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**School Transition as a Stressful Life Event and The Role of Social
Competence and Social Support as Protective Factors
During the Transition to Junior High School**

Caroline C. MacIntosh

**A dissertation submitted to the School of Graduate Studies of the
University of Ottawa in partial fulfillment of the requirements
for the degree of Doctor of Philosophy**

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Dedication

This dissertation is lovingly dedicated to my three children, Kaitie, Taylor, and Bailey, without whom it may have been completed a little sooner, but who have made every extra minute well worth the wait. Thanks for still loving me, even after hearing countless times "I can't right now, honey, I've got to work on my thesis". I love you all.....8!

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**School Transition as a Stressful Life Event and The Role of Social
Competence and Social Support as Protective Factors
During the Transition to Junior High School**

Abstract

Research has shown that children, like adults, are negatively affected by exposure to stressful life events (Sandler & Block, 1979; Garmezy, Masten, Tellegen, 1984). One such stressful event is the transition to junior high school (Simmons, Burgeson, Carlton-Ford, & Blyth, 1987), which is often complicated by the onset of puberty with its attendant biological, emotional, and social changes. Many researchers have examined the effects of school transition stress (Abramowitz, Petersen, & Schulenberg, 1984; Simmons, Carlton-Ford, & Blyth, 1987), but few have identified those protective factors which influence the effects of stress. Although many factors are expected to contribute to a child's ability to cope with stressful experiences, the goal of the present study was to assess the relative contributions of individual characteristics of the child (i.e. social competence), and particular aspects of the child's social environment (i.e. social support) to a child's ability to cope successfully with the life stress engendered by a school transition.

Subjects consisted of 189 grade six children divided into two groups according to their transition status: 1) those who were being promoted to grade seven but who remained in the same school, and 2) those who were being promoted to grade seven and were transferring to a new school.

Students were asked to complete the Survey of Children's Social Support, the Social Skills Rating System, the Child Behavior Checklist Youth Self Report,

a stress rating scale, and a two-week daily log of social initiations (Things I Do With Others), on each of three occasions: in the spring of the school year prior to the transition (T1), in the fall at the time of the school transition (T2), and in the spring of the transition year (T3) approximately one year after the first testing. After the children changed schools, they identified those students in their classroom who had been in their classroom the previous year to yield a measure of familiarity with peers at school following the transition. Parents were asked to complete the Parent Report Form of the Child Behavior Checklist at each of the three timepoints.

Contrary to prediction, MANOVA results indicated that there were no significant differences between transition and no-transition subjects on measures of adjustment. Regression analyses revealed that prior levels of social competence and social support were not consistently predictive of adjustment following the school transition. However, T1 social competence predicted T2 self-reports of externalizing problems, T1 perceived social support predicted T3 parents' reports of internalizing problems, and both perceived social support and social competence at T1 predicted T3 parents' reports of externalizing problems. Moreover, when measured concurrently, perceived social support and social competence predicted self-reports of externalizing problems at T2.

Stress ratings at T2 were predictive of concurrent self-reports of adjustment at T2. A comparison of subjects on extreme ends of the stress rating scale revealed that subjects who reported high levels of stress reported significantly lower levels of social support (Appraisals Scale) than did those subjects who reported low levels of stress, suggesting that stress affects

appraisals of support. However, perceived support predicted concurrent levels of reported stress. It is thus unclear whether stress affects social support or social support affects perceived stress.

In terms of sources of support, family support seemed most important for adjustment. The current research did not demonstrate that having a best friend was significant for adaptation.

In summary, these findings suggest that school transitions during adolescence are not particularly stressful for the majority of students, and that the transition to junior high school does not, in itself, have significant adverse effects on adjustment. However, a more general analysis of stress in children indicated that self-reports of high levels of stress are predictive of adjustment problems, and are related to low levels of social support. The results provide limited but significant evidence for the importance of social support and social competence as determinants of adjustment.

