have experienced or will experience divorce. One of the primary weaknesses in divorce research is the lack of empirical investigation into how divorce differentially affects various ethnic and socioeconomic groups (Hetherington & Stanley-Hagan, 1999). Generalization from clinic samples to nonclinic populations is also a common occurrence (Emery, 1999). This approach is problematic in that the large majority of divorced families are never seen by a mental health professional and those that are, are likely to experience different processes and outcomes (Emery, 1982, cited in Emery, 1999). As with other areas of research, researchers investigating divorce and child adjustment should be explicit in describing their samples and should note for whom their findings are most applicable.

The issue of cohort effects is also relevant in this area of research (Emery, 1999). Individuals whose parents divorced in the 1960's or 1970's likely had very different experiences from those whose parents divorced in the 1980's or 1990's. Divorce has become much more common and accepted and those individuals from the earlier cohorts may have experienced more adversity than those in recent cohorts. Rapidly changing social and legal policies are very plausible factors in terms of differential outcomes for children who have experienced the divorce and/or remarriage of their parents. Attention should be given to when the study was implemented and how appropriate it is to compare the results to studies that did not occur in the same time period. Although longitudinal studies are vital resources of knowledge in this area one must consider if it is appropriate to generalize findings from a sample of children who experienced the divorce of their parents in the early 1980's to children who are growing up in the current social and technological environment.

A measurement-related issue is that of "biased" raters (Emery, 1999). Raters who commonly provide evaluations of children from divorced and intact families (e.g., parents, teachers) are often aware of many of the child's other characteristics and they may be biased by this knowledge. For example, a teacher may be aware that a student is from a divorced family and therefore may view that child as more problematic than if the student were from an intact family. Biases can occur in both positive and negative directions and although this problem cannot be circumvented entirely, one partial solution is to obtain multiple informants to decrease the chance of systematic bias.

Temporal influences should also be noted when investigating children's adjustment to divorce (Emery, 1999). Emery has noted that three variables are often perfectly confounded with each other in divorce research: (1) the age of the child at the time of the separation or divorce, (2) the child's current age, and (3) the length of time that has passed since the separation or divorce. Such relationships make it difficult to determine support for various hypotheses. For example, assume that a researcher finds that when children are assessed at 13 years of age it is found that children who were 4 years old when their parents divorced had more adjustment-related problems than children who were 8 years old at the time of divorce. This evidence would be consistent with the hypothesis that divorce is more harmful when it occurs when children are younger. It is also consistent, however, with the hypothesis that children develop more problems the longer they live in a single-parent family (Emery, 1999). It is likely that these three variables all have a significant influence on children's adjustment to divorce and they must each be addressed in order to reduce the risk of adding to the complexity in interpreting the findings of divorce research. Unfortunately, there are no solutions for clarifying the independent effects of perfectly confounded variables (Emery, 1999). This issue will be readdressed below.

Many variables have been explored to examine the relationship between divorce and children's adjustment. Researchers have focused on various ecological levels including individual, familial, and extrafamilial characteristics. The studies most relevant to each ecological level will be reviewed and critiqued.

1.3.1 Individual Variables

At the individual level, the most commonly investigated characteristics include age, gender, personality, and temperament (Hetherington & Stanley-Hagan, 1999). Children's cognitions, reactions to stressful life events, and their coping strategies have also been explored (Lengua, Sandler, West, Wolchik, & Curran, 1999).

Child age and gender have been investigated as characteristics that may influence children's adjustment to divorce (Hetherington & Stanley-Hagan, 1999). The findings regarding the relationship between the age of the child from a divorced family and adjustment are mixed and somewhat contradictory. One of the difficulties in investigating age as a possible moderating factor, as noted above, is that it is often confounded with the amount of time that has passed since the marital disruption and the age at the time of the separation.

The first and most thorough study that attempted to disentangle these variables was implemented by Allison and Furstenburg (1989). This longitudinal study consisted of a nationally representative sample of 1197 children with 328 being from divorced/separated families and the remainder coming from intact families. Children ranged between the ages of 7-11 years at the first stage of the study. Researchers collected information on three broad areas: problem behavior, psychological distress, and academic performance. Parents and children were personally interviewed in 1976 and teachers were sent a package in the mail to obtain academic ratings. In 1981, parents and children were interviewed over the phone with teachers again receiving a

mailed package. Over 82% of the designated sample was retained in the second wave of data collection.

The researchers found that, overall, children who were younger (i.e., preschool years) when their parents divorced were more adversely affected than children who were older at the time of divorce (Allison & Furstenberg, 1989). In order to address the alternative hypothesis that the amount of time since the divorce/separation was actually the relevant factor, the authors divided the children from divorced families into two groups (excluding those children whose parents had divorced or separated after 1976) according to whether or not the separation had occurred in the period between 1972-1976 or 1967-1971. Within each group the effects of divorce on well-being in both 1976 and 1981 were compared. If the effects of divorce increased with time since separation then it would be expected that the regression coefficients would be significantly larger in 1981 than in 1976. No such increases were found and some effects declined with time (depending on different raters).

One of the strongest aspects of this study is that it is a multi-age longitudinal study that allowed for the ruling out of a strong alternative hypothesis. Another strength was the large representative sample that was utilized (Allison & Furstenberg, 1989). This study provides the strongest evidence to date that divorce is more difficult for younger children (Emery, 1999). It is noteworthy, however, that the effects for age at separation were small and only significant for 1 of 19 measures (although the pattern favored the late separation group across measures). The main limitations of this study are that the reliability of some of the measures were somewhat below psychometric

standards, and the second wave of data were gathered via telephone interviews which precluded any direct observation of the children and parents in order to assess any types of biases. The authors do note, however, that despite the flaws in the measures statistically reliable results were found and these differences were often consistent across parents, teachers, and children.

One of the benchmark studies on divorce and child adjustment was published by Amato and Keith in 1991. This meta-analysis was performed in order to address the discrepant conclusions sometimes found in the literature regarding the differences between children from divorced and intact families as well as differences amongst children from divorced families. The study addressed three main questions: (a) How large are the differences between children in divorced and intact families on measures of well-being? (b) Are these pooled differences statistically significant?; and (c) Are these differences larger for some outcomes than for others? The researchers selected ninety-two studies based on the following criteria: (a) studies had to contain a sample of children living in single parent families formed through divorce or separation as well as a sample of children from continuously intact children, (b) studies had to have at least one quantitative measure of well-being, (c) data from each study had to be presented in a form that allowed for the calculation of at least one effect size, and (d) studies had to involve children. Measures of well-being included academic achievement, conduct, psychological adjustment, self-concept, social adjustment, mother-child relations, and father-child relations.

In terms of the age of the child, Amato and Keith (1991) found significant negative effects primarily for children of divorce in primary school and high school on the variables of psychological adjustment, social adjustment, mother-child relations, and father-child relations. Although these findings may indicate children from divorced families tend to experience an increase in adjustment problems during the middle stage of their development, one problem noted by the authors is that only a minority of the studies included the number of years that had passed since the divorce or separation of the parents. This lack of information makes it impossible to arrive at definitive conclusions regarding the relationship between age and children's adjustment to divorce.

The exclusive focus on the age of the child, whether it be at the time of the divorce or the time of the assessment, seems to be waning. Prominent researchers such as Amato (2000) and Emery (1999) have stated that few studies have found that age at time of the marital disruption matters. The prevailing approach seems to be that the relationship between age and marital disruptions is not a linear one and that children's responses likely fluctuate throughout their development. As noted previously, most children and families take an average of two years to return to predivorce levels of adjustment, and even then periods such as adolescence can be especially tumultuous for children from divorced families. Previously well-adjusted children can experience problems during these times and for those children that have already been experiencing difficulties, adolescence could be even more traumatic (Hetherington, 1993). It is likely that the difficulty in isolating the effects of temporal variables such as age, and the fact

that many other adjustment-related variables have become the focus of empirical studies (e.g., family process variables), that age-related variables have not been the sole focus of recent studies.

The investigation of child gender as a possible moderating factor of children's adjustment to marital disruptions is also somewhat confusing and contradictory. Early research indicated that divorce had more deleterious effects on the adjustment of boys and that remarriage had more negative effects on the adjustment of girls (Hetherington & Stanley-Hagan, 1999). These gender differences are less likely to be found in recent studies of divorce.

The meta-analysis performed by Amato and Keith (1991) found that boys and girls from divorced families did not differ significantly in terms of the extent to which divorce was associated with problems in adjustment. There was one exception which was found with social adjustment where boys exhibited more difficulty than girls. Overall, the results of this meta-analysis indicated that when a large number of studies are considered, sex differences are not as pronounced as previously thought.

Allison and Furstenberg (1989) also examined gender differences in adjustment to divorce and remarriage and found that for the majority of measures marital dissolution did not appear to have a differential effect on boys and girls. Of the three outcome measures that did differ (teacher's report of problem behavior, child report of dissatisfaction, and child report of distress) it was found that marital dissolution had more negative effects for girls than for boys. These authors did not find any substantial evidence to support the hypothesis that boys experienced more adjustment problems in

divorced, single-mother families and girls experienced more difficulties in remarried families.

Hetherington (1993) examined family type X gender interactions in the Virginia Longitudinal Study of Divorce and Remarriage and found various results depending on the age of the children. This pivotal study began when the children were four years of age. The initial sample included 144 families, half of which were divorced and half nondivorced with an equal distribution of boys and girls. The families in the divorced group had been separated between 12 and 18 months at the time of divorce. The children and families were studied at 2 months, 1 year (5 years old), 2 years (6 years old), 6 years (10 years old), and 11 years (15 years old) following divorce. There was also a truncated assessment, involving telephone interviews and mailed questionnaires, when the children were approximately 13 years old. In the fourth stage of data collection (six years after divorce), the sample was expanded to include 180 families evenly distributed across nondivorced, divorced, nonremarried mother custody, and stepfather families and across boys and girls. In the fifth stage (11 years after divorce), 121 of the original families participated in the study and the sample was again expanded to 300 families balanced across family type and sex of child. All of the additional families were matched to the original subjects on family size, age, education, income, and length of marriage, and when appropriate, length of time since divorce and time of remarriage.

Although the specific measures changed as the study progressed, the researchers maintained a consistent focus on the constructs which they wished to measure

(Hetherington, 1993). Throughout the study, measures of internalizing, externalizing, social and cognitive competence, and self-esteem in children were obtained. Adult measures included depression, anxiety, antisocial behavior, self-esteem, social competence, conflict/negativity, warmth/support, control, monitoring, communication, and maturity demands in parenting (Hetherington, 1993). Measures were obtained from multiple informants (i.e., parents, teachers, peers, and the child) using multiple methods (i.e., observation, interviews, standardized tests) (Hetherington, 1989).

For preadolescent children, Hetherington, Cox, and Cox (1985) found that boys from divorced, single-mother families experienced long-term difficulties, whereas girls from this type of family eventually evidenced adjustment similar to girls in nondivorced families. A different picture emerged for children where custodial mothers remarried. Results indicated that while both boys and girls from this type of family experienced more externalizing problems than children in nondivorced families during the following 2 years after remarriage, boys who had been in a remarried family for over two years did not differ significantly from boys in nondivorced families with the exception of being seen having more externalizing problems by stepfathers. Girls, on the other hand, were viewed by their stepfathers and teachers as having more problems than girls in nondivorced families. One result that remained constant throughout the study was that girls were viewed as being more socially competent in comparison to boys.

In terms of adolescent adjustment, Hetherington (1993) found that by age 15 both boys and girls from divorced, single parent, and remarried families were exhibiting more problems in all areas when compared to children from nondivorced families.

Hetherington also reported that the Gender X Family Type interactions were no longer apparent in adolescence. One possible reason that has been provided for these diminished gender effects is the increased involvement of fathers following divorce (Maccoby & Mnooking , 1992, cited in Hetherington, 1999). Similar results regarding the lack of gender effects during the adolescent period can be found in another longitudinal study by Hetherington et al. (1992).

Interestingly, Hetherington (1993) found that girls from divorced families experience more diverse outcomes in comparison to boys. Divorce is associated with psychosocial enhancement for some girls and excessive symptoms of depression and low self-worth for others (Hetherington, 1993). In a cluster analysis, Hetherington (1993) found a cluster of children that was overrepresented by girls from divorced, single mother families. These girls appeared to be enhanced by dealing with the responsibilities, independence, and challenges associated with divorce, in a supportive environment. Another cluster was also overrepresented by girls from divorced, single mother families and was characterized by high social responsibility and cognitive agency but the individuals in this cluster appeared to have been overburdened with responsibility and experienced the negative symptoms mentioned above. The fact that divorce is associated with increased problems in adjustment for some girls, and enhanced adjustment for others, serves to emphasize the variability in the adjustment patterns of children of divorced families.

As with the investigation of age as a moderating factor, results for the gender of the child have been mixed. There does seem to be some consistency across studies that

girls from divorced families are seen as more socially competent than boys. Some studies find differences between genders depending on the age of the child, whereas others find no such differences. These inconsistencies are likely indications that other factors are more relevant in determining the relationship between divorce and child adjustment.

Researchers have established that various dimensions of temperament are related to the adjustment of children (Rothbart & Bates, 1998). Temperament has been conceptualized as relatively stable, physiologically based differences in reactivity and self-regulation (Rothbart & Bates, 1998). Reactivity can be further broken down into two independent systems consisting of positive and negative emotionality. Positive emotionality involves such things as smiling, laughter, and sensitivity to positive environmental cues, whereas negative emotionality involves sensitivity to negative environmental cues and differences in arousal of fear and frustration (Rothbart & Bates, 1998). Self-regulation involves processes that modulate reactivity, including attention, impulsivity, and inhibition (Rothbart & Bates, 1998). Although the relationship between temperament and child adjustment has received considerable attention (e.g., Rothbart & Bates, 1998) few studies have focused specifically on the adjustment of children of divorce (Lengua et al., 1999).

Hetherington (1989) investigated the relationship between temperament and the adjustment of children of divorce. The following findings are based on the 6-year follow-up of the Virginia Longitudinal Study of Divorce and Remarriage. The children in the study were 10 years of age and the follow-up occurred 6 years after the parents in

the divorced group had divorced. It was found that temperament ratings (e.g., irritability, soothability, fearfulness, activity, etc.) by nurses during the first 2 years of life predicted post-divorce adjustment. In some conditions parents were also found to respond differently to temperamentally difficult child. Maternal personality characteristics and levels of stress appeared to be the relevant factors. Mothers who had stable personality characteristics and experienced low levels of stress did not respond any differently to their difficult child than did mothers of easy children. Mothers who experienced such things as depression, irritability, and anxiety, or high levels of stress, did however, respond more negatively to their difficult children than did mothers of easy children. These effects were more likely to occur with divorced, nonremarried mothers. Similar patterns were also found for fathers and stepfathers. Thus there appeared to be an interaction between parenting behavior and child temperament.

There has also been a focus in the literature on the interrelations of temperament with other individual characteristics in predicting post-divorce adjustment. Lengua et al. (1999) investigated the direct and indirect effects of temperament on threat appraisals, coping, and psychological symptoms of 9 to 12 year old children of divorce. The authors hypothesized that temperament variables (i.e., positive and negative emotionality, self-regulation) would have direct and indirect effects on psychological symptoms. Specifically, temperament was predicted to have indirect effects on symptoms through threat appraisal and coping. Temperament variables such as negative emotionality were hypothesized to lead to children viewing stressful events as more threatening which in turn increases their need for coping strategies. Negative

emotionality was also seen as leading to more avoidant coping strategies. Positive emotionality, on the other hand, was predicted to increase the likelihood of utilizing active coping strategies and viewing stressful events as less threatening. It was also predicted that children who were able to self-regulate would be more likely to use active coping strategies. Threat appraisals and coping strategies were also hypothesized to have direct effects on psychological symptoms.

The participants in this study were 223 mothers and their children who had taken part in a larger experimental trial of a preventive program for children of divorce (Lengua et al., 1999). Eighty-three percent of the families were selected from court records for petitions for divorce and the remainder were gathered through ads and referrals. Families needed to have the following characteristics: The parents needed to have been divorced for 2 years or less, mothers were not remarried or living with a partner, mothers had at least half-time residential custody of the child, and the child needed to be between the ages of 9-12 years. Of the larger sample from which this sample originated, 73 subjects were excluded from the analysis due to incomplete measures or withdrawal from the study. An additional 28 families were screened out of the main study because they obtained extremely high scores on measures of maladjustment and thus were deemed inappropriate for a preventive intervention. The sample for this study was mainly composed of Caucasian families (89%).

Mothers and their children were interviewed in their homes and then approximately 2 weeks later at the research center (Lengua et al., 1999). Data were

gathered on the above measures and then submitted into a path analysis to test the hypothesized relations among temperament, threat, coping, and symptomatology.

The results of the study varied in terms of the consistency between mother and child report models (Lengua et al., 1999). In terms of the relations between temperament, threat, and coping, evidence was found for direct effects of child-report negative emotionality on children's threat perceptions. That is, children who were higher in negative emotionality were more likely to perceive events as threatening than children lower in negative emotionality. Contrary to the above hypothesis, negative emotionality was not found to be directly related to coping strategies; however, indirect effects were found via perceived threat. Positive emotionality was found to be related to lower threat appraisals and more active coping. The self-regulation measures (i.e., attention focusing and impulsivity) differed in terms of their relations to other variables. Impulsivity was negatively related to active coping whereas no relation was found between coping and attention focusing. The latter finding is inconsistent with previous research and the authors note that the narrowness of their measure for this construct may be a plausible reason for the lack of a relationship.

In terms of the effects of temperament, threat and coping on symptomatology, all of the aforementioned variables were found to be significantly related to symptoms with the exception of coping (Lengua et al., 1999). As predicted, negative emotionality and impulsivity were related to higher levels of symptoms, whereas attentional focusing and positive emotionality were related to lower levels of symptoms. Threat appraisals were also related to level of symptoms, with children who interpret harm or loss from

stressors being likely to experience greater distress, demoralization, or a sense of helplessness than other children. The authors note that the lack of a significant relation between coping and symptomatology may be due to the fact that part of the original sample was eliminated. The nonrandom exclusion of the children who were deemed inappropriate for a preventive intervention may have made it difficult to detect certain effects.

Lengua et al. (1999) note that there are two main limitations to this study. First, the sample was not representative of the population of children of divorce. Although the larger sample was representative of the target population some participants were considered inappropriate and thus the sample was not accurately represented in terms of the severity of adjustment problems. Second, the study employed a cross-sectional design which precludes making causal inferences. Despite these limitations the above study has significant positive attributes. Temperament variables were examined in relation to other relevant variables and submitted to a comprehensive analysis. These findings can be used to more accurately identify children who are at the greatest risk of developing adjustment problems following divorce.

The above study serves two main purposes in this discussion. First, it illustrates that temperament has both independent and potentially additive effects on children's responses to divorce (Lengua et al., 1999). Second, the results of this study serve to underscore the complexity of the interrelations among variables in terms of children's adjustment to divorce. The above model only incorporated three main variables in relation to children's adjustment to divorce. Investigations into how temperament, in

relation to other relevant variables (e.g., family processes, extrafamilial variables), is related to child adjustment to divorce are still needed.

Researchers have begun to place more of an emphasis on developing transactional models of relationships between variables that are relevant to divorce and child adjustment (e.g., Lengua, Wolchik, Sandler, & West, 2000; Hetherington, 1998). Lengua et al. (2000) investigated the interaction between parenting and temperament variables in predicting adjustment problems in children of divorce. Specifically, it was hypothesized that the relationship between children's adjustment and the parenting variables of maternal rejection and inconsistent discipline would depend on children's temperament. As will be discussed in the section on familial variables, the nature of the parent-child relationship has been found to be related to the adjustment of children of divorce and the interaction of parenting variables with temperament variables may lead to more accurate identification of children who will have difficulty adjusting to the marital transitions of their parents.

Lengua et al. (2000) investigated whether or not parenting behaviors had varied effects on children depending on their individual characteristics. The specific hypotheses were: (1) rejection and inconsistent discipline were expected to be more strongly related to adjustment problems for children high in negative emotionality than those low in negative emotionality, (2) rejection and inconsistent discipline were expected to be less strongly related to adjustment problems for children high in positive emotionality than those low in positive emotionality, and (3) rejection and inconsistent discipline were expected to be more strongly related to adjustment problems for

children low in self-regulation (as measured by impulsivity) than those who were low in impulsivity.

The 231 mothers and children in this study were selected from the same larger sample of participants that had been used to select participants for the previous study (i.e., Lengua et al., 1999). Again, 83% of the families were selected from court records for petitions for divorce and the remainder were gathered through ads and referrals. The same criteria were required for selection into the study as noted above and the sample was again mainly Caucasian (89%). As with before, children who scored in the extreme clinical ranges on the adjustment measures were excluded from the study as they were deemed inappropriate for a preventive intervention. Overall, there were 9 children in this category. The average age of the children in the sample was 10.3 years and the average time since divorce was 1.1 years.

The measures in this study consisted of positive emotionality, negative emotionality, impulsivity, parental rejection, inconsistent discipline, and depression and conduct problems (Lengua et al., 2000). Mother and child reports were gathered on measures and were combined in order to create cross-reporter composites of all constructs. The hypotheses were examined using hierarchical regression analyses to test the interactive effects of the temperament variables with the two parenting variables in predicting depression and conduct problems.