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**School Transition as a Stressful Life Event and The Role of Social
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During the Transition to Junior High School**

The effects of stress and its impact on the physical, social, and emotional well-being of an individual have been under investigation for many years (Lowenthal & Haven, 1968; Dohrenwend & Dohrenwend, 1974; Brown, 1978; Monroe, Imhoff, Wise, and Harris, 1983). There is substantial research to suggest that stressful life events are related to psychological outcomes of depression, psychosomatic symptoms, and anxiety in adults (Thoits, 1986; Dohrenwend and Dohrenwend, 1974). Researchers have also recognized that stress can negatively influence adjustment in childhood with the potential for long-term effects (Hirsch & Reischl, 1985; Monroe et al., 1983; Nolen-Hoeksema, Girgus, & Seligman, 1992; Sandler, 1980). Stress has been shown to have adverse effects on a variety of indices of psychological adjustment in children, such as self-esteem, depression, anxiety, and behavior problems (Cohen, Burt, & Bjork, 1987; Compas, Grant, & Ey, 1994; Kanner, Feldman, Weinberger, & Ford, 1987; Robinson, Garber, & Hilsman, 1995). However, the mechanism through which stress and adjustment are related is complex, and not well understood.

The Nature of Stress and the Identification of Significant Stressors

Stress is a broadly-defined term used to encapsulate the impact of a wide variety of life experiences on the individual. Although most definitions have been described as inadequate (Colton, 1985; Garmezy, 1983; Rutter, 1983),

Lazarus & Launier's (1978) definition of stress is a reasonable reflection of how stress is described in the literature. According to Lazarus & Launier (1978), events are stressful when the individual appraises them as threatening or otherwise demanding and does not have an appropriate coping response. This definition, however, is a description of the individual's evaluative response to stimuli, rather than a definition of what constitutes a stressor. Even prominent investigators in the area of stress research (e.g. Garmezy, 1983; Rutter, 1983) hesitate to suggest a narrow definition of what produces stress for the individual. Nevertheless, an examination of the literature suggests that, while a specific definition may be lacking, stress is often described in reference to certain dimensions associated with the stressful life change. The magnitude, degree of control, desirability, and predictability of a stressor have all been cited as significant for an understanding of the multifaceted nature of the construct.

The magnitude of a stressful life event refers to whether the event is considered to be a major stressor (i.e. parental divorce or relocation) or a minor "hassle" that one incurs as part of daily existence (i.e. losing lunch money or receiving a poor grade on a quiz). In early stress research, the emphasis was placed almost exclusively on the impact of major life events (Coddington, 1972; Holmes & Rahe, 1967). While major life events have been shown to be significant sources of stress, it is probably true that, in many cases, it is not the event itself that is stressful, but rather the disorganizing influence of the event on the daily life and other activities of the individual. Holmes & Rahe (1967) described any event as stressful to the extent that its

"advent is indicative of or requires a significant change in the ongoing life pattern of the individual".

Wagner, Compas, and Howell (1988) proposed an integrative model of psychosocial stress, suggesting that the deleterious effects of a major life event are a result of the daily "hassles" created by that event. Using causal modeling procedures, they determined that indeed there were significant paths from major life changes to daily hassles, and from daily hassles to symptomatology; however, the direct pathways from major events to symptomatology were not significant. Their findings support a mediational model of stressful events and adaptation, such that major life events are troublesome because of the changes in daily routine which they create (Kanner et al., 1981), or because they change the meaning of pre-existing daily events or strains, so that minor annoyances suddenly become overwhelmingly frustrating (Pearlin, Lieberman, Menaghan, & Mullan, 1981).

Kanner, Coyne, Schaefer, & Lazarus (1981) define hassles as "the irritating, frustrating, distressing demands" (p.3) with which people are faced on a daily basis. Researchers have since begun to focus more on common, everyday life events in addition to major life changes, and have found that daily hassles are related to a variety of adverse psychological and health outcomes in both adults (Cox, Taylor, Nowacek, Holley-Wilcox, & Pohl, 1984; DeLongis, Coyne, Dakof, Folkman, & Lazarus, 1982) and children (Bobo, Gilchrist, Elmer, Snow, & Schinke, 1986; Compas, Davis, Forsythe, & Wagner, 1987; Kanner, Harrison, & Wertlieb, 1985). Kanner, Feldman, Weinberger, and Ford (1987) examined the effects of daily hassles in sixth graders on a variety of clinically and developmentally important variables including anxiety,

depression, distress, self-restraint, perceived peer support, social competence, and general self-worth. They found that reporting more hassles was strongly associated with negative outcomes of anxiety, depression, and distress, and moderately related to the absence of positive outcomes such as self-restraint, friendship support, general self-worth, and perceived social competence. A stronger negative correlation was found between hassles and positive adaptational outcome for boys than for girls.