Results of the regression analyses indicated both parenting and temperament had direct effects on children's adjustment problems (Lengua et al., 2000). Parental rejection and inconsistent discipline were related to both depression and conduct

problems. In terms of temperament variables, negative emotionality significantly predicted depression, whereas, impulsivity predicted conduct problems. Positive emotionality was found to predict lower levels of both depression and conduct problems. Four interaction effects were also found in the study. Positive emotionality interacted with rejection to predict both depression and conduct problems such that those children higher in positive emotionality were less likely to experience adjustment problems than those low in positive emotionality when confronted with parental rejection. Impulsivity also moderated the relation between inconsistent discipline and both depression and conduct problems. Inconsistent discipline was found to be more strongly related to adjustment problems for children high in impulsivity than for children moderate or low in impulsivity.

Although some interactions were found between temperament and parenting variables, Lengua et al. (2000) note that only 4 out of 12 interactions were significant. They also note that the paucity of significant interactions may suggest that the direct effects of parenting and temperament may be more meaningful than the interaction effects in predicting children's adjustment to divorce. This conclusion may be premature, however. This study is one of the first that examined the relationships between specific temperament variables and parenting variables and further research is warranted based on the results (Lengua et al., 2000). It was found that positive emotionality may operate as a protective factor in relation to maternal rejection and that impulsivity may be an even more salient risk factor for developing adjustment problems when parents use inconsistent discipline. The authors note that although no interactions

were significant between negative emotionality and parenting variables, interactions may emerge in the future with more specific measures of negative emotionality.

The limitations of this study are similar to the previous study by Lengua et al. (1999). The design of the study was cross-sectional thus making it inappropriate to determine the direction of the effects among the variables. The study was also limited in that only the relationships between mothers and children were investigated (Lengua et al., 2000). Although the majority of children from divorced families do reside with their mothers, the role of fathers also warrants investigation. Despite these limitations, the current study makes a significant contribution to the study of divorce and child adjustment as the results indicate that temperament appears to mitigate or exacerbate the effects of negative parenting. Such findings can assist researchers in identifying those children who are at the greatest risk for problems in adjustment.

The individual characteristics that have been investigated in relation to child adjustment to divorce are in no way limited to those discussed in the studies above. Studies have also found that children who are intelligent, have an internal locus of control, and a good sense of humor are more likely to be able to adapt to stressful life experiences such as divorce compared to children without these qualities (Hetherington, 1989, 1991). There has also been a growing interest in the role played by genetic factors in divorce. The majority of studies on this topic have focused on adult populations (e.g., (e.g., McGue & Lykken, 1992; Jockin, McGue, & Lykken, 1996). However, one study did investigate the association between parental divorce and child adjustment for both

adopted and biological children and found that the association was similar for both groups (Brodzinsky, Hitt, & Smith, 1993, cited in Amato, 2000).

The findings regarding the individual characteristics are sometimes inconsistent and often complex. This pattern of findings provides support for the variability found in children's adjustment to divorce. Age and gender variables have been found to be significant in predicting post-divorce adjustment in some studies while in others no such effects have been found. These variables likely interact with other more relevant variables (e.g., temperament, family process) to affect adjustment. Temperament has consistently been found to be related to child adjustment to divorce and this construct continues to be investigated. Constructs such as coping strategies and threat appraisals also play significant roles. Although the individual characteristics of children of divorce are relevant in determining their adjustment, a trend in the literature on divorce and child adjustment has been to place at least as much emphasis on the role of family process variables.

1.3.2 Familial Variables

Many researchers propose that the majority of risk factors associated with divorce and child adjustment are largely mediated by disruptions in family relationships and interactions (Hetherington et al., 1998). Proponents of this approach argue that without disruptions in family functioning, risk factors such as socioeconomic disadvantage, parental distress, and individual characteristics of the child are less likely to compromise children's adjustment (Hetherington et al., 1998). The most commonly investigated aspects of family functioning that have been investigated in relation to

divorce and child adjustment include interparental conflict, quality of the parent-child relationship (Hetherington, 1998; Simons, Lin, Gordon, Conger &Lorenz, 1999), and parental psychopathology (Simons, et al., 1999).

Marital conflict has been found to be associated with a wide range of negative outcomes for children in general and has been the focus of many recent studies on divorce and child well-being (e.g., Hanson, 1999; Jekielek, 1998). As noted above, results from the meta-analysis by Amato and Keith (1991) indicated that children in divorced families scored higher than children from high conflict intact families on measures of psychological adjustment and self-esteem. Overall, children from high conflict intact families did significantly poorer in terms of adjustment than children from both divorced and low conflict intact families.

One of the more recent studies focusing on marital conflict was published by Hanson (1999). The purpose of this study was to examine whether marital conflict prior to divorce could explain the relationship between divorce and child adjustment. Hanson describes the conflict hypothesis as stating that the association between divorce and child well-being is spurious due to the dependence of both on marital conflict. One of the predictions made based on the conflict hypothesis is that divorce may sometimes have beneficial effects on children's adjustment by reducing their exposure to conflict (Amato, Spencer-Loomis, & Booth, 1995). Hanson investigated the above questions and the assumptions that go along with them (e.g., parents who divorce exhibit more conflict than those who stay together).

Data for the analysis came from the 1987-88 and 1992-94 waves of the National Survey of Families and Households (Hanson, 1999). The sample utilized in the study consisted of 1907 families in which the focal child lived with two biological or adoptive, married parents in 1987. To be included in the sample, the focal child must have lived with a parent and been under the age of 19 at the time of the 1992-94 survey. At the second wave of data collection 15% (293) of the children had experienced the divorce/separation of their parents. Both parents and children were interviewed at each wave of data collection and there was a drop of 13% due to attrition at the second wave (original sample consisted of 2203 families). The primary measures utilized in the study included marital conflict and four main categories of child well-being: (1) School performance and behavior, (2) delinquency, (3) health and health behavior, and (4) psychological well-being.

Analyses for this study consisted of regression models that estimated the independent and interactive effects of divorce and marital conflict on child well-being. Separate analyses were also done in order to control for children's well-being at the first wave (Time 1) of data collection in order to provide an unbiased estimate of the effects of divorce and marital conflict on child adjustment at time 2 (i.e., the second wave of data collection). Hanson (1999) notes that controlling for time 1 child well-being does not necessarily make the results more accurate. It could be possible that marital conflict may influence time 2 child adjustment through its effects on time 1 child adjustment. Thus, controlling for time 1 adjustment may make it more difficult to detect effects of marital conflict on adjustment. Alternatively, not controlling for time 1 child well-being

may likely overestimate the effects of marital conflict and divorce on child well-being as there are likely many preexisting differences between children from intact and divorced families that are not related to either variable. In addition to controlling for time 1 child well-being, the author also controlled for parental age, number of children in the household, household income, parental education, race/ethnicity, and the gender and age of the focal child.

In support of the conflict hypothesis, the results from the study indicated that individuals who subsequently divorced did indeed exhibit substantially higher levels of conflict than did those who did not divorce (Hanson, 1999). Contrary to the hypothesis, both divorce and marital conflict had independent effects on measures of child well-being. This general pattern of results was also obtained, albeit with some attenuation of effects, when controls for time 1 child well-being were implemented. It was found, however, that when measures of marital conflict were entered into the analysis they accounted for a significant portion of the relationship between divorce and child well-being. On average, for the variables of curfew violation, trouble with police, poor health, and behavior problems, marital conflict accounted for 11% of the effects of divorce on child well-being. The general pattern of results, however, indicated that marital conflict and divorce each influenced child adjustment independently.

In terms of the interaction effect of divorce and marital conflict, it was found that, for some variables, the effects of divorce depended on the level of marital conflict (Hanson, 1999). For truancy, school fights, curfew violation (for girls), trouble with police, behavior problems, and self-esteem (for girls), divorce had the most severe

consequences when conflict was low and the least harmful consequences when conflict was high. In these situations it appeared that for children from divorced, high conflict families, there were either no negative effects of divorce when compared to children from intact high conflict families, or the negative consequences of divorce were counteracted by the benefits from reduced exposure to parental conflict. In contrast, when conflict was low the effects of divorce were most pronounced with children from divorced families doing poorer on the above measures than children from intact families. No such interactions were found for the remaining child well-being measures.

Overall, the results of Hanson's (1999) work indicated that predivorce marital conflict did account for a significant portion of the relationship between divorce and child adjustment. Both variables, however, appeared to have independent and interactive effects on child well-being. These finding indicate that although conflict is significantly associated with child well-being there are other variables associated with divorce that need to be investigated (Hanson, 1999). A noteworthy finding of this study as well is that the majority of children from divorced families were found to not have any significant problems in well-being. As noted previously, this type of finding is characteristic of many studies on divorce and child adjustment and serves to emphasize the variability in adjustment to divorce (Hetherington, 1998; Amato & Keith, 1991; Emery, 1999).

The study by Hanson (1999) is one of the few studies that has used longitudinal data to focus directly on whether differences in levels of conflict prior to divorce explain the relationship between divorce and child adjustment. Jekielek (1998) also

performed a similar analysis, however, Hanson arguably utilized a more representative sample and a broader array of child outcome measures (Hanson, 1999). Despite these strengths, Hanson's study is not without its limitations. The author does not present detailed information regarding the age of his participants. It appears that the age range was between 5 and 13 years at time 1, but this is not explicitly presented. Another drawback is that the author has not controlled for the amount of time that has passed since the divorce/separation of the children's parents. This information is not presented and would have been useful to incorporate into the analysis. A final criticism is that other family variables were not investigated concurrently with family conflict. It is likely that the various factors (e.g., family conflict, parenting, family income) that have been proposed to account for the relationship between divorce and child adjustment are correlated with one another and the contribution of a particular variable can only be determined when the impact of other relevant variables has been controlled (Simons et al., 1999).

In order to address the above concern, Simons et al. (1999) conducted a study which included measures of family income, psychological adjustment of the custodial parent, the quality of parenting of the custodial parent, level of parental conflict, and the degree of involvement of the nonresidential parent. The authors included these variables as they have all been suggested to mediate the relationship between divorce and child adjustment. For example, past research has shown that divorced parents are more likely to engage in ineffective parenting practices than are parents who have not divorced (Amato, 1993). It has also been found that divorced, custodial parents have higher rates

of psychological problems than married parents and these problems may result in less competent parenting (Simons et al., 1996). Finally, the involvement of the nonresidential parent (usually the father) has been hypothesized to influence outcomes of divorce (Amato, 1993).

The study utilized a sample that consisted of 534 families (328 intact, 206 divorced single parent families) with a target child in grade 9 (Simons et al., 1999). In order to qualify for the study, divorced mothers had to have been divorced within the previous two years. The sample was comprised of white families all of which lived in small communities. In terms of demographic variables the divorced and intact groups were quite similar on several important characteristics (age, education, predivorce income, employment).

Data were collected on the above measures as well as measures of adjustment for the target child (internalizing and externalizing) (Simons et al., 1999). During the initial visit, each family member completed various questionnaires which resulted in multiple raters for the majority of the variables (variables with multiple raters were standardized and summed to form composite measures). During the second visit, the family was videotaped engaging in various structured tasks. The tapes were then coded by trained observers. The variables were then submitted to hierarchical multiple regression analyses with the variables hypothesized to have indirect effects on child adjustment (i.e., family income, mothers' psychological adjustment) being entered first into the equation. Separate analyses were run based on gender and internalizing and externalizing problems.

The results from the Simons et al. (1999) study were both complex and sometimes puzzling. The only finding that was consistent for both boys and girls and both types of adjustment problems was that the quality of mothers' parenting mediated much of the association between divorce and child adjustment (Simons et al., 1999). In terms of externalizing behavior for boys, it was found that, in addition to mother's parenting, the level of fathers' involvement in parenting explained part of the association between divorce and externalizing problems. Results indicated that nonresidential fathers were less likely to help their children solve problems, discuss standards of conduct, or to enforce discipline when compared to fathers in nuclear families. Father's involvement did not play a mediating role for girls' externalizing behavior, however. In addition to mother's parenting, post-divorce parental conflict was found to mediate the relationship between divorce and externalizing behavior. Predivorce parental conflict, mother depression, and low quality of parenting by mothers all increased the risk of boys experiencing internalizing problems. Surprisingly, however, these variables did not reduce the relationship between divorce and internalizing problems thus indicating that divorce had effects independent of these variables. In terms of internalizing behavior for girls, zero order correlations between parental divorce and internalizing behavior only approached significance which was an unexpected finding. Another unexpected finding was that there was no relationship between marital conflict in intact families and child adjustment variables.

As can be seen in the above results, some of the variables related to adjustment differed for boys and girls (Simons et al., 1999). As is typical in this area of research,

there are no definitive reasons for these differences and the authors admit that they can only speculate on the reasons for these effects. In terms of externalizing behavior, there are no clear reasons why post-divorce conflict would increase a girl's risk for externalizing behavior and not increase the risk of such behavior in boys. Intuitively, it is plausible that fathers' level of involvement in parenting is more relevant to boys' behavior than that of girls. For internalizing behavior, the authors interpreted their findings as suggesting that boys find parental divorce more emotionally disturbing than girls (Simons et al., 1999). The authors state that their analyses provided no information regarding the reason for this gender difference but hypothesized that it may be that boys find the departure of the father more traumatic. This hypothesis could be plausible given earlier findings in the literature that indicate that boys experience more difficulty in adjusting to the divorce of their parents and girls experience more difficulty in adjusting to the remarriage of a parent (Hetherington et al., 1998). Child gender and parent gender may interact such that in situations of divorce and remarriage the child must adjust to a new type of interaction with an opposite-sex parent (i.e., boys living with only their mothers and girls adjusting to the presence of a stepfather).

The varied pattern of results found in this study serves to emphasize the multiple determinants related to the adjustment of children of divorce. Although the study utilized cross-sectional data and a sample comprised of White families living in small communities, it is one of the few studies to have assessed the relative effects of relevant family variables (Simons et al., 1999). The only consistent results across gender and type of adjustment was the relationship between mothers' parenting and adjustment.

Some effects for parental conflict were found, but these effects were limited to children from divorced families. This finding is contrary to previous findings indicating that parental conflict was associated with poor adjustment in intact families as well (e.g., Hanson, 1999). This discrepancy suggests that further research is needed on the relationship between marital conflict and adjustment in relation to other relevant family process variables. No effects were found for family income thus indicating that in relation to family process variables, income is not a key variable in determining children's adjustment to divorce.

Hetherington (1989, 1991, 1993) also investigated the role of parenting variables. When the children in her longitudinal study were 10 years of age it was found that the parenting of divorced mothers had improved since the initial two years after divorce, however, was still less authoritative than that of nondivorced mothers (Hetherington, 1991). Results also indicated an interesting gender difference at this stage with mothers and daughters in divorced, single families having close harmonious relationships whereas boys and mothers in these families experiencing escalating coercive interactions. At age 15 such gender differences were not evident as there was an increase in the monitoring and control attempts by mothers with regards to their daughters (Hetherington, 1993). The relationship between parenting styles and child adjustment in Hetherington's investigations will be discussed below in regards to previous cluster analysis results.

The role of various familial variables in regards to child adjustment to divorce has been the focus of many recent investigations. Although variables such as marital

conflict, parenting styles, and parental adjustment have been found to be related to adjustment measures for children of divorce, the relationships are complex and still somewhat unclear. As with the above studies, some results are consistent across studies while others are inconsistent. Many factors are likely involved in these varied findings (e.g., sample characteristics, variables being investigated). The obvious conclusion, however, is that further studies are needed to determine if there are mediating relationships amongst familial variables and how these variables interact to affect adjustment. The larger relationship amongst familial and individual characteristics also needs to be addressed and this topic will be discussed below.

1.3.3 Extrafamilial Variables

Few researchers have examined the relationship between extrafamilial variables and the psychosocial adjustment of children from divorced families (Hetherington & Stanley-Hagan, 1999). Hetherington (1993) examined the relationship between school environments and children's adjustment in her longitudinal study of children from divorced and nondivorced families.

She found that schools could be clustered into typologies similar to parenting styles (i.e., authoritative, authoritarian, permissive, chaotic/neglecting) (Hetherington, 1993). Children who had an authoritative environment both at home and at school had greater levels of achievement and social competence and fewer behavior problems overall. This finding was most evident with children from divorced and remarried families, children from nondivorced families with high levels of conflict, and children who reported high levels of negative stressful life events. When the relationship

between authoritative school environments and child adjustment was examined in isolation, there was a positive relationship for all ages, however, the most marked effects were in early adolescent children. Chaotic/neglecting schools had the most damaging effects on children and these effects were most evident when there was no authoritative parenting occurring within the home, especially in divorced and remarried families.

Although these findings are relevant to the adjustment patterns of children from divorced families, they have not yet been replicated. Nonetheless, Hetherington has appropriately targeted an area that needs further investigation. There are other extrafamilial factors (e.g., neighborhoods, peers, religion) that may also provide valuable information regarding the adjustment of children from divorced families (Hetherington & Stanley-Hagan, 1999).

As is evident from the above literature review, the findings regarding the factors that are relevant to the adjustment of children of divorce are varied and sometimes inconsistent. Hetherington et al. (1998) note that it has become fashionable to attempt to estimate the relative contributions of various factors (e.g., individual characteristics, family processes, income) to the adjustment of children from divorced families. Such a strategy is likely to lead to conflicting results as the amount of variance explained by different factors differs from sample to sample and also varies with different types of analyses (Hetherington et al., 1998). Another relevant issue is that the risk factors for problems in adjustment will be modified by shifting protective factors. The effects of the divorce process are likely qualitatively different at different points during the

transition from an intact family to becoming a divorced family. Hetherington and her colleagues (1998) argue that the risk factors associated with divorce are "linked, interact, and are mediated and moderated in complex ways" (p. 179). Such complex interrelations indicate the need for a transactional model of risks associated with divorce in order to better understand the diverse outcomes for children of divorced families. No such model has been empirically validated to date.

1.3.4 Previous Cluster Analyses

One method in which to better understand the diverse adjustment patterns of children of divorce is that of cluster analysis. By determining if distinct patterns of adjustment can be identified among children of divorce it will become clearer how the various risk and protective factors interact to affect adjustment. Such findings would also likely contribute to the development of a transactional model.

In order to examine the diverse developmental adjustment patterns of children of divorce, Hetherington (1989, 1993) performed cluster analyses on the data collected from the children who participated in her longitudinal study. As the characteristics of this study have already been described only the main aspects will be reviewed. The cluster analyses were performed on data collected during the fourth and fifth stages. The children were approximately 10 and 15 years of age, respectively. In the fourth stage of data collection (six years after divorce) the sample was expanded to include 180 families evenly distributed across nondivorced, divorced, nonremarried mother custody, and stepfather families and across boys and girls. In the fifth stage (11 years after divorce), 121 of the original families participated in the study and the sample was again

expanded to 300 families balanced across family type and sex of child. All of the additional families were matched to the original subjects on family size, age, education, income, and length of marriage, and when appropriate, length of time since divorce and time of remarriage. Throughout the study, measures of internalizing, externalizing, social and cognitive competence, and self-esteem in children were obtained.

Hetherington (1989) performed the first cluster analysis on the observational, interview, and standardized test measures of current child adjustment (n=180) when the children were 10 years old (6 years after divorce). Analyses included the children in all family groups (i.e., nondivorced parents, divorced, nonremarried custodial mothers, and remarried mothers) in order to determine if children from divorced families clustered differently than those in intact families. The results indicated that children from divorced and remarried families were overrepresented in three of the five clusters that emerged (no information is provided regarding the two remaining clusters).

The first cluster involved aggressive, insecure children. These children had multiple problems in multiple settings (Hetherington, 1989). They were noncompliant, impulsive, and aggressive with family members, in the school environment, and with the peer group. They were likely to have impulsive and irritable outbursts as well as periods of brooding withdrawal. These children were unpopular with peers and 70% of them did not have a close friend. They were more likely to have difficulties in school (i.e., placement in special classes, poor grades, disciplinary problems, grade retention) than any other group of children. This group of children also had extremely low levels

of self-esteem. Hetherington describes this group as "lonely, unhappy, angry, anxious, insecure children" (Hetherington, 1989, p. 237).

This group was also defined in terms of individual and familial characteristics. There were three times as many boys as girls, although girls from remarried families and boys with divorced, nonremarried mothers and recently remarried mothers were overrepresented (Hetherington, 1989). Children in this aggressive, insecure group lived in homes characterized by high levels of negative affect, conflict, and unsatisfactory conflict resolution styles in parents. These children were more likely to be exposed to disengaged, neglecting, or ineffectually authoritarian parenting. Boys in this group had been temperamentally difficult as toddlers. Boys in this group also tended to have no close relationship with an adult male and boys with divorced mothers tended to have conflicted or alienated relations with their mothers. Another characteristic of these boys was that they were likely to have had unavailable fathers, or fathers who actively rejected them. All girls in this cluster had poor relationships with their mothers and were unaffected by their relationships with their fathers.

The two remaining clusters of children were labeled opportunistic-competent and caring-competent (Hetherington, 1989). These groups had a number of similarities. Children in both clusters were high in self-esteem, popular with their peers and teachers, and low in behavior problems. They performed academically at an average or above average level and both groups were described by others as curious, energetic, assertive, self-sufficient, and as having skills in interpersonal relations. These children

were unusually competent, flexible, and persistent in dealing with demanding or stressful situations.