One potential confound, however, when measuring stress in terms of exposure to daily hassles is that, although we generally think of stressors as external influences on adjustment, some daily hassles may be a function of the individual's current level of adjustment. As Rutter (1983) pointed out, "so many of the minor hassles and pleasures of the day are brought about, at least in part, by persons themselves as a consequence of the way they are feeling" (p.16). In other words, daily hassles such as failing a test, being sent to detention, or arguing with a friend may reflect the child's level of academic, social, or emotional adjustment more than the impingement of a malevolent universe on the child. Consequently, to assess overall adjustment in relation to exposure to daily hassles may be simply to correlate adjustment with adjustment.

This methodological confound leads to a consideration of the second dimension of stress, the degree of control the individual has over the event. For children, many of life's stresses are not within their control (e.g. parental divorce, death of a parent, relocation, socioeconomic status, having your bike stolen, academic demands), while others involve limited control (e.g. negative interactions with parents, friends, or teachers, and academic or athletic

achievement). Some researchers suggest that only uncontrollable events should be considered in stress research to protect against possible confounds with outcome variables (Masten, Garmezy, Tellegen, Pellegrini, Larkin, & Larsen, 1988). However, others feel that considering only uncontrollable life events is too restrictive and does not account for the fact that even events that are influenced by the individual can be experienced as stressful (Johnson, 1986; Luthar, 1991).

Another dimension of the concept of stress, desirability, refers to whether or not the event is considered as desirable by the person experiencing it. The majority of studies on stress have examined the impact of undesirable (negative) life events. For example, Compas et al. (1987) found that a high frequency of negative events was significantly associated with self-reported behavioral problems for younger adolescents, and with both behavior problems and psychological symptoms for older adolescents. Only a few researchers have examined the impact of positive life events on the well-being of children. Cohen, Burt, and Bjork (1987) investigated the impact of negative and positive life events on seventh and eighth graders and found that both types of events were significantly related to depression, anxiety, and self-esteem. However, most of the research on the effects of desirable and undesirable events suggests that only undesirable events have negative effects (DeLongis, Coyne, Dakof, Folkman, & Lazarus, 1982; Jandorf, Deblinger, Neale, & Stone, 1986).

A single event may have both desirable and undesirable qualities, and may vary in its degree of desirability from one child to the next. For example, children promoted to a gifted classroom due to their exceptional academic

achievement may consider this an honor, but at the same time may find that they no longer see their close friends during the school day. Because an event may be perceived differently by different individuals, research should also include events that are usually thought to be of a positive nature in studies of major life changes and their effects.

Predictability, as a dimension of stress, has not received a lot of attention in the literature, but may be important because of its implications for how people cope with a stressful life event. Predictability is not the same as controllability, in that many things that cannot be controlled are predictable in their timing (e.g. phases of the moon, report cards). An event that is predictable may be experienced as less stressful if the individual is somehow able to prepare for the impending stressor. For example, school transitions are a predictable life event, and recent research has shown that transition programs designed to facilitate a successful adjustment to the transition can be effective, resulting in lower drop-out rates and better academic performance in many cases (MacIver & Epstein, 1991; Smith, 1997). On the other hand, it may be that foreknowledge of the impending stressor may increase anticipatory anxiety, and may prolong or exacerbate difficulties in adjustment. When considering multiple hospital admissions, Rutter (1983) speculated that, while the first hospital admission does not have adverse effects on adjustment, it may predispose the child to respond negatively to the second hospital admission due to his ability to "anticipate and conceptualize the event in ways which make sensitization more likely" (p.32).

In summary, the underlying theme throughout this discussion of stress is that much of the influence of life events boils down to the individual's

perception of the event and the meaning they attribute to it. In other words, whether or not an event is construed as a significant life event or a minor hassle, whether it is considered as desirable, undesirable, or a little of both, and whether it is perceived as within the realm of the individual's control or solely a result of external variables are all issues that are filtered through the child's mind. With so much controversy in the literature over how to discriminate between major life events or daily hassles, desirable or undesirable qualities, predictable or unpredictable events, it is interesting to note that the majority of these studies conclude by suggesting that the child's expectations and perceptions related to the event must not be overlooked (Colton, 1985; Luthar, 1991; Robinson, Garber, & Hilsman, 1995; Rutter, 1983). In other words, controversy still exists about whether it is critical to quantify the child's stress in terms of the number and kind of life events experienced or, whether it is enough to simply assess the child's perception of how stressful life is in general. In the present study, it was decided that having the child rate the overall stressfulness of life would be a simple, yet potentially very effective, method of measuring stress.