What distinguished the opportunistic-competent group, however, was a manipulative, opportunistic quality (Hetherington, 1989). The children in this group were frequently described by interviewers and observers as having an egocentric, manipulative focus. They were oriented toward people in power such as parents, teachers, and peers with high status or resources. Their efforts to ingratiate themselves with these individuals were usually successful and done with considerable charm and humor. The friendships of these children, however, were of short duration. Parents reported that these children had tendencies to use disagreements and conflicts between parents for their own gains; playing parents off against one another and thereby increasing parental conflict. All of these children had close, supportive relationships with at least one parent, however, they also often had one parent who rejected or neglected them and/or had problems in personal adjustment. In terms of group composition this group had nearly equal number of girls and boys and was overrepresented by children in divorced and remarried families and nondivorced families with high conflict. The family conflict level in these families was higher for girls than for boys and the majority of the girls in this group had working mothers and had been encouraged to be autonomous and independent.

The children in the caring-competent group were less manipulative and less concerned about power and prestige than those of the opportunistic-competent group (Hetherington, 1989). Their friendships were more stable and they had a tendency to

befriend children who were neglected or rejected by the peer group. The prosocial behavior (i.e., helping and sharing with other children) in this group was higher than that in any other cluster. The caring-competent cluster was almost entirely comprised of girls. Only five of the 23 children were boys and none of these boys had divorced, nonremarried mothers. Half of the girls in this group, however, were from families with divorced, nonremarried mothers with whom they had a close relationship. One of the most salient characteristics of the caring-competent girls, but not of the opportunistic-competent children, was that they had assumed responsibility for the care of others (e.g., younger siblings, older family members). This early responsibility was the most powerful factor in predicting later membership in the caring-competent cluster (Hetherington, 1989).

Hetherington (1993) performed a second cluster analysis on the same sample when the children were 15 years of age (11 years after divorce). As before, observational, interview, and standardized test measures of current child adjustment were utilized. One hundred twenty-one families remained of the original sample and the sample size was again expanded to equal 300 families in total, matched on relevant characteristics. The same clusters emerged as in the previous analysis, however, one additional cluster also emerged. I will only provide the additional information for each cluster.

The aggressive-insecure group again emerged as children who had multiple problems in multiple settings (Hetherington, 1993). As these children moved into adolescence they became more involved in stealing, alcohol, drug use, and, for girls,

sexual activities. Suicidal ideation and suicide attempts were higher in this cluster of adolescents than in any other group. Children with divorced, nonremarried mothers were still overrepresented in this group, however, only children whose custodial mothers had remarried when the child was over the age of 8 were overrepresented in this group. The remaining characteristics of this group were similar to the cluster found at age 10.

The opportunistic-competent and caring-competent clusters were very similar to the clusters found at age 10. An additional characteristic of the opportunistic-competent cluster at age 15 was that adolescents who had disengaged from their families and found a supportive, caring adult outside of the family were overrepresented in this group (Hetherington, 1993).

The new cluster was labeled as the competent at a cost cluster (Hetherington, 1993). The adolescents in this cluster were more often girls in divorced families who, in terms of social responsibility, academic, and social competence, and behavior problems, looked very similar to the caring-competent cluster. These children were, however, higher in depression and internalizing and lower in self-esteem than the caring-competent cluster. Both groups had been given responsibility at a young age, however, it appeared that the competent at a cost group had had age-inappropriate demands placed on them too early and had great concern about their ability to deal with these demands. These children were likely to have close relationships with their mothers who tended to overburden their child with their personal anxieties and various stressors.

Hetherington (1993) emphasizes that there was more variability in the adjustment of children in divorced and remarried families than in nondivorced families. The girls in divorced families were a salient example of this point; they were found to be at both extremes of adjustment more often than other adolescents (Hetherington, 1993).

Although Hetherington's (1989, 1993) findings are extremely informative there is still no attempt to explain the emergence of the competence at a cost cluster. One possible reason is the expansion of the sample from 180 families to 300 families. An alternative explanation is that once children reach adolescence this new cluster emerges because some children exhibit new behaviors. Neither explanation can be confirmed as no information is provided as to whether or not some children changed clusters as they aged or whether individuals from the newly added sample were overrepresented in the competence at a cost cluster.

Another relevant question regarding Hetherington's (1989, 1993) cluster analysis results involves the actual use of the cluster analytic method. Researchers who have examined the applicability of this technique have noted that cluster analysis is still relatively new and that researchers should ensure that certain precautions are taken to increase the interpretability of results (e.g., Aldenderfer & Blashfield, 1984). Concerns have been noted regarding the finding that different results are often found due to using various cluster analytic methods (Aldenderfer & Blashfield, 1984). Additionally, rigourous validation techniques should be utilized as the cluster analysis method is a structure imposing technique and will produce clusters even if there are no meaningful

groups within the data (Aldenderfer & Blashfield, 1984). These points are relevant to Hetherington's (1989, 1993) work because little information is provided regarding the validation of the above clusters and the specific clustering method is not specified. Based on the information provided, readers are unable to assess the validity of Hetherington's cluster analysis results.

2. Rationale

The purpose of the present study was to further examine the relationship between divorce and the psychosocial, emotional, and educational adjustment of children. As noted above, there has been an increasing interest in determining what differentiates children who have coped relatively well with their parents' marital transitions and those who have experienced significant difficulties. Many recent efforts have been made in regards to investigating this distinction (see Hetherington, 1998, 1999; Amato, 2000), however, few studies have utilized the cluster analysis method. The applicability of Hetherington's (1989,1993) cluster solutions with an early adolescent population was examined. In addition to collecting data on internalizing and externalizing behavior, the present study also utilized measures of emotional intelligence and students' perceptions regarding their education. A review of the current literature indicated that the role of emotional intelligence has not been investigated in relation to child adjustment to divorce. This construct may allow researchers to identify critical differences amongst children of divorce, and between children from divorced and intact families. Students' perceptions regarding education may also provide some needed emphasis on a relevant extrafamilial factor. Although such a construct likely reflects individual characteristics (e.g., intelligence, motivation) it may also reflect the influence of the school environment.

2.1 Early Adolescence

The population chosen for the present study consists of early adolescents. Early adolescence is a period where stressors associated with divorce can have varying

effects. The risk of adjustment problems in adolescence is increased when a child is from a divorced family (Chase-Lansdale, Cherlin, & Kiernan, 1995; Hetherington, 1999). Many adolescents from divorced families experience no long-term difficulties in terms of their adjustment patterns, whereas others experience a continuation or even exacerbation of difficulties into adolescence (Hetherington & Stanley-Hagan, 1999). Even for children who appeared to deal well with their parents' divorce during childhood, adolescence may trigger various problems in adjustment. The developmental demands in adolescence for self-regulated, autonomous behavior, academic and vocational attainment, and the formation of intimate relationships may be especially difficult for the children of divorced parents (Hetherington & Stanley-Hagan, 1999).

2.2 Emotional Intelligence

In addition to measuring internalizing and externalizing behaviour and academic variables, information was collected on participants' noncognitive intelligence or what is more popularly known as emotional intelligence (EI) (Bar-On, 1997). EI has been the focus of many researchers in the last decade and a number of different models have been proposed to explain this construct (i.e., Salovey & Mayer, 1990; Goleman, 1995; Bar-On, 1997; Mayer & Salovey, 1997). EI became popularized by Goleman (1995) and has been purported to be important in predicting many real-life outcomes and to be separate from traditional IQ (Ciarrochi, Chan, & Caputi, 2000). Some researchers have been critical of the EI construct (e.g., Davies, Stankov, & Roberts, 1998), however, there has been an ongoing effort in the literature to respond to these criticisms and further investigate EI (see Ciarrochi et al., 2000; Mayer, Salovey, & Caruso, 2000).

One important criticism of EI is that this construct provides little new or unique information regarding human behavior (Davies et al., 1998). Certain measures of EI have been found to be too closely related to well-established personality factors such as Neuroticism, Extraversion, Psychoticism, Agreeableness, and Openness (Davies et al., 1998). Although this criticism is based on empirical evidence, other researchers have found evidence for the construct validity of EI (e.g., Ciarrochi et al., 2000; Bar-On, 1997). An additional response to this criticism is that EI, or noncognitive intelligence, allows for the combination of an eclectic assortment of theories, methodological strategies, and research findings (Bar-On, 1997). It is for this advantage that the Emotional Quotient Inventory: Youth Version (EQ-I: YV) (Bar-On, 2000) was utilized as an additional measure of child adjustment.

The EQ-I: YV was developed from the adult version of the Emotional Quotient Inventory (EQ-I) (Bar-On, 1997). The factors that comprise the EQ-I: YV (i.e., interpersonal skills, intrapersonal skills, stress management, adaptability, general mood) can provide valuable information regarding the psychosocial adjustment of children without inferring the status of their overall emotional intelligence. An additional benefit of using the EQ-I: YV is that the relationship between EI and internalizing and externalizing behaviour was examined as support for the construct validity of the EQ-I: YV (Bar-On, 2000).

Bar-On (2000) reports that a group of 110 adolescents (43 males and 67 females) between the ages of 12 and 17 were administered both the EQ-I: YV and the long form of the Conners-Wells Adolescent Self-Report scale (CASS; Conners, 1997,

cited in Bar-On, 2000). The CASS is an 87-item self-report form that assesses a variety of externalizing and internalizing problematic behaviours (family problems, conduct problems, emotional problems, cognitive problems, anger control problems, and hyperactivity; Bar-On, 2000). Although some results differed for males and females, overall (i.e., for both genders), the results indicated a number of significant relationships between the various scales of the two measures. The intrapersonal scale of the EQ-I: YV was significantly negatively correlated with emotional problems. The interpersonal scale was found to be significantly negatively correlated with conduct problems, while the adaptability scale was significantly negatively correlated with family problems, emotional problems, conduct problems, and cognitive problems. The general mood scale was significantly negatively correlated with emotional problems, conduct problems, and cognitive problems; and the stress management scale was significantly negatively correlated with all of the variables from the CASS. Although there were significant relationships found between the EQ-I:YV and the CASS, the low to moderate correlations suggested that both measures tapped separate constructs. The finding that these two measures are empirically related, yet not redundant, is in line with their conceptual relationship. While both measures focus on adjustment and some aspects of behavior, the emotional intelligence construct primarily involves emotional abilities and individual characteristics, whereas the internalizing and externalizing constructs focus on behavior and do not encompass abilities per se. Emotional intelligence also provides a more theoretical perspective on behavior and thus may allow for broader explanatory power than by simply focusing on internalizing and

externalizing behavior. The relationships between the various scales of the EQ-I: YV and the CASS will be considered when making hypotheses regarding the make-up of the resulting clusters of this proposed study (see below).

As the EQ-I provided the basis for the EQ-I: YV a brief overview of the development of the EQ-I will be provided. Further description on the development of the EQ-I: YV will be provided in the method section.

Bar-On began the construction of the EQ-I in 1980 in an effort to develop a measure of the noncognitive aspects of intelligence (Bar-On, 1997). Although the EQ-I is commonly perceived as a measure of emotional intelligence, a more appropriate general term is likely noncognitive intelligence (Bar-On, 1997). Bar-On's specific line of research was both a continuation and expansion of the work of such researchers and clinicians as David Wechsler, Howard Gardner, John Mayer, and Peter Salovey. Bar-On identifies that the EQ-I specifically measures aspects of personal, emotional, and social intelligence. He defines noncognitive intelligence as "an array of personal, emotional, and social abilities and skills that influence one's ability to succeed in coping with environmental demands and pressures" (Bar-On, 1997, p. 4). The EQ-I provides measures of such constructs as empathy, interpersonal relations, and impulse control. These and other individual factors are subsumed under the more general factors of interpersonal skills, intrapersonal skills, stress management, adaptability, general mood (Bar-On, 1997). The EQ-I has undergone critical evaluation and its psychometric properties have been shown to be adequate and it has been described as an excellent measure of emotional intelligence (Cox, 1999). In addition to having sufficient

psychometric properties, EQ-I scores have also been found to be related to general psychosocial adjustment (Dawda & Hart, 2000). The EQ-I: YV has not yet undergone critical review, however, its psychometric properties appear to be adequate and well-established (see method section).

By examining EI in an early adolescent population, new information may be found regarding the adjustment of children from divorced families. Although there is very little research on the developmental aspects of EI it is likely that the abilities comprising EI can provide some explanation regarding child adjustment to divorce. Children who have difficulty adjusting to their parents' divorce may possess individual characteristics that inhibit the development of EI abilities that would aid them in dealing with such a stressful transition. For example, temperament may play a role in determining how well an adolescent can identify or regulate his or her emotions. Those who are high in negative emotionality may be negatively biased in terms of appraising emotional situations, and individuals high in impulsivity or attentional problems may have difficulty focusing on and understanding the reasons for negative emotions such as fear or anger. It may be that the ability to identify emotions correctly, contributes to inferior social relationships (Scharfe, 2000).

Family processes may also play a role in determining EI. Given the role of marital conflict and parenting styles in influencing child adjustment to divorce, it is likely that children from high conflict families with parents who do not parent well will be at a disadvantage in terms of developing their emotional intelligence. Developmental psychologists have determined that emotional expression, understanding, and regulation

develop in a social context (Bowlby, 1988, cited in Scharfe, 2000). Children from families in which both positive and negative emotions are openly expressed are more likely to learn to correctly identify emotional expressions (Scharfe, 2000). As children from divorced families are less likely to be in such an environment it follows that such skills may not become as fully developed. Other factors such as the higher rate of psychological maladjustment in parents who divorce may also affect the development of a child's EI. Although there is no specific research on the relationship between EI and family processes it is likely that they are related in a meaningful manner.

2.3 Hypotheses

It was hypothesized that the clusters of children from divorced families which were derived from measures of internalizing and externalizing behavior and emotional intelligence in an early adolescent population, would be similar to those clusters found in Hetherington's (1993) study. In addition to this first hypothesis, it was also predicted that students' scores on the various scales of the EQ-I: YV would vary systematically according to the cluster in which they were placed. It is possible that some children from divorced families have difficulty developing emotionally. In instances where parents may have had an openly conflicted relationship or provided inconsistent parenting, children in these families may not have had the opportunity to observe healthy emotional functioning and their own emotional development may have been constrained due to their environment and personal characteristics (e.g., temperament, coping strategies, etc.). For example, it was hypothesized that students who were in the competent-at-a cost cluster would have low scores (i.e., at least one standard deviation

below the mean) on the intrapersonal and general mood scales. It was also expected that students in the aggressive-insecure cluster would have low scores on most, if not all, of the EQ-I: YV scales, whereas students in the caring-competent and opportunistic-competent clusters were expected to have at least average scores on most, if not all, of the EQ-I: YV scales.

2.4 Cluster Analysis

Cluster analysis is a multidisciplinary technique which is utilized in such fields as psychology, medicine, marketing, and archaeology (Everitt, 1993). The term cluster analysis is used to identify a group of multivariate techniques whose primary purpose is to assemble objects based on the characteristics that they possess (Hair & Black, 2000). Clustering techniques are designed to create homogenous groups of cases called clusters (Aldenderfer & Blashfield, 1984). Although cluster analysis techniques have grown in popularity researchers acknowledge that there are few concrete guidelines in the application and that precautions must be taken to ensure the proper application of these procedures (Hair & Black, 2000). The principal goals of cluster analysis include: (1) the development of typology or classification; (2) the investigation of useful conceptual schemes for grouping entities; (3) hypothesis generation through data exploration; and (4) hypothesis testing (Aldenderfer & Blashfield, 1984).

2.4.1 Distance

As the primary objective of cluster analysis is to place the most similar observations into groups it is crucial to address the issue of how one measures similarity (Hair & Black, 2000). There are numerous methods in which similarity can be

measured and Everitt (1993) states that there are no clear guidelines to assist researchers in this task. Distance measures are the most commonly used and they represent similarity as the proximity of observations to one another across the clustering variables (Hair & Black, 2000). Out of all the various distance measures Euclidean distance is the most commonly used (Hair & Black, 2000; Everitt 1993). Squared Euclidean distances are the sum of the squared differences over all of the variables that are entered into a cluster analysis. A simplified example of squared Euclidean distance can be provided by looking at different types of cereal: If a bowl of Corn Flakes provides 110 calories of energy and costs 40 cents, and a bowl of Rice Krispies provides 101 calories of energy and costs 35 cents, the squared Euclidean distance between these two cereals would be $(110\text{-}101)^2 + (40\text{-}35)^2$, or 106 (Sheckter, 1997).

One drawback of using Euclidean distance as a distance measure is that the resulting values are dependent on the particular scales chosen for the variables (Everitt, 1993). In regards to the above example, a difference of 9 calories between cereals contributes more to a distance value than a difference of 5 cents. One method of dealing with this drawback is to standardize the variables to unit variance and means of zero before the calculation of distance (Blashfield & Aldenderfer, 1988).

2.4.2 Method of Cluster Analysis

How to choose the best method of cluster analysis is still an unresolved problem for both statisticians and researchers (Blashfield & Aldenderfer, 1988). Out of all the various clustering algorithms hierarchical agglomerative methods are the most commonly used in terms of their applied use. These methods begin with each individual

case defined as a cluster. In subsequent steps the most similar clusters (or individuals) are combined to form new clusters, thus reducing the number of clusters by one in each step (Hair & Black, 2000). This process continues until all cases are subsumed under one cluster. Once a cluster has been formed the individuals within that cluster cannot be separated (Everitt, 1993). Hierarchical agglomerative classifications are commonly represented through the use of a dendogram which illustrates the combinations of clusters at each successive stage of the analysis (Everitt, 1993). Actual distances between clustering steps are rescaled to be represented by numbers from 0 to 25 (Sheckter, 1997). The dendogram portrays both which clusters are being joined (plotted on the vertical axis) and the distances at which clusters have joined (plotted on the horizontal axis) (Scheckter, 1997). A sample of a dendogram is provided in Figure 2.1 and will be further elaborated on below.

2.4.3 Ward's Method

Differences between hierarchical agglomerative methods arise due to different linkage rules for the formation of clusters (Blashfield & Aldenderfer, 1988). Ward's method has been widely used in the social sciences and has been found to generate relatively accurate solutions across validity studies (Blashfield & Aldenderfer, 1988). Overall, Gibson, and Novy (1993) found that Ward's method was superior to others in terms of clustering in accordance with true population characteristics regardless of how

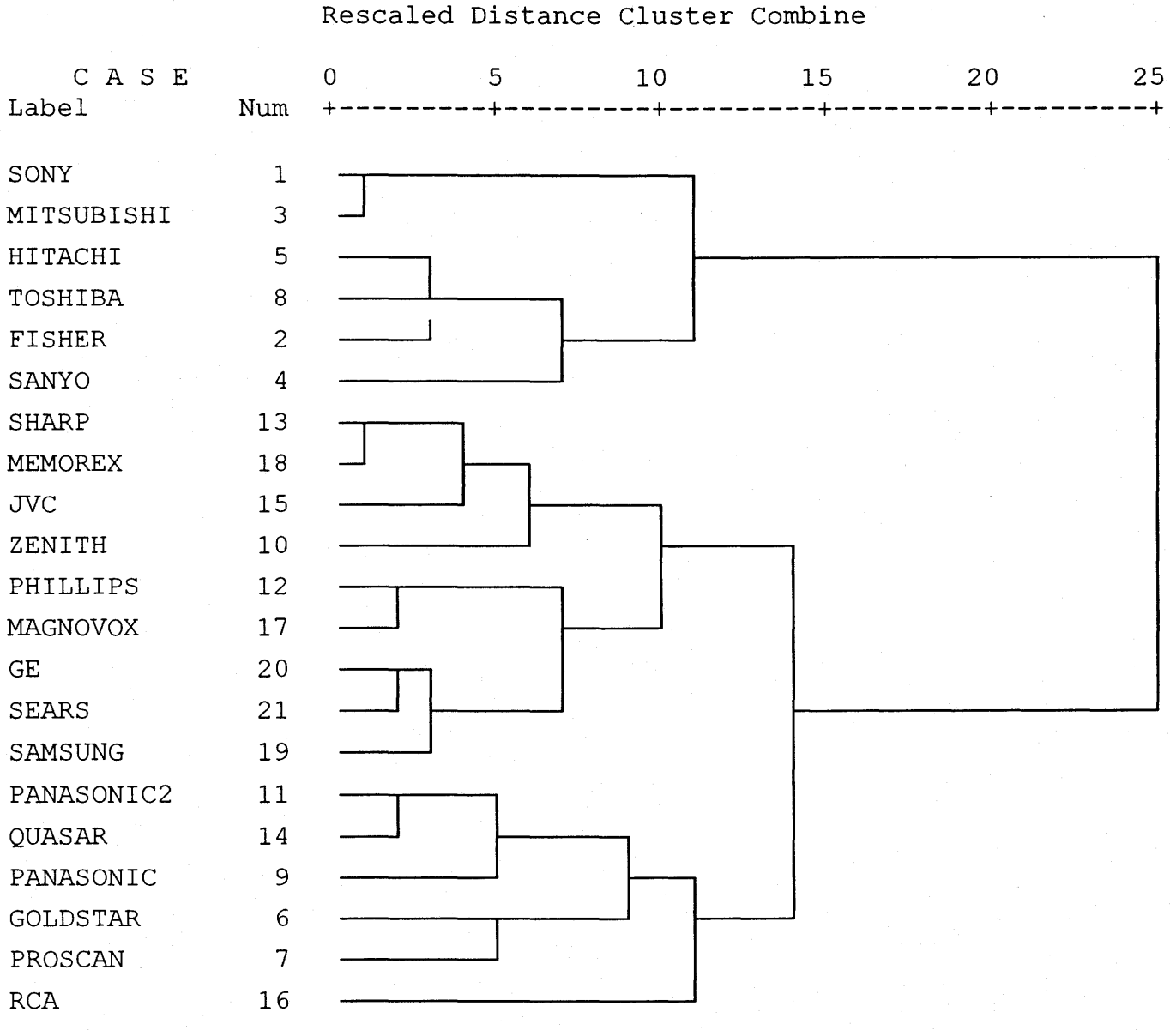


Figure 2.1 Sample dendogram (George & Mallery, 2001).

the various populations differed in terms of elevation or pattern, and degree of overlap. Ward's method is designed to optimize the minimum variance within clusters and joins those clusters that result in the minimum increase in the error sum of squares (Blashfield & Aldenderfer, 1988).