The Interactive and Cumulative Effects of Stressors

Over time, a substantial body of research has grown which points to the cumulative and interactive effects of stressors, suggesting that while one stressor may not have particularly harmful effects on a child's functioning, multiple exposures to the same stressor or an accumulation of different stressors may precipitate disorder (Compas, Grant, & Ey, 1994; Hudgens, 1974; Meyer & Haggerty, 1962; Robinson, Garber, Hilsman, 1995). For example,

Quinton and Rutter (1976) found that, while single admissions to hospital in childhood did not increase the risk of later psychiatric disorder, multiple hospital admissions were associated with a substantially and significantly increased risk of psychiatric disorder in later childhood. Additional epidemiological studies of 10-year-old children conducted by Rutter and his colleagues (Rutter, 1979; Rutter, Cox, Tupling, Berger, & Yule, 1975; Rutter, Yule, et al., 1975) demonstrated the same phenomenon. The families of these children were assessed on six variables previously found to be significantly associated with psychiatric disorder in children: severe marital discord, low socioeconomic status, parental criminality, maternal psychiatric disorder, overcrowding or large family size, and foster care placement. The results indicated that children in a family experiencing only one stressor were at no more risk for psychiatric disorder than children in families experiencing none of these stressors. However, as the number of stressors increased, the risk for psychiatric disorder increased dramatically. For example, for those children experiencing two stressors, the risk for psychiatric disorder was more than four times that for children experiencing no or only one stressor, and there were substantial increases in risk for children experiencing even greater numbers of stressors. These findings demonstrate that the impact of the influence of multiple stressors far exceeds the sum of the effects of the individual stressors considered separately.

School Transition as a Stressful Life Event

One methodological difficulty inherent in the study of stress is that it is difficult to predict when the stressor is going to occur so that both pre- and

post-stressor assessments can be made to ascertain the impact of the stressor on adjustment. For example, parental divorce, illness, or abuse are not generally predictable stressors for researchers, and do not easily allow for a pre-assessment of the child prior to onset of the stressor. Consequently, adjustment to stress generally can only be measured retrospectively. However, making the transition from public school to junior high school is a routine part of the structure of the school system, and the timing is the same for all students, something that is not true of many other major life events.

School transitions have been found to influence adjustment in children psychologically, socially, and academically (Ladd, 1989). Initially, research on school transitions focused on the kindergarten child's transition into grade one (Ladd, 1989). However, developmental and social psychologists have since recognized the special developmental importance of school transitions that take place during adolescence. The transition into junior high school has been shown to influence self-esteem, academic achievement, psychological symptomatology, quality of school life, and peer social support negatively (Abramowitz, Petersen, & Schulenberg, 1984; Blyth, Simmons, & Bush, 1978; Robinson, Garber, & Hilsman, 1995; Simmons, Blyth, Van Cleave, & Bush, 1979). The transition into junior high school is a particularly salient event for the study of stress in children due to the resulting changes in daily routine, social roles, and social status. For example, changing from a middle school to a junior high school often means an adjustment to larger classrooms, with teachers and classmates changing throughout the day (Simmons, Carlton-Ford and Blyth, 1987). Suddenly students are displaced from the small, intimate environment in which they have spent most of their school years. Children who were

friends the previous year may find that they are assigned to different classrooms, or even different schools. School transitions may thus lead to disruptions in friendships and in access to social network resources. These two characteristics of the school transition are likely to produce feelings of isolation and stress for the adolescent student. Blyth et al. (1983) found that feelings of anonymity sharply increased during this time.