2.4.4 Number of Clusters Problem

When hierarchical clustering techniques are used in practice, investigators are often not interested in the complete hierarchy but only in one or two partitions obtained from the analysis (Everitt, 1993). How to choose which partition(s) to select from the various steps in a cluster analysis remains an unresolved issue in cluster analysis (Blashfield & Aldenderfer, 1988). Although objective rules (e.g., Mojena's rule) have been developed to assist researchers with this problem, such "stopping rules" have received very little attention in terms of empirical investigation (Blashfield & Aldenderfer, 1988).

The common solutions to the number of clusters problem involves the examination of both the dendogram and the agglomeration schedule (Blashfield & Aldenderfer, 1988). In terms of the dendogram, short horizontal lines indicate that clusters have been combined at relatively short distances, while longer horizontal lines illustrate that clusters have been joined at relatively long distances (Sheckter, 1997). The optimal number of clusters can be determined by the researcher assessing how many "branches" appear in the dendogram. For example, in Figure 2.1 the dendogram indicates that a three cluster solution is optimal because each cluster is roughly the same distance from the origin of the rescaled distance axis. The increase in distance from a

three- to a two cluster solution suggests that clusters with fairly dissimilar cases are being combined. When cluster solutions of four and above are considered one can also see that cases and clusters are being formed at relatively small distances along the rescaled axis (Sheckter, 1997).

The analysis of amalgamation coefficients is also helpful in determining the optimal number of clusters. These coefficients are the squared Euclidean distance values between the two cases or clusters being combined at a given stage. These values can be examined for sudden "jumps" which indicate that two relatively dissimilar clusters have been combined and that the number of clusters prior to the jump is the optimal solution (Blashfield & Aldenderfer, 1988). One point regarding this technique, however, is that the difference between the last two coefficients (corresponding to a two- and one-cluster solution) generally represents the largest increase in the agglomeration schedule and is typically ignored (Sheckter, 1997).

The agglomeration schedule for Figure 2.1 is shown in Table 2.1 The coefficient on the last line (stage 20) represents a one cluster solution, the coefficient on the second-last line (stage 19) corresponds to a two-cluster solution, and so on. The differences between adjacent coefficients for the values corresponding to one-, two, three, and four-cluster solutions are 51, 16, 2, 3, respectively. Excluding the increase

Agglomeration Schedule

Stage	Cluster Combined		Coefficients	Stage Cluster First Appears		Next Stage
	Cluster 1	Cluster 2		Cluster 1	Cluster 2	
1	1	3	2.120E-03	0	0	17
2	13	18	2.708	0	0	9
3	12	17	4.979	0	0	14
4	20	21	5.014	0	0	7
5	11	14	8.509	0	0	10
6	5	8	11.725	0	0	8
7	19	20	11.871	0	4	14
8	2	5	13.174	0	6	13
9	13	15	14.317	2	0	12
10	9	11	19.833	0	5	15
11	6	7	22.901	0	0	15
12	10	13	23.880	0	9	16
13	2	4	28.378	8	0	17
14	12	19	31.667	3	7	16
15	6	9	40.470	11	10	18
16	10	12	44.624	12	14	19
17	1	2	47.720	1	13	20
18	6	16	49.963	15	0	19
19	6	10	64.785	18	16	20
20	1	6	115.781	17	19	0

Table 2.1 Sample agglomeration schedule (George & Mallery, 2001)

between a one- and two-cluster solution the largest relative increase occurs between a two- and three-cluster solution, thus implying that a three cluster solution is optimal.

2.4.5 Validating a Cluster Solution

The validation of a cluster solution is an essential component of any cluster analysis procedure (Blashfield & Aldenderfer, 1988). One crucial aspect of cluster analysis is that clusters will always be produced regardless of whether or not they are meaningful. Aldenderfer and Blashfield (1984) note that "the strategy of cluster analysis is structure seeking although its operation is structure-imposing" (p. 16). As cluster analysis is an atheoretical procedure researchers must ascertain whether a useful classification has been discovered or if a classification structure has been forced onto the data. Unfortunately, statisticians and researchers have not yet provided a workable null hypothesis to test the validity of clustering solutions and therefore there are no specific statistical tests to ascertain whether "real" structure is present (Aldenderfer & Blashfield, 1984). The finding that different clustering methods can generate different solutions for the same data set is another reason to place a heavy emphasis on validating a specific cluster solution (Aldenderfer & Blashfield, 1984). As there are numerous methods for cluster formation researchers must be cautious in proclaiming the suitability of a cluster solution.

Although there is no definitive test for statistical significance with cluster analysis, various techniques have been developed for validating a cluster solution (Blashfield & Aldenderfer, 1988). One of the more accepted methods is that of replication, which involves the degree of replicability of a cluster solution across a

series of data sets from the same general population. If separate samples are not available an alternative method is to split one sample into two parts and attempt to replicate the clusters on the subsamples. Although positive results, for either method, do provide evidence for the validity of a solution they do not guarantee validity (Blashfield & Aldenderfer, 1988). As noted by Blashfield and Aldenderfer "the failure of a cluster solution to replicate is reason for rejecting the solution, but a successful replication does not guarantee the validity of the solution" (1988, p. 466). If the results of a cluster analysis are found to be replicable other validation procedures should be implemented such as performing significance tests that compare the clusters on variables not used to generate the cluster solution (Aldenderfer & Blashfield, 1984).

3. Method

3.1 Participants

The sample for the present investigation consisted of 137 young adolescents in grades seven and eight. Participants were recruited for the study by distributing letters in the classroom for students to take home to their parents (see Appendix A). Two-hundred eighty letters were distributed to students in schools situated within and surrounding Saskatoon. Sixty-six percent (83% signified consent) of the letters were returned and complete data were collected for 137 students. A total of 7 students refused to participate during data collection and 2 students were absent during the days on which the interviews were administered and thus were unable to provide the necessary information to be included in the study. Characteristics of the refusers (both during and prior to data collection) were not obtained.

The mean age of students in the study was 13 years and the sample was comprised of 61 males (44.5%) and 76 females (55.5%). Fifty-seven participants (41.6%) attended Catholic schools within Saskatoon and 80 participants (58.4%) attended public schools in the small communities surrounding Saskatoon. Ninety-two percent of the students came from Caucasian families and the remainder of the sample consisted of students with Metis (5%), East Indian (1.5%), and Latin (1.5%) backgrounds. In terms of the marital status of their parents, 110 (80%) children came from intact families, 23 (17%) children came from divorced/separated families, and 4 (3%) children had experienced the death of a parent. Of the children from divorced families, ten of these children lived in divorced, unmarried, mother-custody homes and

the remainder resided with a biological parent and a stepparent. Of the remarried families 10 children were living with their biological mothers and a stepfather and 3 children were living with their fathers and a stepmother. Only one child in the whole sample came from an adopted family and he resided with his adoptive father and stepmother. Table 3.1 outlines the various family structures found within the sample.

The mean elapsed time since the divorce/separation of the parents of the children in the divorced group was approximately 8 years (SD = 2.8). The children in this group were between the ages of 7 months to 11 years of age when their biological parents divorced/separated (M = 4.7, SD = 2.7).

Although it would have been ideal to obtain a sample very similar to Hetherington's (1989, 1993), in terms of demographic characteristics, it was not possible to do so. The present sample differed from the sample used by Hetherington in various ways. The most salient difference is the proportion of children in divorced and intact families. While Hetherington's sample was evenly divided into children from divorced, mother-custody families, remarried families, and intact families, the current sample was unevenly split into divorced and intact families with the divorced group consisting of both divorced, mother-custody families and remarried families. Also, the current sample contained 4 children who had experienced the death of a parent. Although these children could not be classified as either being from a divorced or intact family it was decided to include them in the cluster analysis as they would likely increase the overall stability of the clustering solution. Time since divorce and age at divorce were also uncontrolled variables in the current study whereas these variables

Table 3.1 Family structures within sample.

Family Type	Frequency	Percent
Intact	110	80.0
Deceased Parent	4	3.0
Divorced	23	17.0
Mother-custody	10	7.3
Biological Mother and Stepfather	10	7.3
Biological Father and Stepmother	2	1.4
Adoptive Father and stepmother	1	1.0
Total	137	100

were controlled by Hetherington. The current sample also differed in terms of age in comparison to Hetherington's sample. Children in Hetherington's studies were approximately 10 and 15 years of age at the time of data collection. The mean age of the children in the current sample falls between these values. The differences between the two samples may or may not be a critical factor, but such differences should be noted and considered when results are interpreted.

3.2 Measures

1) Child Behavior Checklist – Youth Self-Report (YSR) (Achenbach, 1991).

The YSR is an instrument designed to obtain 11-18 year olds' reports of their own competencies and problems in a standardized format. The YSR is an extension of the Child Behavior Checklist (CBCL) (Achenbach, 1993) and contains many of the same items. The YSR contains 120 items and takes approximately 15 minutes to complete. Responses are obtained using a Likert-type format (0 = Not True, 1 = Somewhat True, and 2 = Very True or Often True). The Problem Scales yield scores for total behavior problems, broad band behavior problems (Internalizing and Externalizing), and several narrow-band behavior syndromes (Withdrawn, Somatic Complaints, Anxious/Depressed, Social Problems, Thought Problems, Attention Problems, Aggressive Behavior, Delinquent Behavior). Raw scores can be converted into T scores or percentiles for all the relevant scales (T scores above 70 are considered to be in the clinical range).

The YSR has been shown to be a reliable instrument with an overall 1 week test-retest coefficient of r = .70 (mean) for 11-14 year olds. The range for the narrow-band

behavior syndromes reliabilities is $\underline{r}$ = .47-.81. Although the YSR manual reports adequate reliabilities, a small number of the internal reliability coefficients for the current sample were less than satisfactory. Coefficient alphas for the individual YSR scales ranged from .53 to .82 whereas for the normative sample values ranged from .59 to .90. The coefficient alpha values for both males and females (for all measures) in the sample are listed in Table 3.2.

The authors of this scale have also demonstrated sufficient content, criterion-related, and construct validity. The content validity of the YSR is supported by the finding that most YSR items discriminate significantly between demographically matched referred and nonreferred youths. The criterion-related validity of the scale is supported by the ability of the various scale scores to discriminate between referred and nonreferred youths after demographic effects were partialled out. The authors note that establishing the construct validity of the YSR was a difficult task as there were very few instruments that resemble the YSR at the time of its publication. Evidence for the construct validity of the scale is limited to the correlations of the YSR scales with the scales of the CBCL (both mother and father reports) and the Teacher-Report Form (TRF). The average correlations between the YSR problem scales and the scale scores of the CBCL and the TRF ranged from $\underline{r}$ = .27-.58 thus demonstrating that the constructs measured by the YSR scales are significantly related to those measured by the CBCL and the TRF.

Table 3.2 Coefficient alphas for main and normative samples.

Scale	Coefficient Alpha				
	Males		Females		Overall
	Main Sample	Normative Sample	Main Sample	Normative Sample	Sample
Youth Self-Report					
Withdrawn	.48	.59	.61	.59	.55
Somatic	.72	.77	.71	.80	.73
Anx/Dep	.66	.86	.86	.90	.82
Social	.42	.68	.62	.68	.53
Thought	.64	.69	.69	.71	.66
Attention	.68	.75	.58	.78	.63
Delinquent	.49	.76	.71	.76	.62
Aggressive	.76	.86	.78	.86	.77
EQ-I: YV					
Intrapersonal	.84	.81	.83	.82	.84
Interpersonal	.80	.83	.71	.81	.77
Adaptability	.89	.87	.85	.87	.84
Stress Management	.84	.87	.84	.87	.88
General Mood	.85	.87	.86	.88	.85
SSVSC	.93	N/A	.93	N/A	N/A

Note. Anx/Dep = Anxious/Depressed; EQ-I: YV = Emotional Quotient Inventory; Youth Version; SSVC = Sense of School Values and School Competence; Overall sample consists of both males and females in the current sample.

2) Bar-On Emotional Quotient Inventory: Youth Version (EQ-I: YV).

The EQ-I: YV is a 60 item self-report questionnaire that is designed to assess children's coping skills, their ability to deal with daily environmental demands, and their overall emotional well-being. Responses are obtained using a Likert-type format (1 = Very Seldom True of Me, 2 = Seldom True of Me, 3 = Often True of Me, and 4 = Very Often True of Me) and raw scores can be converted into standard scores. There is a total EQ score and five main component scores (interpersonal skills, intrapersonal skills, stress management, adaptability, general mood). In the overall EI model these components are second-order factors which are further broken down into 15 factors: Intrapersonal components (Emotional Self-Awareness, Assertiveness, Self-Regard, Self-Actualization, Independence), Interpersonal components (Empathy, Social Responsibility, Interpersonal Relationship), Adaptability components (Reality Testing, Flexibility, Problem Solving), Stress Management components (Stress Tolerance, Impulse Control), and General Mood components (Optimism, Happiness) (Bar-On, 2000). There are no such individual factor scores for the EQ-I: YV, which is most likely due to the reduced number of items. The EQ-I: YV also contains two validity indicators that assess the extent to which respondents present themselves in an overly positive light (Positive Impression) and haphazard or inconsistent responses (Inconsistency Index).

The EQ-I: YV was developed by adapting some of the items from the EQ-I into items appropriate for respondents aged 7 to 18 years. New items were also written by a group of experts in the area of child and adolescent assessment (Bar-On, 2000). Two

versions of the inventory were developed through the use of exploratory factor analysis (Bar-On, 2000). The final version of the EQ-I: YV was supported through confirmatory factor analysis and consisted of 60 items.

The normative database for the EQ-IY has been developed from approximately 10,000 children and adolescents and includes gender and age specific norms for North American youths. The reliability of the EQ-I: YV has been well established (Bar-On, 2000). The internal reliability coefficients range from $\underline{r}$ = .81 - .90 for the early adolescent age group (13-15 years), and overall test-retest coefficients, using a 3 week interval, range from $\underline{r}$ = .77 - .89. Reliability estimates for the current sample are provided in Table 3.2. As the EQ-I: YV is a recent development there is limited research regarding its validity. The construct validity of the instrument has been supported through factorial analysis and through its relationship with other well-established measures of various constructs (Bar-On, 2000). The factor structure of the EQ-I: YV has been supported through exploratory and confirmatory factor analysis. Three separate analyses were performed. The first analysis involved analysing the 40 items for the Intrapersonal, Interpersonal, Adaptability, and Stress Tolerance scales. All 40 items loaded at least moderately on their matching factors and had very low loadings on the other three factors. The 14 items for the General Mood scale were also submitted to factor analysis and support was found for a one factor solution. The same results were found for the Positive Impression Index. The intercorrelations between the various scales of the EQ-I: YV also support the structure of the scale. Low to moderate correlations were found among the Intrapersonal, Interpersonal, Stress Management,

and Adaptability scales. Higher correlations (up to r = .60) were found between the previous scales and the General Mood scale.

The relationships between the EQ-I: YV and other measures assessing similar constructs have been investigated in order to support the construct validity of the measure. As the EQ-I is one of the few standardized measures of EI, the correlations between the EQ-I and the EQ-I: YV were obtained. Moderate to high (r = .56 - .88) correlations were found between the various scale scores for each measure. The scales of the EQ-I: YV were also correlated with the personality dimensions of the five-factor model (neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness). The correlations between the NEO-Five Factor Inventory (Costa & McCrae, 1992, cited in Bar-On, 2000) and the EQ-I: YV converged and diverged in a theoretically meaningful manner. The Intrapersonal scale was positively correlated with the Extraversion and Agreeableness dimensions (r = .25 and .20 respectively), whereas the Interpersonal scale was moderately correlated with the Extraversion, Agreeableness, and Conscientiousness scales (r = .37, .57, and .43 respectively). The Adaptability scale was only correlated with the Neuroticism scale (r = -.31) and both the Stress Management and General Mood scales were correlated with the Neuroticism, Extraversion, Agreeableness, and Conscientiousness scales. As noted above, the EQ-I: YV has also been correlated with measures of internalizing and externalizing behavior. Results were obtained for the EQ-I: YV and the Conners-Wells Adolescent Self-Report scale (CASS) which contains scales measuring Family Problems, Conduct Problems, Emotional Problems, Cognitive Problems, Anger Control Problems, and Hyperactivity

(Conners, 1997, cited in Bar-On, 2000). In general low to moderate correlations were found between the various scales and these findings suggested that the two measures were related yet also tapped separate constructs. For example moderate negative correlations were obtained between the Intrapersonal scale and the Emotional Problems thus suggesting that individuals scoring high on the Intrapersonal scale generally understood their own feelings and emotions (Bar-On, 2000). A moderate negative correlation between the Adaptability scale and the Cognitive Problems scale suggested that "adaptive" individuals were generally flexible, realistic and effective in handling difficult situations. There was also a high negative correlation between the Stress Management and Anger Control scales thus suggesting that individuals who work well under pressure are rarely impulsive. The correlations between the EQ-I:YV scales and the YSR scales for the current sample are presented in Table 3.3. The correlations range from $\underline{r} = -.013$ to $\underline{r} = -.561$ thus indicating that there are low to moderate relationships between the various scales.

3) Sense of School Values and School Competence Questionnaire.

This 29-item questionnaire is an amalgamation of two questionnaires that were adapted and utilized by Berndt and Miller (1990; see Appendix B). Responses are obtained using a Likert-type format (1 = Very Seldom True of Me, 2 = Seldom True of Me, 3 = Often True of Me, and 4 = Very Often True of Me). The first 19-item questionnaire is designed to assess students' perceptions regarding their school values. For example, students are asked about the utility of school learning, the importance of school, and their interest in their schoolwork. This questionnaire was adapted by Berndt

Table 3.3 Intercorrelations Between YSR and EQ-I: YV Scales.

Scale	Intrapersonal	Interpersonal	Stress	Adaptability	General
Withdrawn	-.345**	-.219*	-.246**	-.099	-.451**
Somatic	-.013	.016	-.212*	-.235**	-.263**
Anx/Dep	-.211*	.022	-.290**	-.203*	-.463**
Social	-.154	-.300**	-.300**	-.163	-.194*
Thought	-.002	.042	-.240**	-.185*	-.163
Attention p	-.119	-.176*	-.442**	-.383**	-.289**
Delinquent	.109	-.069	-.259**	-.167`	-.172*
Aggressive	-.023	-.225**	-.561**	-.291**	-.274**

Note. Anx/Dep = Anxious/Depressed. Stress = Stress Management; General = General Mood.

** $p < .05$ (2 tailed). ** $p < .01$ (2 tailed).

and Miller (1990) from a questionnaire used by Eccles, Adler, and Meece (1984, cited in Berndt & Miller, 1990). The second questionnaire is designed to assess school involvement. Students are asked about their attitudes and behaviours in the classroom. This questionnaire was adapted by Berndt and Miller (1990) from a questionnaire that was used by Moos and Trickett (1974, cited in Berndt & Miller, 1990). It was decided that the two questionnaires would be combined for administration purposes and would be referred to as the Sense of School Values and Competence Questionnaire (SSVC) (when presented to students the title was simply "Me and My School").

Berndt and Miller (1990) reported the coefficient alpha estimates for each of the above questionnaires and both were found to be reliable measures. The school values questionnaire had an alpha coefficient of $\underline{r} = .84$ and the school involvement questionnaire had an alpha coefficient of $\underline{r} = .83$ (Berndt & Miller, 1990). The reliability estimates for the SSVC for the current sample are provided in Table 3.2 (see above). No validity measures were reported by Berndt and Miller.

4) Marital History Interview Protocol

This structured interview protocol was developed for the purpose of this study and was administered orally (see Appendix C). The interview focuses on participants' demographic characteristics (age, gender, ethnicity) as well as the marital history of their parental figures (i.e., the number of divorces and/or remarriages that have occurred in the family, the length of time since each divorce and/or remarriage, the age of the child at each marital transition). Data were also collected regarding the living

arrangements of children during the last 6 months. The interview takes approximately 5-10 minutes to complete.

3.3 Procedure

All data were collected at the participants' schools. The YSR, the EQ-I: YV, and the SSVC were administered to students in their classroom in one session. In order to control for an order effect, one half of the sample was presented with the YSR first and the other half received the EQ-I: YV first. The SSVC was always at the end of questionnaire package. Following the questionnaire phase, the Marital History Interview was administered. Attempts were made to gather interview data on the same day as the questionnaires were administered, however, for approximately half the sample interviews were completed two weeks after the questionnaire administrations.

3.4 Statistical Analyses

All statistical analyses were conducted using SPSS for Windows software version 10.0. The first phase of the analysis involved conducting a squared Euclidean cluster analysis using Ward's method of agglomeration on the standardized data collected from all 137 participants (ADJ). Missing data were dealt with as recommended by the respective manuals for the YSR and the EQ-I: YV (see Appendix D). The individual factor scores from both the YSR and the EQ-I: YV (excluding the Positive Impression and Inconsistency Indexes) were used as clustering variables. It was decided to utilize all of the YSR scales in the analysis, despite some of the low internal reliabilities for the scales, in order to gain as much specificity as possible for describing the resulting clusters. In order to facilitate accurate comparisons between boys and

girls, the raw scores were standardized within the sample of each sex as recommended in the YSR manual (Achenbach, 1991). The resulting dendogram and agglomeration schedule were then examined to determine the optimal number of clusters for this analysis. The means for each cluster were then obtained for each of the clustering variables and plotted along a line graph in order to have a visual picture of each of the clusters.

In order to assess the internal reliability of the solution, ADJ was randomly divided into two parts (ADJ-1 and ADJ-2) and separate cluster analyses were performed on the two subsamples. Each analysis was programmed to produce the same number of clusters that were deemed appropriate for the main sample (ADJ). For example, if three clusters were considered to best represent the ADJ group then both ADJ-1 and ADJ-2 would also be represented by a three cluster structure. As with the ADJ analysis, the means for each cluster were obtained for each clustering variable and plotted along a line graph in order to visually compare the corresponding clusters across solutions.

A double-cross validation was then conducted by: (1) using the clusters from the initial ADJ group to form a discriminant function, which was used to predict group membership of the ADJ cases; (2) using the clusters from ADJ-1 to form a discriminant function which was then used to predict membership of the ADJ-2 cases; and (3) using the clusters from ADJ-2 to form a discriminant function which was then used to predict group membership of ADJ-1 cases. Multiple discriminant analysis can be used to assess the discreteness and homogeneity of clusters that have resulted from a cluster analysis (Rappaport, McAnulty, Waggoner, & Brantley, 1987, cited in Scheckter, 1997). When

cases are accurately classified via a discriminant function, there is evidence for the internal consistency of a clustering solution (Scheckter, 1997).

In order to assess the external validity of the cluster solution (if the internal validity analyses provided positive results) a comparison of the SSVC mean scores across clusters was planned. As this measure was not used to form the clusters, a difference between clusters would indicate that there is a meaningful (i.e., not solely statistical) difference amongst the various groups.

4. Results

4.1 Sample Characteristics

The present sample appeared to be similar in terms of adjustment in comparison to the normative samples used for the EQ-I: YV and the YSR. The mean scores for the ADJ group were all within 1 standard deviation of the means obtained for the normative samples. Although outliers were detected prior to the analysis it was decided that these outliers would be included for three primary reasons. First, the literature on divorce and child adjustment does not contain any guidelines regarding the treatment of outliers when performing a cluster analysis. Indeed, there are few guidelines regarding outliers in the general literature on cluster analysis. Second, the purpose of the present study was to attempt to classify an expected heterogeneous sample into homogenous groups, thus with such a goal it is reasonable to include all cases in the analysis. Third, the resulting outliers were both adolescents from divorced and intact families and deleting these outliers would result in even fewer numbers of children from divorced families being included in the sample.

4.2 Order Effects

In terms of possible order effects, t-tests indicated that no order effect was apparent for either the EQ-I: YV or the YSR (t (135) = .719, p = .473 and t (135) = 833, p = .407 respectively).

4.3 Clustering Outcomes

4.3.1 Cluster Types

The dendogram and agglomeration schedule for the ADJ group indicated that a three cluster solution best represented the data. None of the clusters that emerged contained any elevations or depressions within the clinical range for either the EQ-I: YV or the YSR scales. There were some general differences amongst the clusters and these profiles are presented in Figures 4.2a and 4.2b. It should be noted that separate figures are needed for the EQ-I: YV and YSR scales as the EQ-I: YV is a strength-based measure and the YSR focuses on the presence of adjustment problems. Thus higher EQ-I: YV scores indicate positive adjustment and higher YSR scores indicate the presence of various behavior problems. As there were no clinically significant elevations or depressions for any of the clusters, labeling them was somewhat difficult. It was decided to label the clusters based on their general relationships to each other thus providing a Good Adjustment (GA) cluster, a Moderate Adjustment (MA) cluster, and a Poor Adjustment (PA) cluster. However, it should be remembered that all of the clusters were in the normal range in terms of adjustment and that the labels only refer to their relationships to one another.

For the ADJ clusters the MA cluster (n = 57) was distinguished from the GA in that adolescents in the GA cluster (n=58) appeared to be slightly better off in terms of adjustment (i.e., higher EQ-I: YV scores and lower YSR scores). Individuals in the PA cluster exhibited more behavior problems than did those in either the first or second

Figure 4.2a EQ-I: YV Cluster Means, ADJ

All Participants, n = 137

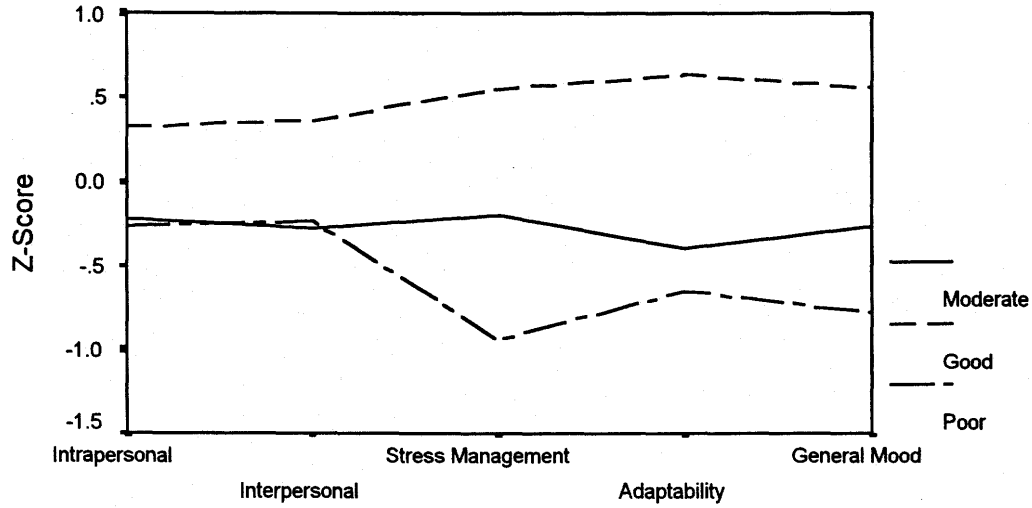
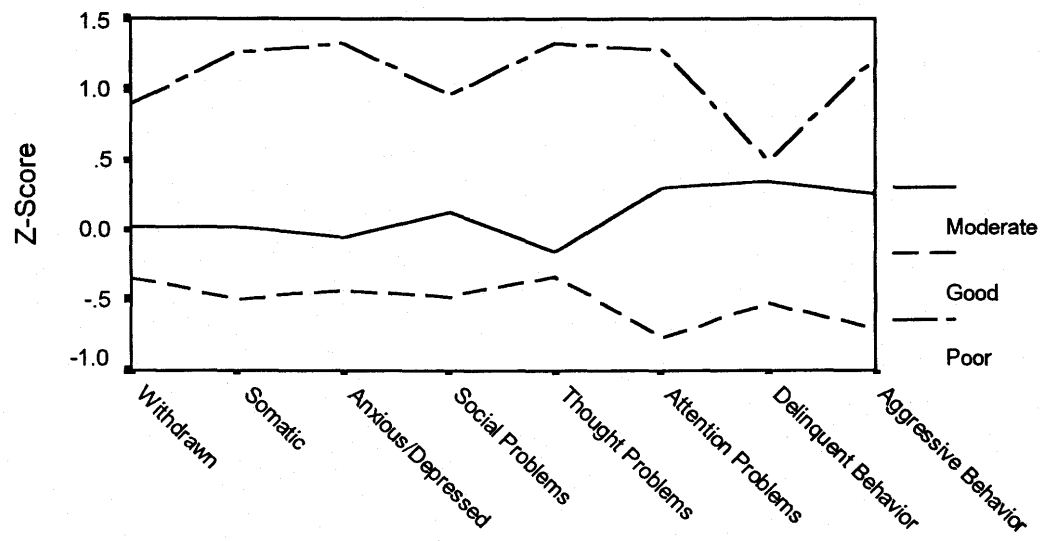


Figure 4.2b YSR Cluster Means, ADJ

All Participants, n = 137



clusters and obtained lower scores on the majority of the EQ-I: YV scales as well. The demographic characteristics of the various clusters for the ADJ group are presented in Table 4.2a.

The ADJ group was randomly divided into ADJ-1 (n = 68) and ADJ-2 (n = 69) and each validity group was submitted to a cluster analysis and solved for three clusters. The relationships among the three clusters for the ADJ-1 subgroup were again used to label the clusters and Good Adjustment (GA1), Moderate Adjustment (MA1), and Poor Adjustment (PA1) clusters were identified. For the ADJ-1 subgroup only individuals in the PA1 cluster were found to have a mean score in the clinical range (Stress Management). Clusters in the ADJ-1 subgroup appeared to follow the same pattern as the clusters in the ADJ group (see Figures 4.2c and 4.2d). Individuals in the GA1 cluster tended to have fewer behavior problems than did those in either the MA1 or PA1 clusters and individuals in the MA1 had fewer behavior problems than those in the PA1 cluster. Similar results were found for the EQ-I: YV scales although individuals in the PA1 cluster did do as well or better than individuals in the MA1 and GA1 clusters in regards to Intrapersonal and Interpersonal skills. The demographic characteristics for clusters found in ADJ-1 are presented in Table 4.2b.

Based on the EQ-I: YV scales, the ADJ-2 clusters were given the same labels as those given to the ADJ and ADJ-1 clusters [i.e.,Good Adjustment (GA2), Moderate Adjustment (MA2), and Poor Adjustment (PA2)]. Unlike the ADJ and ADJ-1 clusters, however, the relationships among the ADJ-2 clusters were not as straightforward for the YSR scales. (see Figures 4.2e and 4.2f). In terms of EQ-I: YV scores, individuals in the

Table 4.2a Demographic characteristics of ADJ clusters (n = 137).

	Moderate (n = 57)	Good (n = 58)	Poor (n = 22)
Age			
12	28% (16)	21% (12)	27% (6)
13	53% (30)	55% (32)	54% (12)
14	19% (11)	22%(13)	14% (3)
15	-	2% (1)	5% (1)
Gender			
Male	46% (26)	45% (26)	41% (9)
Female	54% (31)	55% (32)	59% (13)
Ethnicity			
White	91% (52)	92% (53)	91% (20)
Metis	5% (3)	3% (2)	9% (2)
East Indian	2% (1)	2% (1)	-
Latin	2% (1)	3% (2)	-
Family Type			
Intact	82% (47)	76% (44)	86% (19)
Divorced	14% (8)	21% (12)	14% (3)
Widowed	4% (2)	3% (2)	-

Note. Moderate = Moderate Adjustment Cluster; Good = Good Adjustment Cluster, Poor = Poor Adjustment Cluster. Numbers in parentheses indicate actual numbers of participants.

Figure 4.2c EQ-I: YV Cluster Means,ADJ-1

Validity Group 1, n = 68

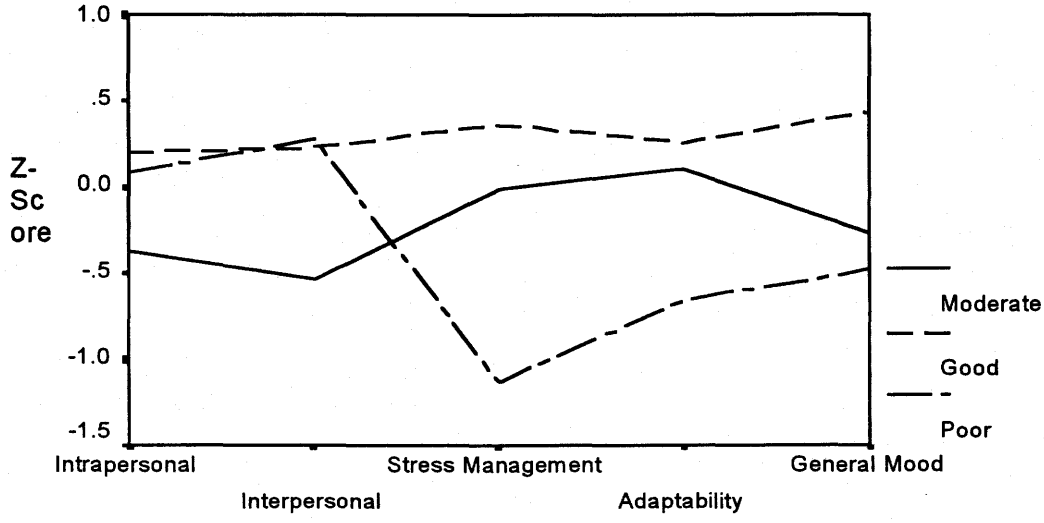


Figure 4.2d YSR Cluster Means, ADJ-1

Validity Group 1, n = 68

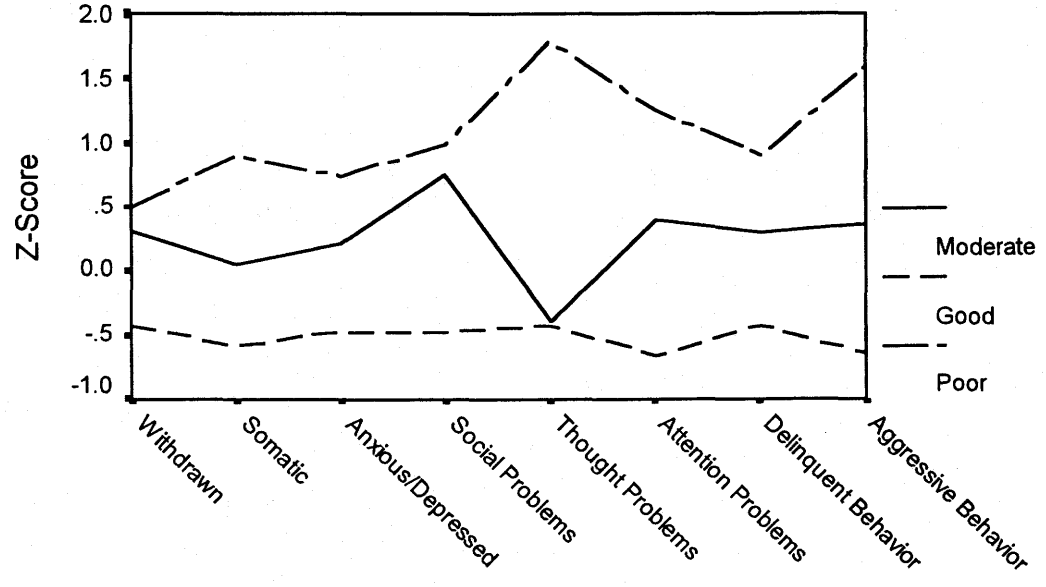


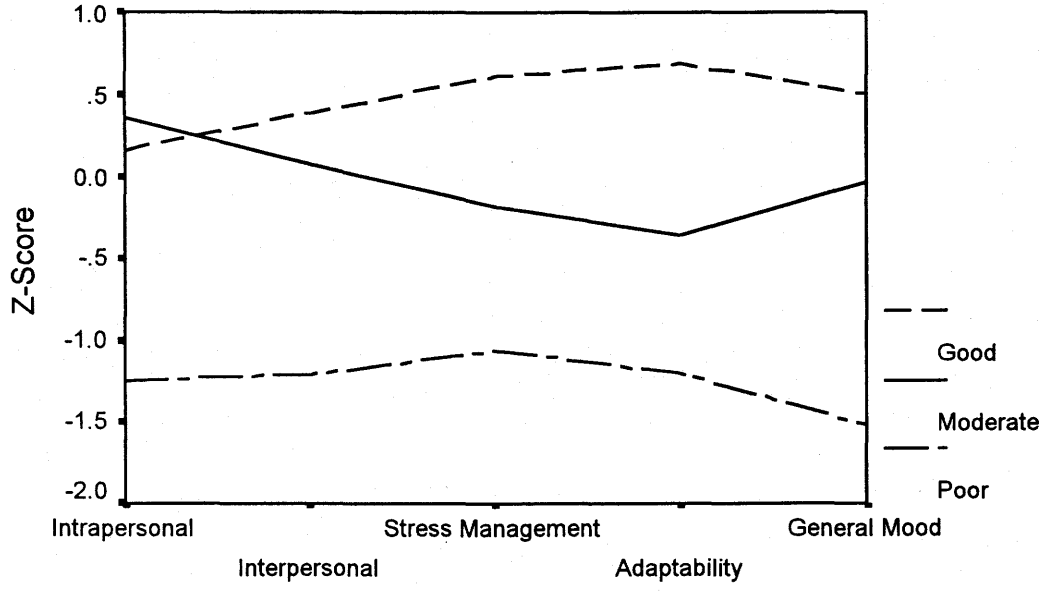
Table 4.2b Demographic characteristics of ADJ-1 clusters (n = 68).

	Moderate (n = 20)	Good (n = 36)	Poor (n = 12)
Age			
12	15% (3)	19% (1)	8% (1)
13	60% (12)	50% (18)	67% (8)
14	25% (5)	31% (11)	17% (2)
15	-	-	8% (1)
Gender			
Male	35% (7)	39% (14)	25% (3)
Female	65% (13)	61% (22)	75% (9)
Ethnicity			
White	95% (19)	89% (32)	92% (11)
Metis	-	6% (2)	8% (1)
East Indian	5% (1)	2.5% (1)	-
Latin	-	2.5% (1)	-
Family Type			
Intact	90% (18)	72% (26)	83% (10)
Divorced	10% (2)	22% (8)	17% (2)
Widowed	-	6% (2)	-

Note. Moderate = Moderate Adjustment Cluster; Good = Good Adjustment Cluster, Poor = Poor Adjustment Cluster. Numbers in parentheses indicate actual numbers of participants.

Figure 4.2e EQ-I: YV Cluster Means, ADJ-2

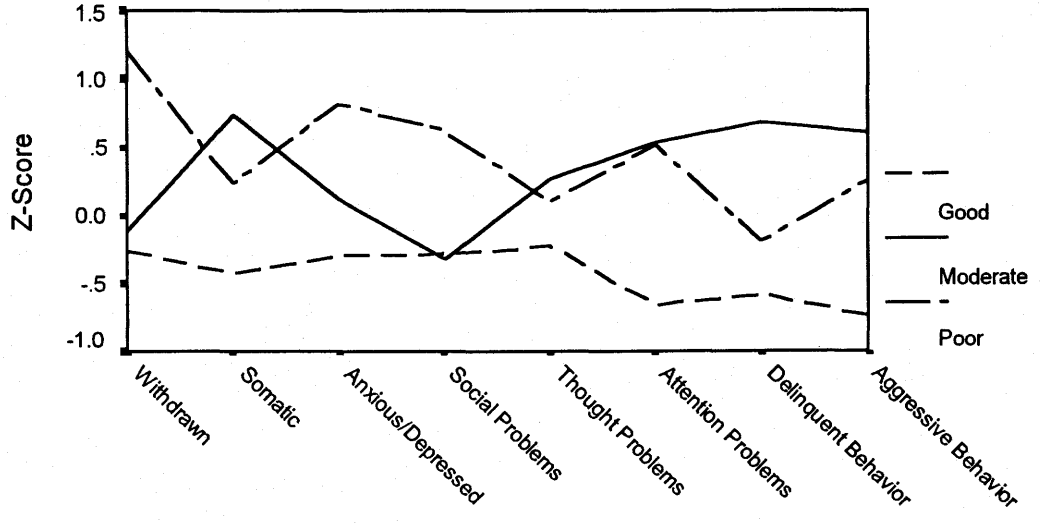
Validity Group 2, n = 69



EQ-I: YV Scales

Figure 4.2f YSR Cluster Means, ADJ-2

Validity Group 2, n = 69



YSR Scales

PA2 cluster had the lowest scores with all of them falling at least one standard deviation below the mean. Individuals in the GA2 cluster had higher scores than those in the MA2 cluster with the exception of Intrapersonal skills for which MA2 individuals did slightly better. In terms of YSR scores, individuals in the GA2 cluster had fewer behavior problems (with the exception of Social Problems) than either those in the MA2 or PA2 clusters but there were no consistent differences between the MA2 and PA2 clusters. For some scales (e.g., Withdrawn, Anxious/Depressed, Social Problems) individuals in the PA2 cluster exhibited poorer adjustment than those in the MA2 cluster. However, for other scales (e.g., Somatic Problems, Delinquent Behavior, Aggressive Behavior) individuals in the PA2 cluster exhibited better adjustment than those in MA2 cluster. The demographic characteristics for the clusters found in the ADJ-2 subgroup are provided in Table 4.2c.