Research on school transitions has also lent support to the notion of the cumulative impact of stressors. For example, students who experienced only one school transition were found to suffer virtually no negative effects, while those who had experienced multiple school transitions were more vulnerable to adjustment difficulties (Crockett et al., 1989). Simmons, Burgeson, Carlton-Ford, and Blyth (1987), in an examination of the effects of cumulative change experienced in early adolescence, demonstrated that children who were forced to cope with a number of life transitions concurrently were at higher risk for adjustment problems. This study is particularly relevant to the present research in that it identified school transitions during adolescence as especially problematic due to the simultaneous exposure of the child to changes associated with adolescence while they are experiencing the stress of the school transition. Simmons and her colleagues found that a school transition during the seventh grade was more problematic because the child was faced with the stresses associated with the transition while simultaneously experiencing the onset of the physical and emotional changes experienced during adolescence. In contrast, ninth graders were better able to cope with the stress of school transition since they had generally had longer to adapt to the stressfulness of unfamiliar pubertal changes (Blyth, Simmons, & Carlton-

Ford, 1983; Simmons, Blyth, Van Cleave, & Bush, 1979). The authors related these results to Coleman's (1974) focal theory of change, which suggests that children can cope much more effectively with a variety of stressors when they are presented with them successively rather than simultaneously. According to this model, adjustment to change is more readily achieved if the change occurs gradually, allowing the child to address one issue at a time.

Simmons et al. (1987) tested Coleman's (1974) theory that children adapt better to successive rather than simultaneous changes in a study of schoolchildren going into grade seven which sampled from two different types of school systems. In one school system, the children switched to another school in grade seven. In the second school system, they remained in the same school for grade seven. Differences in self-esteem, academic grade point average, and participation in extracurricular activities were assessed. Results indicated that both boys' and girls' academic achievement declined and participation in extracurricular activities decreased as the number of changes experienced increased; however, only girls suffered a loss of self-esteem as the number of life changes increased. This finding agreed with evidence from an earlier study (Simmons, Blyth, VanCleave, & Bush, 1979) which had demonstrated that girls making a school transition into junior high school had lower self-esteem than girls staying in the same school, particularly when they also had early onset of puberty and had started dating.

Hirsch and Rapkin (1987) also examined the psychological well-being of children during the transition to junior high school, and found a complex array of adjustment patterns. There were no significant changes in self-esteem from the sixth grade to the beginning of the seventh grade; however,

self-esteem did increase significantly from the sixth grade to the end of the seventh grade. Longitudinal changes in psychological symptoms were found from sixth to seventh grade, but not within the seventh grade. Phobic symptoms decreased, probably because anticipatory fears about the transition were alleviated as the student became accustomed to the new environment. However, somatic symptoms increased, perhaps indicating that the stressfulness of the transition had manifested itself most strongly in somatic domains. Gender differences in adjustment were found, with girls reporting increases and boys reporting decreases in symptoms of depression and hostility. Earlier findings (Epstein & McPartland, 1976) of declining ratings of quality of school life during the transition from sixth to seventh grades were corroborated in this study by the finding that there were significant decreases in quality of school life scores from grade six to grade seven at all levels of academic competence. Girls reported a significantly greater decline in school commitment scores than did boys.

In summary, an examination of the stress of a school transition lends itself well to the goals of the present study, namely to examine the impact of stress on children's emotional and behavioral adjustment, and to assess the relative contributions of social competence and social support as mediating factors in a child's ability to cope with life's stresses. First, school transitions have been demonstrated to influence adjustment significantly in children (Ladd, 1989; Simmons et al., 1987). Second, unlike most other stressors, school transitions to junior high school are universal, so that many children can be studied. Finally, school transitions are predictable, so that we know when they have been exposed to the stressor.

The Relationship of Social Support to Coping with Stress

Cobb (1976) conceptualized social support as information, received from others, that one is loved, esteemed, and belongs to a network involving communication and mutual obligation. The great emphasis placed on the importance of having adequate social support is based on the notion that social support assists individuals in coping with stressful life circumstances (Caplan, 1974). Social support can serve three possible functions: 1) to provide instrumental aid, 2) to provide informational aid, and/or 3) to provide socioemotional aid (House, 1981). Instrumental aid refers to tangible resources of a monetary or material nature (House, 1981). Informational aid often involves giving advice, instructions, or an opinion, and includes attempts to assist the focal individual in cognitively restructuring the perception of the problem (House, 1981). Caplan (1974) suggested that, through providing information, network members supply individuals with feedback about themselves and provide validation of their expectations for others. Socioemotional aid refers to emotional sustenance from the network member, including sympathy, genuine concern, and the assurance of one's worth to others (House, 1981; Heller, Swindle, & Dusenbury, 1986).

The stress-buffering model of social support proposes that social support influences mental health by interfering with the negative effects of stress. According to Cohen and Wills (1985), social support can buffer the individual against stress in one of two ways. First, supportive others can intervene during the initial appraisal of the stressor, preventing the situation from being appraised as highly stressful. The perception that others are

willing and able to provide necessary resources to assist the individual in coping with the situation may alleviate their sense of being overwhelmed and being unable to implement effective coping strategies. Second, in cases where the event has been appraised as highly stressful, supportive others may encourage a reframing of the event, thereby reducing its perceived importance, or they may assist the individual in finding an effective coping response.

An important issue in the research on the relationship between social support and stress concerns the distinction between the quantitative and qualitative features of social support. Quantitative measures most often refer to the number of relationships included in an individual's network and how much time is spent with these persons (Lowenthal & Haven, 1968), while the qualitative features of social support refer to the supportive nature of the relationships in one's network (Mueller, 1980).

The nature of social connections in a network may vary from casual relationships with peripheral members to more intimate relationships with primary members (Hammer, Makiesky-Barrow, & Gutwirth, 1978). Initially, researchers felt that the extensiveness of a person's network might be the most important aspect of adequate social support (Hammer et al., 1978). In other words, those persons with larger networks were expected to have more resources from which to choose and to be better able to cope effectively with stress. Thus, many studies simply used the number of social connections as their measure of social support (Monroe, Imhoff, Wise, & Harris, 1983; Thoits, 1986). However, other investigations revealed that the extensiveness of a social network was only weakly related to the amount of social support

reported by the individual (Miller & Ingham, 1976; Brown, Bhrolchain & Harris, 1975), and to the amount of psychological distress reported (Wilcox, 1981). Consequently, these findings led investigators to look at another variable, quality of the relationship, to account for the protective effects of social support, and to measure social support in terms of the individual's perception that support is available (Cohen, & Wills, 1985; Sarason, Levine, Basham, & Sarason, 1983).

Wilcox (1981) studied the function of social support in the development of psychopathology which was preceded by stressful life events. The individual's level of social support was measured by the quantity and quality of social relations. Social support seemed to buffer individuals against the effects of life stress. Consistent with findings from other studies (Abbey, Abramis, & Caplan, 1985; Brown et al., 1975; Lowenthal & Haven, 1968), the results also demonstrated that intensity rather than quantity of social relations was of more consequence for the buffering effect of supportive relationships.

A second important issue related to the quality of social relations is the extent to which the individual's perception of available support is more important than the actual provision of support. Is social support best conceptualized as the actual transfer of advice, aid, and affect through interpersonal networks or as the perception of resource availability (Wethington & Kessler, 1986)? Studies comparing the focal individual's report of available support to reports from network members indicate only moderate agreement between the two accounts (Antonucci & Israel, 1986). However, perceived social support has been consistently demonstrated to correlate with measures of psychological well-being (Kessler & McLeod, 1985).

In summary, the research indicates that the extensiveness of a social network is not the key variable in the protective nature of social support; rather it is the quality of the relationship, that is, the individual's perception of the relationship as supportive, that contributes to good adjustment. However, these findings are based on adults' relationships and cannot be generalized to explain children's social support without addressing developmental differences between adults' and children's relationships.

Children's Social Support Networks

Sullivan (1953) described a developmental basis for the formation and maintenance of social bonds. He proposed that social support does not function solely as a buffer against stressful events, but rather develops in response to basic human needs. These needs change throughout the life cycle, and consequently lead to changes in the nature of an individual's social network and the support that network affords. Sullivan's model proposes that differences between children's and adults' social networks are the result of a complex interaction between different social needs emerging at different developmental levels and the availability of key relationships to fulfill those needs.

Social support has been shown to serve important functions in children, such as the provision of intimacy and companionship (Furman & Buhrmester, 1985; Hunter & Youniss, 1982). It is also believed that social relations in children provide stress-buffering support, but it is yet unclear what kinds of social relations provide the highest level of support and are the best predictors of adjustment.

Sullivan noted that a child's social network is initially limited to the family unit, with special emphasis on the relationship of the child to the mother. As the child matures, peers become important components of the network. In early elementary school these are largely same-sex peers. At about age eleven, intimacy becomes an important feature of friendship. From adolescence on, a central component in one's network may be an intimate relationship with an opposite-sex person. The transition from middle childhood to adolescence thus seems to be an important developmental period for social support networks. This appears to be a time when the child still relies on parents for support, but also has important friendships with peers.