Although there was some agreement between the ADJ, ADJ-1 and ADJ-2 groups in terms of the interrelationships among clusters, there were also differences in terms of the profiles between the undivided sample and the two validity groups. In order to examine the replicability of the clusters within the sample, two other methods were utilized to examine the internal validity of the results. First the internal consistency within the clusters was examined by the use of discriminant function analysis (DFA). Various multiple discriminant functions were obtained from the ADJ, ADJ-1, and ADJ-2 groups in order to predict cluster membership. The first multiple discriminant function was produced from the ADJ clusters and was utilized to predict the membership of its

Table 4.2c Demographic characteristics of ADJ-2 clusters (n = 69).

	Good (n = 30)	Moderate (n = 27)	Poor (n = 12)
Age			
12	20% (6)	37% (10)	58% (7)
13	60% (18)	52% (14)	33% (4)
14	17% (5)	11% (3)	9% (1)
15	3% (1)	-	
Gender			
Male	53% (16)	52% (14)	58% (7)
Female	47% (14)	48% (13)	42% (5)
Ethnicity			
White	90% (27)	93% (25)	92% (11)
Metis	3% (1)	7% (2)	8% (1)
East Indian	-	-	-
Latin	7% (2)	-	-
Family Type			
Intact	80% (24)	81% (22)	83% (10)
Divorced	13% (4)	19% (5)	17% (2)
Widowed	7% (2)	-	-

Note. Moderate = Moderate Adjustment Cluster; Good = Good Adjustment Cluster, Poor = Poor Adjustment Cluster. Numbers in parentheses indicate actual numbers of participants.

own cases. This analysis yielded two significant functions, the first ($p. < .0001$) accounting for 90.4% of the variance and the second ($p < .0001$) accounting for 9.6% of Table 4.2c Demographic characteristics of ADJ-2 clusters (n = 69).the variance. Overall, correct classification using the ADJ clusters to predict ADJ membership was 94.2% (chance accuracy = 37.8%).

The second multiple discriminant function was created from the ADJ-1 clusters and was used to predict the membership of the ADJ-2 cases. The analysis produced two significant functions ($p < .0001$) accounting for 80.3% and 19.7% of the variance, respectively. Overall, correct classification using the ADJ-1 clusters to predict the membership of ADJ-2 cases was 63.8% (chance accuracy = 39.6%).

The third multiple discriminant function was produced from the ADJ-2 subgroup and was used to predict membership for ADJ-1 cases. Two significant functions were found ($p < .0001$), with the first function accounting for 67.4% of the variance and the second function accounting for 32.6% of the variance. Overall, correct classification using the ADJ-2 clusters to predict membership for ADJ-1 cases was 57.4% (chance accuracy = 37.2%). The low rates of correct classification of cases for the two validity groups indicate that there was a lack of homogeneity within the clusters and little discreteness between clusters (Sheckter, 1997). Such findings indicate a low level of statistical meaningfulness.

Another indication of the low internal validity of the clusters was the large ranges on the various individual scale scores within each of the three clusters for the ADJ, ADJ-1, and ADJ-2 groups. For example, 34 of the 39 ranges (13 scales X 3

clusters) in the ADJ group were greater than, or equal to three standard deviation units. Such varied scores within clusters strongly detracts from any clinical meaningfulness that could be derived from the present results. The means, standard deviations, and ranges for each of the three clusters for the ADJ, ADJ-1, and ADJ-2 groups for each of the 13 individual scales are listed in Tables 4.3a, 4.3b, and 4.3c.

Although the resulting clusters did not have a high degree of internal validity it was decided to examine their external validity via comparisons between the three ADJ clusters on the SSVC scores. A one-way ANOVA indicated a significant main effect ($F(2, 131) = 23.14$, $p < .001$) and LSD comparisons further determined that that there were no significant differences between the MA and PA clusters ($t(75) = 1.218$, $p = .237$) but that individuals in the GA cluster had a higher mean score than did those individuals in the MA and PA clusters ($t(111) = 5.776$, $p < .001$ and $t(76) = 5.334$, $p < .001$ respectively). Although there was a significant difference between clusters, such a difference is not strong evidence for external validity as the internal validity of the clusters was low.

4.4 Differences Based on Marital Status of Parents

Given the lack of significant findings regarding the cluster analysis it was decided to investigate how the present sample compared to findings in the literature regarding the differences between children from divorced families and children from intact families. As can be seen in Figures 4.3a and 4.3b the mean scores for children from both divorced and intact families were well within one standard deviation of the mean for all of the individual scale scores. In terms of statistical significance, t-tests

Table 4.3a Standardized means, standard deviations, and ranges for the individual scale scores for ADJ

Scale	ADJ (n = 137)								
	Moderate Adjustment			Good Adjustment			Poor Adjustment		
	Mean	SD	Range	Mean	SD	Range	Mean	SD	Range
Intra	-.223	.887	4.26	.321	.854	4.24	-.267	1.36	4.53
Inter	-.280	.904	4.49	.365	.742	3.64	-.237	1.45	6.05
Stress	-.195	.673	3.40	.548	.796	3.53	-.939	1.28	4.56
Adapt	-.394	.867	3.43	.634	.722	3.04	-.651	1.02	4.08
Gen Mood	-.262	.826	3.96	.553	.753	4.20	-.779	1.19	4.66
Withdrawn	.010	.907	4.24	-.350	.809	3.18	.897	1.13	4.22
Somatic	.020	.830	3.35	-.496	.563	2.30	1.25	1.18	4.83
Anx/Dep	-.064	.677	3.41	-.437	.762	3.07	1.32	1.12	4.56
Social	.119	.882	4.25	-.481	.731	3.37	.959	1.12	5.05
Thought	-.167	.738	3.40	-.337	.761	2.62	1.32	1.09	3.77
Attention	.296	.650	2.70	-.776	.620	2.34	1.28	.801	3.08
Delinquent	.345	.949	4.63	-.528	.723	3.46	.498	1.12	4.52
Aggressive	.253	.700	3.95	-.710	.540	2.48	1.22	1.10	4.63

Note. Intra = Intrapersonal, Inter = Interpersonal, Stress = Stress Management, Adapt = Adaptability, Gen Mood = General Mood, Anx/Dep = Anxious/Depressed

Table 4.3b Standardized means, standard deviations, and ranges for the individual scale scores for ADJ-1

Scale	ADJ-1 (n = 68)								
	Moderate Adjustment			Good Adjusment			Poor Adjustment		
	Mean	SD	Range	Mean	SD	Range	Mean	SD	Range
Intra	-.375	.913	2.93	.198	.912	3.99	.077	.90	2.28
Inter	-.532	1.08	4.94	.226	.884	4.33	.281	.75	2.98
Stress	-.012	.798	3.21	.366	.792	3.25	-1.13	1.29	4.56
Adapt	.104	.839	3.24	.255	.817	3.24	-.656	.70	2.29
Gen Mood	-.271	.825	3.51	.435	.654	3.31	-.482	1.11	3.50
Withdrawn	.306	.961	3.26	-.422	.792	2.95	.498	.91	3.29
Somatic	.037	.735	2.63	-.590	.420	1.97	.904	.97	3.24
Anx/Dep	.211	.866	3.35	-.469	.589	2.75	.740	1.17	4.17
Social	.745	.932	3.63	-.474	.693	2.67	.996	.91	3.09
Thought	-.396	.496	1.74	-.421	.639	2.57	1.79	.89	2.49
Attention	.404	.552	1.91	-.663	.695	2.34	1.26	.98	3.85
Delinquent	.297	.995	3.01	-.425	.760	3.07	.907	1.30	4.52
Aggressive	.364	.639	2.22	-.650	.514	1.63	1.59	1.06	3.97

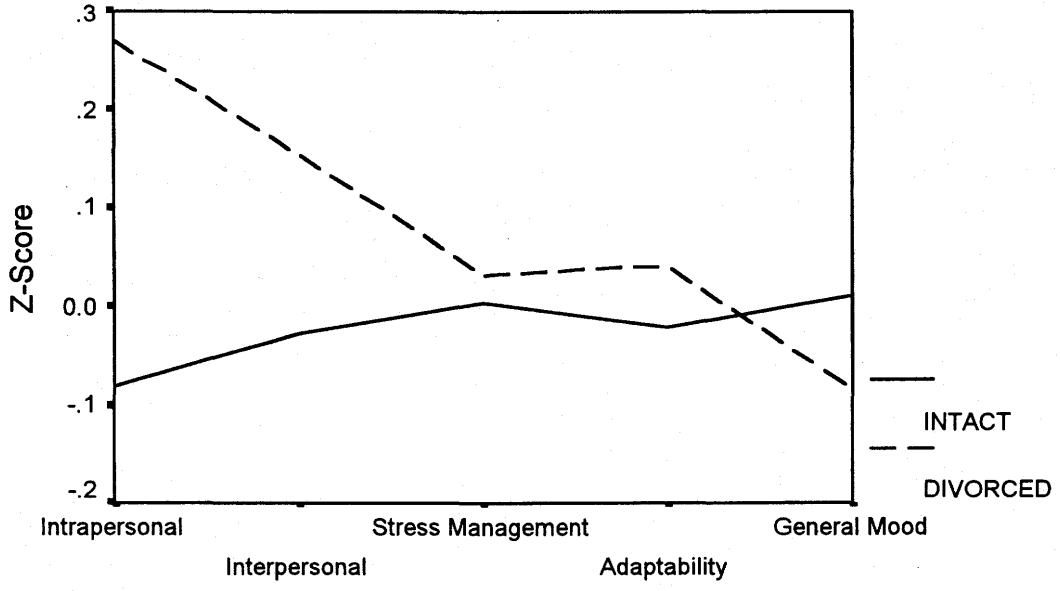
Note. Intra = Intrapersonal, Inter = Interpersonal, Stress = Stress Management, Adapt = Adaptability, Gen Mood = General Mood, Anx/Dep = Anxious/Depressed

Table 4.3c Standardized means, standard deviations, and ranges for the individual scale scores for ADJ-2

Scale	ADJ-2 (n = 69)								
	Good Adjustment			Moderate Adjustment			Poor Adjustment		
	Mean	SD	Range	Mean	SD	Range	Mean	SD	Range
Intra	.16	.88	3.71	.35	.88	3.05	-1.24	1.02	3.51
Inter	.38	.92	4.33	.08	.79	3.15	-1.20	.85	2.79
Stress	.61	.79	3.36	-.18	.55	2.27	-1.06	1.00	3.33
Adapt	.69	.78	3.42	-.36	.92	3.61	-1.20	1.00	3.34
Gen Mood	.50	.93	4.20	-.04	.66	2.70	-1.52	.98	2.99
Withdrawn	-.27	.83	3.17	-.12	.74	3.18	1.21	1.38	4.22
Somatic	-.43	.66	2.30	.73	1.20	4.88	.23	1.17	3.95
Anx/Dep	-.30	.86	3.07	.11	.96	3.55	.82	1.40	4.22
Social	-.29	.80	3.37	-.32	.76	2.67	.62	1.29	4.80
Thought	-.23	.81	2.62	.27	.84	3.32	.10	1.29	3.81
Attention	-.66	.62	2.34	.53	.78	3.06	.51	1.09	3.37
Delinquent	-.58	.61	2.51	.67	.87	3.63	-.19	.74	2.67
Aggressive	-.74	.58	2.48	.60	.75	3.47	.26	.78	2.67

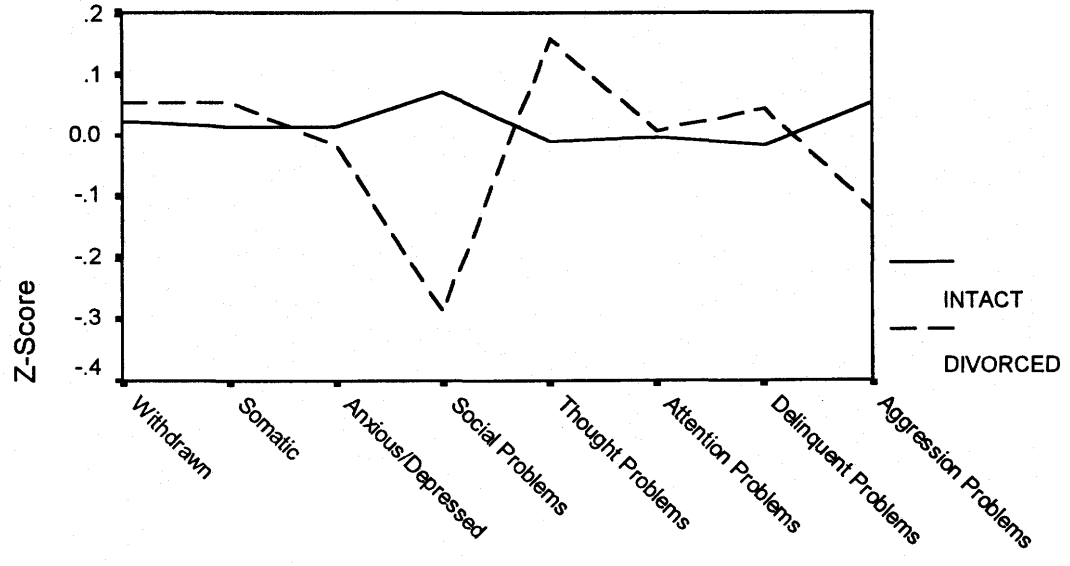
Note. Intra = Intrapersonal, Inter = Interpersonal, Stress = Stress Management, Adapt = Adaptability, Gen Mood = General Mood, Anx/Dep = Anxious/Depressed

Figure 4.3a EQ-I: YV means for children from divorced and intact families



EQ-I: YV Scales

Figure 4.3b YSR means for children from divorced and intact families

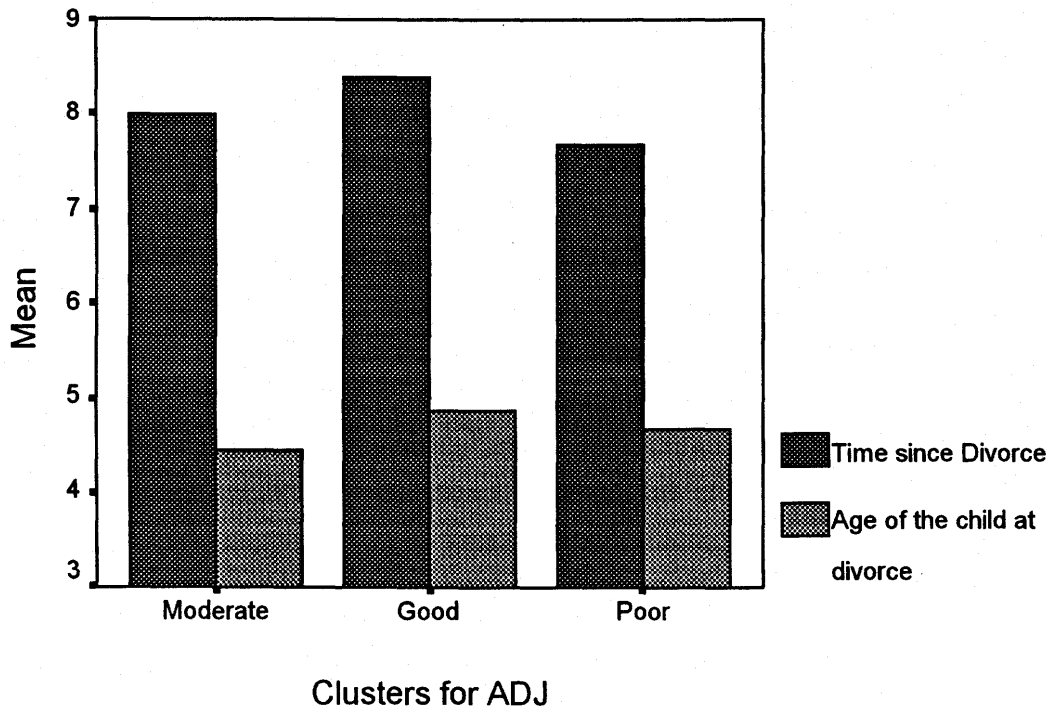


YSR Scales

indicated that neither group differed significantly on any of the individual scale scores. As time since divorce and age at divorce have been identified as sometimes relevant variables for children's adjustment to divorce, a comparison on these variables was made between the ADJ clusters for children from divorced families. The mean values for each cluster for time since divorce and age at divorce are presented in Figure 4.4. As the table illustrates, the number of years since divorce was approximately the same for each cluster (8 years) and, as would be expected, there were also no substantive differences for the age of the child at divorce as well (approximately 4.5 years).

Figure 4.4

Bar Graph of Time Since Divorce and Age at Divorce



5. Discussion

The above results indicate that the hypotheses proposed in the current study have not been supported. The clusters of children found in either of Hetherington's (1989, 1993) studies (i.e., caring-competent, competent-at-a-cost, aggressive-insecure, opportunistic-competent) were not replicated. The resulting clusters in this study did not exhibit a high degree of stability within different subsets of the sample and they also exhibited a low level of homogeneity within clusters and of discreteness between clusters as demonstrated by the DFA results. Furthermore, the clinical utility of the clusters was poor, as large ranges for the clustering variables were characteristic of the resulting clusters. By having such large ranges within the same cluster it is unlikely that the majority of cases within a cluster are accurately portrayed by the mean score on that variable. Thus in a clinical situation it would be unreasonable to assume that an intervention would affect participants within a cluster in a similar manner if these individuals did not have similar characteristics. Given these findings it is reasonable to conclude that the clusters produced in the current study did not have a high degree of statistical or clinical meaningfulness.

There are various explanations for the above findings. One possibility is that the results of this study accurately reflect the characteristics of the target populations. That is, for children whose parents divorced, on average, eight years ago, and for children whose parents have not divorced, there are no meaningful patterns of adjustment. Given previous findings in the literature and the limitations of the current study, however, such a conclusion is unlikely to be valid.

A more plausible explanation of the current findings is likely based on the limitations of the study. One of the possible limitations involved the low internal reliabilities for some of the YSR scales. As noted above the coefficient alphas for these scales ranged from .53 to .82 (see Table 3.2). Although the coefficient alphas for the normative sample of the YSR were also fairly low for some scales (see Table 3.2), the values in the current study were at times less than satisfactory. There does not appear to be an obvious explanation for the discrepancies between the coefficient alphas found in the current study and those found for the normative sample. One possibility may be that the discrepancies are due to using a smaller sample to calculate the coefficient alphas. Given that some of the coefficient alphas obtained for the normative sample (N = 536 for boys and N = 518 for girls) of the YSR were already somewhat low, it is not surprising that they are even lower when calculated using a much smaller sample. Regardless of the reason for the low internal reliabilities, it is possible that these discrepant values contributed to the lack of meaningful findings for the present investigation.

A second concern regarding the psychometric properties of the study involved the presence of outliers in the sample. As with any type of analysis, how a researcher chooses to deal with outliers is a challenging task. However, in the current investigation the situation was complicated as there are no guidelines in the literature on divorce and child adjustment on how to deal with outliers when performing a cluster analysis. As noted previously, Hetherington (1989, 1993) is the only researcher who has utilized cluster analysis for this type of research question and she made no mention regarding outliers in either of her publications. Additionally, it does not appear that other areas of

research (e.g., alcoholic subtypes) where cluster analysis is more frequently used contain helpful guidelines regarding the treatment of outliers. Sheckter (1997) reports that past research on subtypes of alcoholics provides little assistance for current researchers attempting to deal with outliers. The presence of outliers in the current sample likely contributed to the lack of meaningful findings as they increased the heterogeneity of the sample and increased the range of the clustering variables. One noteworthy point, however, is that the presence of outliers only provide an explanation for the increased range in the third cluster of the ADJ group as all of the outliers found in the main sample were placed in this group. Thus the large ranges for the remaining two clusters of the ADJ group are not accounted for by outliers.

As the presence of outliers and poor reliabilities were identified as limitations of the present study, a post-hoc analysis was performed in order to determine the influence of these factors on the current results. Four outliers (three multivariate and one univariate) were deleted from the sample and the five individual scales from the EQ-I: YV, and the Internalizing and Externalizing scales from the YSR, were used as clustering variables. The Internalizing and Externalizing scales are composite scores of the individual YSR scales, with the Internalizing scale being made up of the Withdrawn, Somatic, and Anxious/Depressed scales and the Externalizing scale being comprised of the Delinquent Behavior and Aggressive Behavior scales. The internal reliability coefficients for the Internalizing and Externalizing scales were $\underline{r} = .85$ and $\underline{r} = .80$, respectively. The main group for this sample consisted of 133 participants and was labeled as the Externalizing/Internalizing group (EXT).

As with the main analysis, the dendogram and amalgamation schedule indicated that a three-cluster solution best represented the data. The three clusters were given the labels of Good Adjustment – Externalizing/Internalizing (GAE), Mixed Adjustment - Externalizing/Internalizing (MAE), and Low Emotional Intelligence - Externalizing/Internalizing (Low EI). As with before, these labels were based on the relationships between the clusters, and overall, the majority of the mean scores for the various clusters were not significantly elevated or depressed (see Figures 5.1a and 5.1b in Appendix E).