Primary Providers of Social Support in Childhood and Adolescence

Social support for children is most often described using concepts developed for adult populations (Cauce, Felner, & Primavera, 1982; Kaplan, Robbins, & Martin, 1983). However, Barrera (1981) proposed that a key difference in defining social support in children is the recognition that the nature of the support received varies greatly as a function of who is providing it. Children's social relations consist of rich networks of close relationships, including those with parents, grandparents and other relatives, siblings, peers, and teachers (Furman and Buhrmester, 1985). Few researchers have attempted to address all of these relationships at once. In fact, only a handful have examined more than one type of relationship at a time (Brody, Stoneman, & Mackinnon, 1982; Hunter and Youniss, 1982; Kon and Losenkov, 1978; Youniss, 1980;).

Furman and Buhrmester (1985) examined the nature of the relationships in a child's social network extensively. The findings indicated that a sense of reliable alliance (that is, a lasting and dependable bond, though not necessarily an emotional one) was provided primarily by familial relationships, particularly those with parents. Parents received the highest ratings for affection, enhancement of worth, and instrumental aid. These findings support the importance of the parent-child relationship. Boys rated mothers, fathers, and grandparents as equally important primary sources of affection, whereas girls rated mothers as their primary source of affection, followed by all other types of relationships. Grandparents received the next highest ratings on provisions of emotional support, but received relatively low ratings on more tangible provisions. Teachers received high ratings for the provision of instrumental aid, outranked only by parents. Teachers received the lowest ratings for the enhancement of worth from both boys and girls, but this may reflect variability in teachers as to how much they empower individual students or the student to teacher ratio. Sibling relationships were found to be somewhat paradoxical in nature, providing valuable companionship while also being the greatest source of conflict.

For girls, ratings of friends indicated that they were the greatest source of companionship and were equaled only by mothers as a source of intimacy, followed by fathers and siblings. Boys' ratings of relationships were similar to those of girls, with friends providing the greatest source of companionship and intimacy, except that there was no significant difference between ratings of mothers and fathers as sources of intimacy. Girls reported more intimacy, affection, and enhancement of worth from friendships than did boys. This

may be a reflection of girls' preference for intensive dyadic relationships, whereas boys prefer more extensive groups of friends (Lever, 1976; Tietgen, 1982).

Overall, girls perceived all of their relationships as more important to them than did boys. However, ranking patterns were the same for girls and boys. Mothers and fathers were rated as most important, followed by grandparents and siblings, friends, and teachers. Satisfaction was greatest in relationships with mothers, followed by fathers, friends, grandparents, siblings, and teachers.

These findings support a complex model of family and peer relations in the composition of the child's supportive network. Any examination of social support as a buffer against stress in children should assess the many different types of relationships and their perceived supportiveness.

Children's Peer Relations and Friendships

The importance of children's peer relations for development has long been established (Hartup, 1970). Initial studies of peer relations demonstrated that peer acceptance in childhood is linked to later adjustment (Cowen, Pederson, Babigan, Izzo, & Trost, 1973; Roff, 1961). Similarly, Parker and Asher (1987) concluded that poor peer relations predict adjustment difficulties in adulthood. When considering a child's peer relations as a source of social support, one might assume that a child who is disliked by peers in general would also have no friends. However, this is not necessarily the case. Davies (1982) found that some children are able to maintain one or two close friendships even when they are not accepted by the peer group as a whole.

Based on the adult literature indicating the importance of intimate relationships as a key element in effective social support (Cohen & Wills, 1985), it would seem reasonable to conclude that perhaps it is not as important to be liked by everyone, but rather to maintain a few close friendships.