The GAE cluster was distinguished from the MAE cluster in that individuals in the GAE cluster had lower mean scores for both Internalizing and Externalizing problems and they had higher scores for all of the EQ-I: YV variables with the exception of Intrapersonal skills on which the MAE individuals had a slightly higher mean score. The MAE cluster received the "Mixed" label because the EQ-I: YV mean scores generally fell between the scores for the GAE and Low EI clusters but the Externalizing and Internalizing scores for this group were the highest in comparison to the other two groups. Thus the MAE group appeared to have strong emotional intelligence skills in comparison to the Low EI group yet individuals in this group also appeared to have more behavior problems. The Low EI group was characterized by having the lowest mean scores for all of the EQ-I: YV scales. Individuals in this group had mean scores that were at least one standard deviation below the mean for the Intrapersonal and Adaptability scales. The demographic characteristics for the EXT clusters are presented in Appendix E (Table 5.1).

The main sample (EXT) was then randomly divided into EXT-1 (n = 66) and EXT-2 (n = 67) and each group was submitted to a cluster analysis and solved for three clusters. The remaining steps of the analysis are identical to the previous ADJ analysis and only the results will be presented. The reader is referred to the method section for specific details.

For the EXT-1 subsample the resulting clusters were somewhat different than those found for the EXT main sample in that Good Adjustment (GAE-1), Moderate Adjustment (MOE-1), and Poor Adjustment (PAE-1) clusters could be clearly identified. Individuals in the GAE-1 cluster had the highest mean scores on all of the EQ-I: YV scales as well as the lowest mean scores on the Internalizing and Externalizing scales. Individuals in the MAE-1 cluster had mean scores that fell in between those of the GAE-1 and PAE-1 clusters for all of the scales with the exception of the Interpersonal scale on which the PAE-1 group had a slightly higher score. As can be seen in Figures 5.2a and 5.2b in Appendix E, in addition to there being differences between the EXT and EXT-1 clusters in terms of their overall relationships, there were also differences in elevation. For example, the GAE-1 cluster had mean scores on three of the EQ-I: YV scales that were approximately half a standard deviation above those scores for GAE cluster. The demographic characteristics for each cluster are presented in Table 5.2 in Appendix E.

The clusters that emerged for the EXT-2 subsample were more similar to those found in the EXT sample than the EXT-1 clusters. The clusters were given the same labels as those found in the EXT-1 subsample: Good Adjustment (GAE-2), Moderate Adjustment (MOE-2), and Poor Adjustment (PAE-2). Although a Moderate Adjustment

cluster was identified it was difficult to label as it also had similarities to the Mixed Adjustment cluster in the EXT sample. The MOE-2 individuals had EQ-I: YV mean scores that generally fell in between the scores for the individuals in the remaining two clusters but for the YSR scales these individuals had more externalizing problems but fewer internalizing problems than the GAE-2 group. As is demonstrated by Figure 5.3a in Appendix E there was a high degree of similarity between the EQ-I: YV scores for the EXT and EXT-2 clusters both in terms of profile and elevation. Figure 5.3b, however, illustrates that there was not as much similarity in terms of the YSR scales. The PAE-2 and MOE-2 groups were not as distinct as those found in the EXT sample with MOE-2 group exhibiting more externalizing problems and the PAE-2 group exhibiting more internalizing problems. The demographic characteristics for EXT-2 clusters are presented in Table 5.3 in Appendix E.

For the internal replication phase of the analysis there was a low to moderate degree of agreement between the EXT clusters and the EXT-1 and EXT-2 clusters. EXT and EXT-2 clusters evidenced a number of similarities but there were few similarities between EXT and EXT-1 clusters. Subsequently, there was also a low degree of concordance for the EXT-1 and EXT-2 clusters.

The discriminant function analyses also indicated that there was a low to moderate degree of internal validity for the resulting clusters. The first multiple discriminant function was produced from the EXT clusters and was utilized to predict the membership of its own cases. This analysis yielded two significant functions, the first ($p. < .0001$) accounting for 76.7% of the variance and the second ($p < .0001$)

accounting for 23.3% of the variance. Overall, correct classification using the ADJ clusters to predict ADJ membership was 94% (chance accuracy = 41%).

The second multiple discriminant function was created from the EXT-1 clusters and was used to predict the membership of the EXT-2 cases. The analysis produced two significant functions ($p < .01$) accounting for 94.5% and 5.5% of the variance, respectively. Overall, correct classification using the EXT-1 clusters to predict the membership of EXT-2 cases was 52.2% (chance accuracy = 46%).

The third multiple discriminant function was produced from the EXT-2 subgroup and was used to predict membership for EXT-1 cases. Two significant functions were found ($p < .0001$), with the first function accounting for 79.6% of the variance and the second function accounting for 20.4% of the variance. Overall, correct classification using the EXT-2 clusters to predict membership for EXT-1 cases was 37.9% (chance accuracy = 38%). These low rates of correct classification of cases for these three groups again indicate that there was a lack of homogeneity within the clusters and little discreteness between clusters.

As with the previous analysis, large ranges on the various scales within each of the clusters were also evident. In the EXT sample, 18 of the 21 ranges (7 scales X 3 clusters) were greater than, or equal to three standard deviation units. The means, standard deviations, and ranges for each of the three clusters for the EXT, EXT-1, and EXT-2 groups for each of the seven scales are listed in Tables 5.4a, 5.4b, and 5.4c.

The external validity of the clusters was also examined by comparing the mean scores on the SSVC questionnaire across the EXT clusters. A one-way ANOVA indicated the presence of a main effect (F (2, 127) = 29.90, $p < .001$) and LSD

comparisons further determined that there were no significant differences between the MAE and Low EI clusters (t (55) = .444, p = .687) but that individuals in the GAE cluster had a higher mean score than did those individuals in the MAE and Low EI clusters (t (103) = 6.089, p < .001 and t (96) = 5.998, p < .001, respectively).

The above results provide an indication that the presence of outliers in the previous analysis and the poor reliabilities for some of the YSR scales were not critical factors in determining the poor internal validity of the ADJ clusters. Even with the outliers removed from the analysis and adequate reliabilities, the resulting clusters did not evidence a great deal of stability across subsets of the sample and there were not convincing differences in terms of the SSVC score for the various clusters. Although the GAE group did have higher scores than the MAE and PAE groups such a difference does not provide evidence for a high degree of external validity given the poor internal validity indicators noted above.

In addition to the above mentioned weaknesses (i.e., presence of outliers and the poor reliabilities of the YSR scales), other limitations should be discussed. A significant weakness of the current study is the fact that the sample was not drawn at random from the population but was comprised only of adolescents who had the permission of their parent(s) to participate. Given that this sample was one of convenience it is difficult to determine if it is representative of the targeted populations of children from divorced and intact families. Accurate representation is unlikely, given the low number of children from divorced families. Such children made up approximately 17% of the sample and this proportion is unusually low given the current divorce rates noted in the literature. With such a low number of children from divorced families comprising the

sample, the conclusions that can be drawn regarding the adjustment patterns of children of divorce are severely limited.

That children from divorced families were more likely to not participate in the study was supported by feedback from teachers in the various schools and the refusals of some students to participate in the study at the time of data collection. During the gathering of parental consent forms, various teachers noted that the parents of children from divorced families were more likely to refuse consent than parents of children from intact families. Although no formal data were gathered on the characteristics of children and families who did not participate it is plausible that divorced families were more reluctant to participate in the current study. Whitehead (1993, cited in Simons et al., 1996) provides two relevant reasons why children and parents from divorced families would not choose to participate in research on marital transitions. First, most parents who divorce are quite concerned about the welfare of their children and their decision to divorce was likely not an easy one. Parents may be concerned about allowing their child to participate in a study that may remind the child and/or the parents of the difficulties and painful memories that occurred due to the divorce. Second, divorced parents may not be enthusiastic about studies on marital transitions as it is possible that the subsequent findings may be used to argue that these parents made a poor choice for the welfare of their children. Although an emphasis was placed on identifying both the risk and protective factors involved in the divorce process in the current study it is still very likely that parents were concerned about how they and their children were going to be portrayed.

The sole use of self-report measures is also a weakness of the current study. Self-report data can provide meaningful and unique information, but there were no other sources of data to counterbalance the biases of self-report. As noted by Hetherington (1999), gathering data via multiple informants is the surest way to safeguard against participants' biases but the present study was limited in that only access to the children was obtained.

Given the above limitations, the question still remains regarding the poor validity of the resulting clusters. One reason for these results may be the conservative methods used for validating the clusters. The validation methods used in the current study can be considered as rigourous but also necessary. As noted by experts in the use of cluster analysis, the temptation to accept clusters that have not been validated must be resisted (Aldenderfer & Blashfield, 1984). One reason for not obtaining clusters similar to those found by Hetherington (1989, 1993) may be that the clusters found by Hetherington were not valid. Hetherington does not report on her validation techniques and has not been accessible to provide information on these details. Without knowledge of the validation procedures utilized, it is possible that Hetherington's clusters are no more valid than those found in the present study.

The above point still does not fully address the lack of meaningful clusters in the current study. Even if Hetherington's previous clusters were not valid, a strong argument still remains for the existence of distinct patterns of adjustment amongst children of divorce. Given the heterogeneity of such children that has been reported in the literature it is likely that meaningful subgroups do exist.

Working under this assumption two possible explanations are available to explain the current clusters. First, it may be that emotional intelligence is not an appropriate construct to use to investigate the adjustment of children of divorce. As noted in the method section, EI is a relatively new construct with some debate existing regarding its validity. Although research is beginning to illustrate that EI is a valid construct, the possibility that it is not needs to be noted. I would argue, however, that ruling out the utility of the EI construct is premature in this instance. In order to truly evaluate the role of EI in relation to adjustment to divorce, future studies need to be implemented with more representative and larger samples.

The representativeness of the current sample is the second possible explanation for the lack of meaningful clusters. It is likely that the current sample is overrepresented by relatively well-adjusted children. Hetherington (1993) reports that, in her longitudinal study, approximately 10% of children from intact families and 16%-34% (numbers differed based on gender and type of divorced family) of children from divorced families scored above the clinical cutoff for the Total Problem Behavior Scale of the Child Behavior Checklist (completed by parents). In comparison to these figures, the participants in the present study are relatively well-adjusted. Approximately 10% of children from intact families and only 9% of children from divorced families scored above the clinical cutoff (more than 1.4 standard deviations above the mean) on the Total Problem Behavior Scale for the current sample. Although the percentage of children from married families scoring above the cutoff is similar to Hetherington's sample, the percentage of children from divorced families is noticeably lower. Given that two thirds of Hetherington's sample consisted of divorced and remarried families, it

is evident that her overall sample was more poorly adjusted than the sample used in the current study. Even though the present estimates are based on self-report and those by Hetherington are based on parent-report, the differences are still noteworthy. It is likely that for this sample, no meaningful clusters exist as the vast majority of children were well-adjusted. Given this conclusion the present results should not be generalized to the larger population of children from divorced families. For the current sample there were no distinct patterns of adjustment among children from divorced families or among children from intact families. This lack of differentiation can be seen as a positive point as it indicates that, overall, for the current sample, children from divorced families were as well adjusted as children from intact families.

An additional indication of the similarities between children from divorced and intact families was the number of close friends these children reported having. As part of the marital history interview, all participants were asked how many close friends they had in order to draw their attention away from the topic of divorce. Although the manner in which these data were gathered was informal the results are noteworthy. After the elimination of 9 outliers (2 children from divorced families and 7 from intact families), the average number of reported close friends was calculated for both children from divorced and intact families. Surprisingly, children from divorced families reported having more friends ($\underline{M}$ = 7.14, SD = 3.34) than children from intact families ($\underline{M}$ = 6.44, SD = 3.01). Although there was not a large difference in terms of the number of friends, these findings provide more evidence of how the present sample is somewhat more homogenous than would be expected based on findings in the literature.

The lack of heterogeneity in the current sample does indicate that future studies will need to address the difficulty in obtaining a representative sample. Samples of convenience are unfortunately utilized for most of the studies on divorce and child adjustment, and obtaining an adequate sample will likely remain a significant hurdle for researchers.

In order for future studies on divorce and child adjustment to successfully obtain a representative sample of divorced families it is vital for researchers to consider and deal with the above concerns regarding the consequences of such research. More in depth recruiting and debriefing methods could be utilized to ensure that families have an accurate perception of the researcher's goals, hypotheses, and motivations. Although such action would involve higher costs and time commitments they may alleviate some of the concerns of divorced families and encourage greater participation. In addition to elaborating on one's goals and motivations for the research, financial incentives may also serve to encourage participation. Both of these recommendations require substantial resources on the part of the researcher but will hopefully improve the chances of obtaining an adequate sample.

The patterns of adjustment of children from divorced families found by Hetherington (1989, 1993) have yet to be replicated. Given the limitations of the current study no definitive conclusions can be made regarding Hetherington's findings or the relationship between emotional intelligence and children's adjustment to divorce. Further investigation into the generalizability of Hetherington's clusters is warranted as the identification of distinct patterns of adjustment for children from divorced families will likely eventually assist researchers in understanding how such patterns emerge.

Additionally, research involving emotional intelligence and its relation to the divorce process may provide helpful information.

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Appendix A

Parental Consent Form

Study on the adjustment patterns of young adolescents

Mark Nicoll and Dr. Gerald Farthing from the Department of Psychology at the University of Saskatchewan would like to involve your child in their research project. It is hoped that information obtained from a study on the various adjustment patterns of adolescents will ultimately benefit adolescents in terms of their overall adjustment. Our aim is to assist school counsellors, parents, and other adults involved with adolescent children in identifying some of the factors that contribute to both successful and problematic adjustment. Studies have found that children whose parents have experienced changes in marital status (e.g., divorce and/or remarriage) have different patterns of adjustment compared to children whose parents have not experienced such changes. One problem with these studies, however, is that the differences between these groups are not clearly defined. There has been a tendency for researchers to treat all children from divorced families as having poor patterns of adjustment, when in fact, the majority of such children do not show any long-term behavioural problems. This study will examine some of the characteristics that differentiate youths in terms of their psychosocial adjustment and their parents' marital history.

Various classes in your child's school may have been selected to participate in this study. The criteria necessary for being included in this study are that your child be between the ages of 12-14 years and he or she is in grade 7 or 8. If your child is currently in grade 7 or 8 and is not within the age range, he or she is still welcome to participate. We want to stress that the fact that your child's class has been selected in no way implies that the class in general, or your child in particular, has any unusual or severe problems in adjustment. Your child will be informed that he or she is not required to participate in this study, and that he or she may withdraw at any time. If students decide to withdraw after having begun the study, all of the data they have provided to that point will be deleted from the study and destroyed. If students decide not to participate, or to withdraw, their decision will not affect their school marks or any other aspect of school life.

Participation will involve having your child complete a series of self-report questionnaires (taking approximately 40 minutes to complete) and participating in a short (5-10 minutes) interview at their school. The questionnaires deal with emotions (e.g., how your child deals with emotions), self-perceptions (e.g., how your child views himself or herself in various situations such as academics and friendships), and various behaviours (e.g., activity level and behaviour at school) that have been linked to the adjustment of children in general. The short interview will focus on the marital transitions that have occurred in your child's family and your child's current living arrangements. Your child will NOT be asked questions regarding family interactions or discipline techniques. Only the information mentioned above will be requested. Some items contained in the questionnaires deal with the personal feelings of your child along with other sensitive issues (e.g., friendships, stress, etc.). The past experience with these questionnaires is that they do not create any unusual distress. However, if after your

child has completed the questionnaires and the interview, they find themselves upset about the things asked in this study, they will be informed that they may talk with their school counsellor. The school counsellor is aware of this study and is ready to discuss any issues your child may have. Also, if your child is observed becoming upset or uncomfortable during the questionnaires or interview, the researcher will stop the session and, with the assistance of the teacher or the principal, will provide the necessary assistance. If you or your child have any concerns or questions you can also contact Mark Nicoll or Dr. Gerald Farthing at 966-8925.

In order to protect the confidentiality of your child, identification numbers, rather than names, will be used for the organization of student responses. In the beginning of the study students will be asked to place their names on a cover sheet, however, this sheet will be destroyed immediately after the interview has been completed. Also, none of the questionnaires will be examined until the cover sheets have been destroyed. After this process takes place there will be no way in which a participant's responses can be matched to his or her name.

A Student Information Form will be provided to your child as part of the study. This form will outline the purpose of the study as well as provide contact names and phone numbers if your child has questions or concerns. After this study is completed a copy of the findings will be sent to your child's school. You or your child may also request the results of this study, after its completion (expected in September 2001), by contacting Mark Nicoll either by mail or by telephone at the Department of Psychology. The results of this study may be published in scientific journals or presented at psychological conferences, but only in group form; no data will ever be presented by student, by school, or by school division. Finally, in accordance with University of Saskatchewan requirements, all data from this study will be safeguarded and securely locked in Dr. Farthing's University office for a period of five years, and then will be destroyed.

Questions regarding this research project may be directed to either Dr. Gerald Farthing (966-8925) or Mark Nicoll (966-8925). **We would appreciate it if you would indicate on the slip provided on the attached page whether or not your child has permission to participate. Would you kindly sign and date the slip and have your child return it as soon as possible.** All students who return permission slips (regardless of whether permission is granted or not) will have the opportunity to win a $15.00 gift certificate from a music store. Thank-you for taking the time to consider our request.

****Please keep the first page of this handout for your own records and refer to the attached consent form on the following page.**

PLEASE COMPLETE AND HAVE YOUR CHILD RETURN THIS PAGE TO HIS OR HER TEACHER WITHIN ONE WEEK. THANK YOU FOR YOUR CONSIDERATION.

I understand that the study described above on **The Adjustment Patterns of Young Adolescents** has been approved by the School Board, as well as by my child's school principal and teacher. I further understand that this research has been approved by the University of Saskatchewan Advisory Committee on Ethics in Behavioral Sciences Research. Additionally, I understand that any questions or concerns that I have regarding this research project may be submitted to that committee through the Office of Research Services (306) 966-4053.

_____ Yes, my son/daughter has my permission to participate

_____ No, my son/daughter does not have my permission to participate

_____	_____	_____
(signature of parent or guardian)	(date)	(name of child)

Mark J. Nicoll, B.A.
Graduate Student, Dept. of Psychology

Phone: 966-8925 (leave message)

Gerald Farthing, Ph.D
Associate Professor, Dept. of Psychology
Phone: 966-8925

Appendix B

Me and My School

***Instructions**: Read each sentence below and choose the answer that best describes you. There are FOUR possible answers. 1 = Very seldom true of me; 2 = Seldom true of me; 3 = Often true of me; 4 = Very often true of me. Choose only ONE answer for each sentence and CIRCLE the number that matches your answer. For example, if your answer is "Seldom true of me," you would circle number 2 on the same line of the sentence OR if your answer is "Often true of me" you would circle number 3 on the same line of the sentence.*

When answering these questions think about how school has been for you since the beginning of this school year. This is not a test; there are no "good" or "bad" answers.

	Very Seldom True of Me	Seldom True of Me	Often True of Me	Very Often True of Me
1. I think my school work is boring.	1	2	3	4
2. I think school is useful for the job I want to get when I'm an adult.	1	2	3	4
3. It is important to me to get good grades.	1	2	3	4
4. I am interested in the things I learn in school.	1	2	3	4
5. I would be upset if I got a low grade in one of my subjects.	1	2	3	4
6. I think my homework is fun to do at times.	1	2	3	4
7. I care a lot about doing my best at school.	1	2	3	4
8. I think my education will be valuable in getting the job I want.	1	2	3	4
9. I try to get by in school instead of trying to do the best I can.	1	2	3	4
10. I want to know even more about some things I learn in school.	1	2	3	4
11. It is important for me to be a good student.	1	2	3	4
12. I am interested in the work my teachers give me.	1	2	3	4
13. I think the facts I learn in school are of no value.	1	2	3	4
14. I think I am assigned homework just to keep me busy.	1	2	3	4
15. School is useful for helping me to make good decisions in my life.	1	2	3	4
16. I care as much about being successful in school as I do about being successful at other things.	1	2	3	4
17. I put my best effort into my homework.	1	2	3	4

	Very Seldom True of Me	Seldom True of Me	Often True of Me	Very Often True of Me
18. I think the things I learn in school are useless.	1	2	3	4
19. I think my school work this year will help me in preparing for high school.	1	2	3	4
20. I take part in class discussions of activities.	1	2	3	4
21. I put a lot of energy into what I do in school.	1	2	3	4
22. I "doodle" or pass notes a lot in school.	1	2	3	4
23. I am willing to do a class presentation of my own work.	1	2	3	4
24. I daydream in school.	1	2	3	4
25. I feel only half awake during school.	1	2	3	4
26. I find myself "clock watching" in my school.	1	2	3	4
27. I really pay attention to what the teacher says.	1	2	3	4
28. I do extra work on my own in my school.	1	2	3	4
29. I really enjoy my school.	1	2	3	4

Appendix C

The adjustment patterns of young adolescents (Interview Protocol: *Section I*)

Date:_____ Participant #_____

Interviewer: Thanks for coming. When I was in your class I talked about how I was interested in how teenagers' emotions, thoughts, and behaviours might be different in different situations. One of the things I'm interested in is the type of family a person is in. Now there's all different types of families. For example, you can have families with just one parent, families with two parents, or families with adoptive parents. What I'd like to do today is ask you some questions about how your family is made up. Do you have any questions before we begin? If you have any questions just let me know. I'm going to start out with a couple of standard questions about you.

All participants are asked questions 1-6. All participants are also asked the first question of the "Friends" section. Only the participants whose interviews are noticeably shorter will be asked the remaining "friends" questions. This will be done so as not to place undue emphasis on the differential marital histories of participants' parents. (S) means stop.

1. How old are you?
2. What grade are you in?
3. We're all Canadians but people in Canada have a lot of different cultural backgrounds. Some people have families that came from Europe, others have families that came from India, Africa, or Asia. I'm wondering how you would describe yourself in terms of ethnic or cultural heritage?

4. My next question is about who you have lived with for the last 6 months?

   If living with at least 1 biological parent or both biological parents complete section I

   If living with adoptive parents complete section II
   If living with extended family or friends complete section III

6. Are you adopted?

   If yes: How old were you when you were adopted?

   Who were you adopted by?

I. Living with at least one biological parent

1. Are your parents married to each other?
   If yes, go to #2
   If no, ask if parents are divorced or separated. If yes, go to #5
   If no, ask if parents were ever married or living together. If no, go to #9
2. Have your parents ever been divorced or separated?
   If yes go to #3
   If No (S)
3. How old were you when they divorced or separated? _____
4. How old were you when they got back together again? _____ (S)

---

5. *If divorced*, So how old were you when they divorced/separated? _____

Interviewer: Now I'm going to ask some separate questions about each of your parents.

6. Has your father married (include common-law relationships) anybody else since he and your mother divorced/separated?
   If yes How old were you when this happened? (*If the student indicates that there has been more than one marital transition the transitions will be recorded chronologically*)
7. Has your mother married anybody else (include common-law relationships) since she and your father divorced/separated?
   If yes How old were you when this happened? (*If the student indicates that there has been more than one marital transition the transitions will be recorded chronologically*)

Stepparent:

8. Is your father/mother still married (include common-law relationships) to your stepfather/stepmother?
   If yes (S)
   If no How old were you when they divorced/separated?

If biological parents never married or living together:

9. Has your mother/father ever been married (include common-law relationships)?
   If yes How old were you when he/she got married?
   Is he/she still married to that person?
   If yes (S)
   If no How old were you when they divorced/separated?

If stepparent is involved:

10. Is your father/mother still married (include common-law relationships) to your stepfather/stepmother?
    If yes (S)
    If no How old were you when they divorced/separated?

Friendships:

Interviewer: Now I'd like to ask you some questions about you and your close friends.

1. How many close friends would you say you have?
2. How long have you known your friends?
3. What do you and your friends like to do for fun?
4. What do you like about your friends?

Interviewer: Those are all the questions I have to ask. I'd like to thank you again for participating. Do you have any questions? If you have any questions or concerns about the study you can contact me at the number on the sheet you received in class.

NOTES:

Appendix D

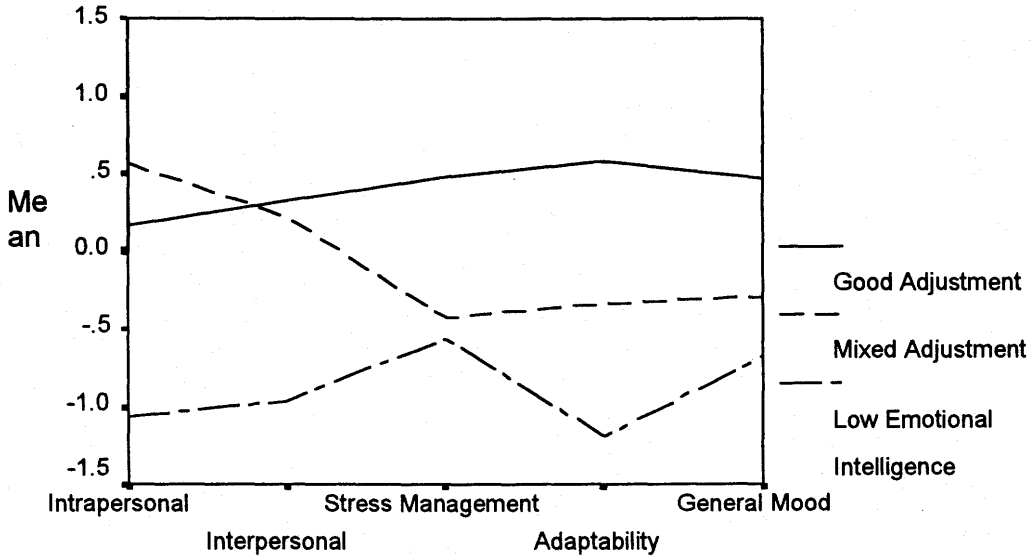
Missing Items

For the YSR missed items were coded as zeros provided there were no more than eight unanswered items. For the EQ-I:YV, missing items were replaced with zeros, and the scale score for which the item was a part of was adjusted provided there were no more than six items missing for the whole questionnaire (see Bar-On, 2000). Missing items for the SSVC questionnaire were dealt with by inserting the mean score of the scale for the missing item given that there were no more than three items unanswered. No YSR or EQ-I: YV questionnaires had excessive numbers of unanswered items and only three SSVC questionnaires could not be scored due to missing items.

Appendix E

Figure 5.1a EQ-I: YV Cluster Means, EXT

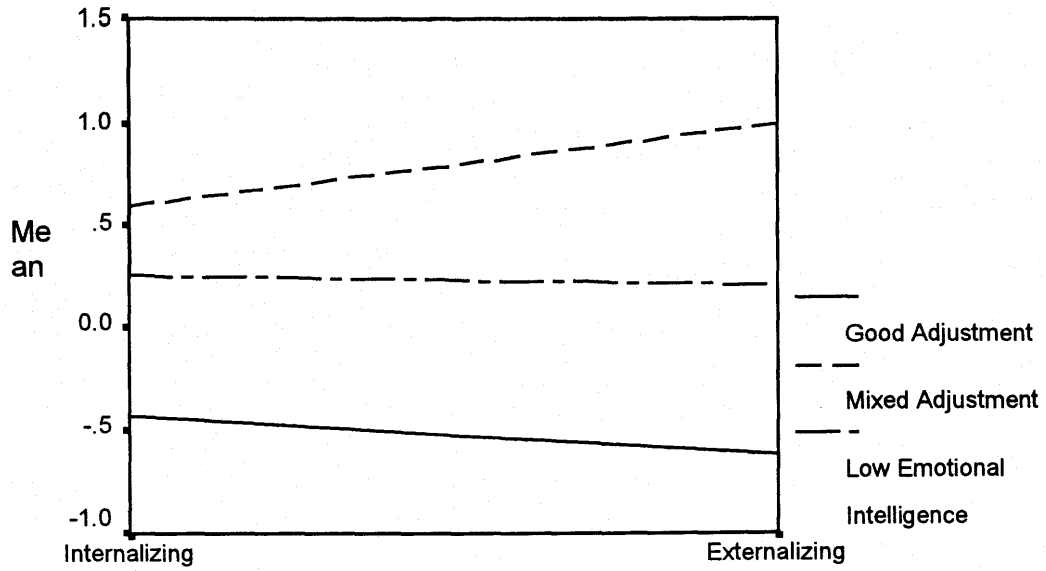
All Participants, n = 133



EQ-I: YV Scale

Figure 5.1b YSR Cluster means, EXT

All Participants, n = 133



YSR Scales

Table 5.1 Demographic characteristics of EXT clusters (n = 133)

	Good (n = 74)	Mixed (n = 34)	Low EI (n = 25)
Age			
12	23% (17)	21% (7)	36% (9)
13	54% (40)	53% (18)	56% (14)
14	22% (16)	26%(9)	8% (2)
15	1% (1)	-	-
Gender			
Male	43% (32)	41% (14)	56% (14)
Female	57% (42)	59% (20)	44% (11)
Ethnicity			
White	93% (69)	88% (30)	88% (22)
Metis	3% (2)	12% (4)	4% (1)
East Indian	1% (1)	-	4% (1)
Latin	3% (2)	-	4% (1)
Family Type			
Intact	76% (56)	85% (29)	88% (22)
Divorced	20% (15)	15% (5)	8% (2)
Widowed	4% (3)	-	4% (1)

Note. Mixed = Mixed Adjustment Cluster; Good = Good Adjustment Cluster, Low EI = Low Emotional Intelligence Cluster. Numbers in parentheses indicate actual numbers of participants.

Figure 5.2a EQ-I: YV Cluster Means, EXT-1

Validity Group 1, n = 66

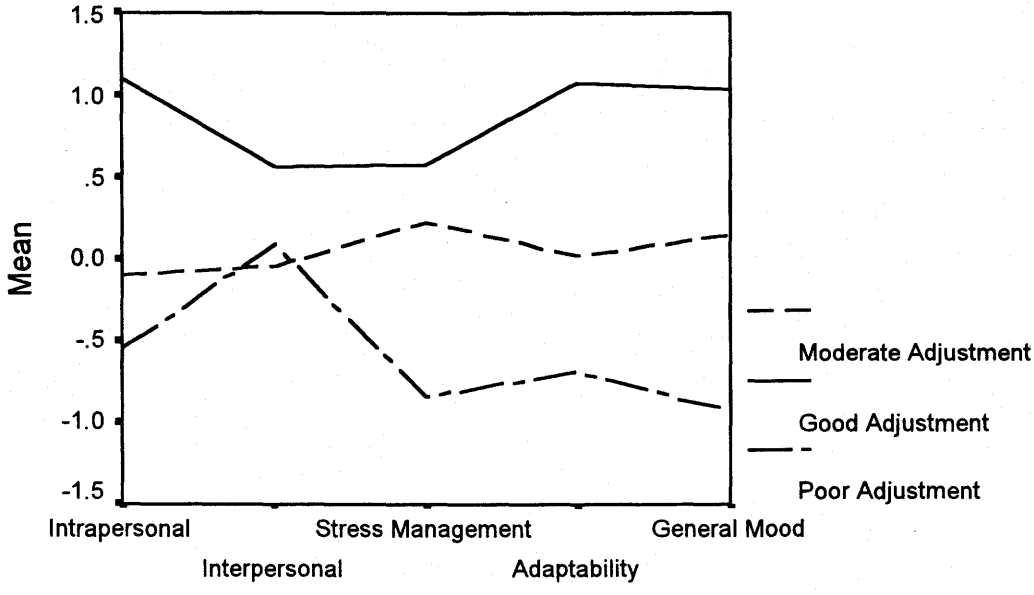


Figure 5.2b YSR Cluster Means, EXT-1

Validity Group 1, n = 66

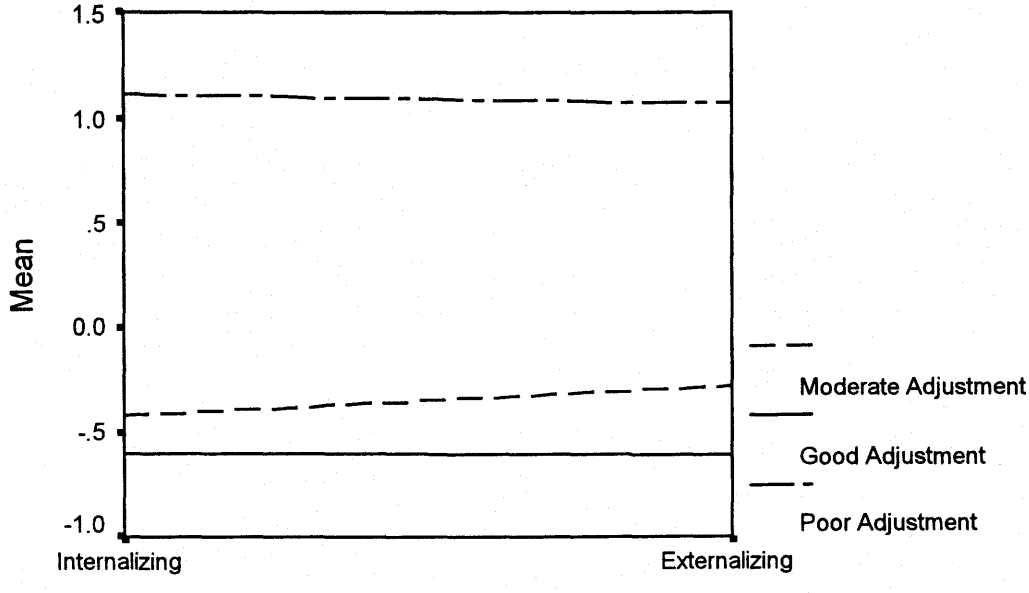


Table 5.2 Demographic characteristics of EXT-1 clusters (n = 66)

	Good (n = 13)	Moderate (n = 38)	Poor (n = 15)
Age			
12	8% (1)	18% (7)	20% (3)
13	69% (9)	45% (17)	73% (11)
14	23% (3)	37%(14)	7% (1)
15	-	-	-
Gender			
Male	38% (5)	37% (14)	27% (4)
Female	62% (8)	63% (24)	73% (11)
Ethnicity			
White	92% (12)	91% (35)	86% (13)
Metis	8% (1)	3% (1)	7% (1)
East Indian	-	3% (1)	7% (1)
Latin	-	3% (1)	-
Family Type			
Intact	61% (8)	82% (29)	87% (13)
Divorced	31% (4)	16% (5)	13% (2)
Widowed	8% (1)	2% (1)	-

Note. Good = Good Adjustment Cluster, Moderate = Moderate Adjustment Cluster; Poor = Poor Adjustment Cluster. Numbers in parentheses indicate actual numbers of participants.

Figure 5.3a EQ-I: YV Cluster Means, EXT-2

Validity Group 2, n = 67

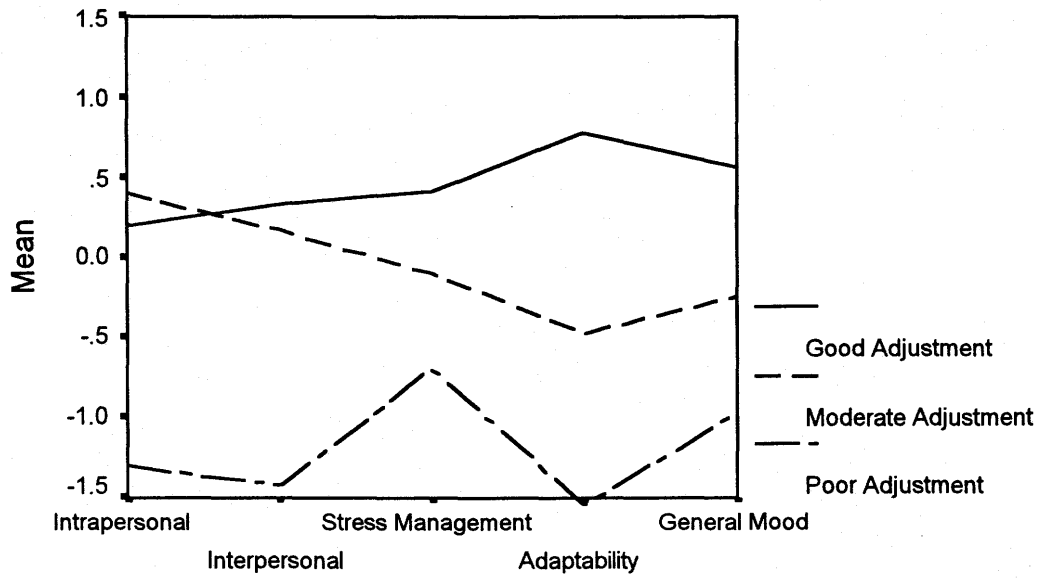


Figure 5.3b YSR Cluster Means, EXT-2

Validity Group 2, n = 67

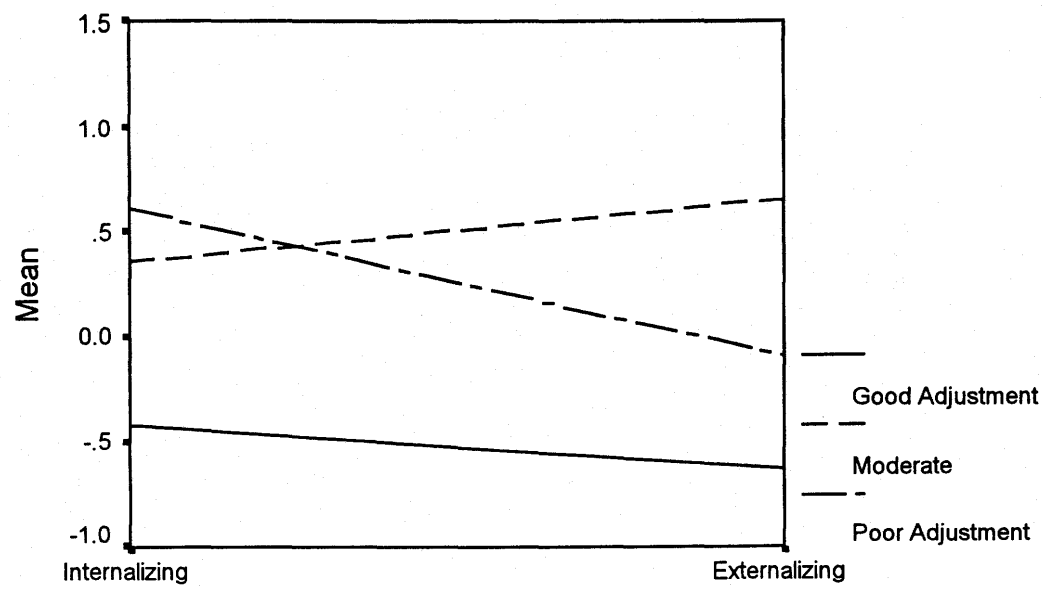


Table 5.3 Demographic characteristics of EXT-2 clusters (n = 67)

	Good (n = 32)	Moderate (n = 25)	Poor (n = 10)
Age			
12	28% (9)	32% (8)	50% (5)
13	53% (17)	56% (14)	40% (4)
14	16% (5)	12%(3)	10% (1)
15	3% (1)	-	-
Gender			
Male	50% (16)	60% (15)	60% (6)
Female	50% (16)	40% (10)	40% (4)
Ethnicity			
White	91% (29)	92% (23)	90% (9)
Metis	3% (1)	8% (2)	10% (1)
East Indian	-	-	-
Latin	6% (2)	-	-
Family Type			
Intact	78% (25)	84% (21)	90% (9)
Divorced	19% (6)	12% (3)	10% (1)
Widowed	3% (1)	4% (1)	-

Note. Good = Good Adjustment Cluster, Moderate = Moderate Adjustment Cluster; Poor = Poor Adjustment Cluster. Numbers in parentheses indicate actual numbers of participants.

Table 5.4a Standardized means, standard deviations, and ranges for the individual scale scores for EXT

Scale	EXT (n = 133)								
	Good Adjustment			Mixed Adjustment			Low Emotional Intelligence		
	Mean	SD	Range	Mean	SD	Range	Mean	SD	Range
Intra	.172	.845	4.24	.561	.740	3.05	-1.06	.779	2.49
Inter	.318	.761	3.64	.219	.745	3.15	-.957	.879	2.79
Stress	.474	.777	3.53	-.423	.873	4.15	-.558	.918	4.39
Adapt	.578	.721	3.34	-.336	.742	3.25	-1.19	.719	3.16
Gen Mood	.457	.761	4.20	-.289	.821	3.50	-.677	.875	3.21
Intern	-.429	.669	3.06	.589	1.02	3.96	.253	.905	3.21
Extern	-.620	.581	2.71	.997	.707	3.16	.204	.652	3.11

Note. Intra = Intrapersonal, Inter = Interpersonal, Stress = Stress Management, Adapt = Adaptability, Gen Mood = General Mood, Intern = Internalizing; Extern = Externalizing

Table 5.4b Standardized means, standard deviations, and ranges for the scale scores for EXT-1

Scale	EXT-1 (n = 66)								
	Good Adjustment			Moderate Adjustment			Poor Adjustment		
	Mean	SD	Range	Mean	SD	Range	Mean	SD	Range
Intra	1.10	.521	2.04	-.096	.580	2.97	-.551	1.20	3.46
Inter	.552	.388	1.28	-.046	.858	4.33	.093	.822	3.15
Stress	.571	.802	2.65	.226	.773	3.38	-.842	1.02	4.15
Adapt	1.07	.363	1.34	.017	.710	3.05	-.692	.698	2.28
Gen Mood	1.03	.373	1.33	.148	.499	2.64	-.931	.980	3.50
Intern	-.595	.268	.868	-.418	.622	2.69	1.11	.691	2.06
Extern	-.603	.680	2.21	-.278	.737	3.33	1.07	.839	2.66

Note. Intra = Intrapersonal, Inter = Interpersonal, Stress = Stress Management, Adapt = Adaptability, Gen Mood = General Mood, Intern = Internalizing; Extern = Externalizing

Table 5.4c Standardized means, standard deviations, and ranges for the scale scores for EXT-2

Scale	EXT-2 (n = 67)								
	Good Adjustment			Moderate Adjustment			Poor Adjustment		
	Mean	SD	Range	Mean	SD	Range	Mean	SD	Range
Intra	.190	.872	3.81	.398	.883	3.05	-1.30	.735	2.23
Inter	.325	.768	3.64	.162	.901	3.15	-1.42	.845	2.14
Stress	.404	.856	3.36	-.103	.744	3.16	-.698	1.17	3.33
Adapt	.775	.638	2.23	-.476	.858	3.43	-1.54	.701	2.73
Gen Mood	.563	.786	2.83	-.248	.792	3.60	-.974	.780	2.87
Intern	-.418	.716	2.34	.356	1.04	3.96	.604	.906	2.88
Extern	-.626	.609	2.66	.653	.799	3.86	-.087	.669	2.49