Children's friendships have been shown to foster the development of social competencies (Fine, 1981; Parker & Gottman, 1989), offer companionship and stimulation (La Gaipa, 1981), create a sense of reliable alliance with others (Weiss, 1974), provide guidance and assistance (Furman & Buhrmester, 1985), allow for intimacy and affection (Hunter & Youniss, 1982; Sullivan, 1953), and provide a sense of emotional security (Isapa, 1981) and self-validation (Furman & Buhrmester, 1985; Sullivan, 1953; Weiss, 1974). The most important features of friendship change as children advance through different developmental periods. Younger children tend to focus on more concrete features such as physical characteristics (Furman & Bierman, 1983), and possessions (Berndt, 1986), and their definitions of friendship often include aspects of playing together, sharing toys, and concrete ways of helping each other (e.g. "helping a friend up when they fall down") (Youniss, 1980). Young children feel that their friends must share the same interests, likes and dislikes in order for the friendship to be maintained (Furman & Bierman, 1983; Bukowski et al., 1987). Although infrequent, some younger children also report that aspects of affection and support are important to friendship (Furman & Bierman, 1983).

As children grow older, they place greater emphasis on the affective or motivational aspects of friendship and focus less on superficial features (Furman & Bierman, 1983; Berndt, 1988). For older children, as for adults, intimacy is considered to be the most important feature of friendship, followed

by helping and supporting, and finally similarity, which becomes less important as the age of the child increases (Bukowski & Kramer, 1986). Both boys and girls report that level of intimacy distinguishes friends from non-friends (Bukowski, Newcomb, & Hoza, 1987). Youniss (1980) reported that older children's friendships were more a function of mutual understanding and support. These research findings support Sullivan's (1953) theory, which suggests that intimacy and the provision of support become increasingly more important in adolescence (Furman & Bierman, 1983; Youniss, 1980).

Although children do not seem to distinguish between their friendships (e.g. best friends, close friends, acquaintances) to the same extent as adults (Berndt, 1988; Berndt & Perry, 1986; La Gaipa, 1979; Selman, 1981), it is believed that they do distinguish between best friends and others (Epstein, 1986). Epstein (1986) suggested that the differentiation between best friends and others becomes more apparent as the age of the child increases. Young children define best friends as those that play together *all of the time* and share *everything* (Youniss, 1980), but, when asked to name their best friends, will list everyone they know (Berndt, 1988). Best friend nominations tend to increase during the elementary school years as children develop their social skills and are able to form and maintain larger friendship groups (Hartup, 1983), peaking in the later elementary grades, and then declining as children develop the capacity to form intimate friendships, and consequently limit themselves to a few close friends (Berndt, 1988; Epstein, 1986). It is still unclear, though, how a best friendship is conceptualized in adolescence because, unlike adults, who generally refer to the one person to whom they

are closest as their best friend, adolescents often refer to everyone in their close friendship group as best friends (Berndt, 1988; Berndt & Hoyle, 1985).

This, then, leads us to the question of whether or not adolescent relationships described as best friendships provide the same stress buffering effects that have been seen in adult relationships (Cohen & Wills, 1985). As noted earlier, children report that intimacy and companionship are important features of their friendships (Bukowski & Kramer, 1986; Furman & Buhrmester, 1985), but do these qualities serve to protect children from the effects of stress? There is some evidence to suggest that children's friends, and best friends in particular, are an important source of support during stressful times (Burke & Weir, 1978). Fenzel & Blyth (1986), in an investigation particularly relevant to the current study, examined the influence of supportive peer relationships on adolescents' adjustment to the junior high school transition. Adjustment was measured by changes in self-esteem, participation in school and non-school activities, and perceived integration in the school environment. Their findings suggested that the quality of same-school friendships and the frequency of contact with school peers are important positive influences on boys' self-perceptions during the school transition. Findings for girls, however, were different. While girls reported a significantly greater level of intimacy with peers than did boys, level of intimacy was inversely related to self-esteem, such that girls who reported increases in self-esteem reported lower intimacy levels. In explanation, Fenzel & Blyth suggested a complicated relationship between support resources for females, such that girls rely more heavily on familial sources of

support when peer relationships are in a state of flux, as would be the case during a school transition.

Fenzel and Blyth's (1986) study is relevant to the current research in that it addresses the importance of peer relationships for an adolescent's adjustment to the transition to junior high school. However, the narrow definition of adjustment in terms of self-esteem does not lend itself to an understanding of the overall impact of the transition. The current study attempted to examine the influence of peer relations, particularly friendships and best friendships, on adjustment during a school transition, but broadened the index of adjustment to include emotional and behavioral problems that one might expect to see as a result of exposure to a stressful life experience.

Social Support versus Social Competence as Determinants of Coping Effectiveness in Children

Children's social success, like that of adults, is determined by a complex mixture of social competence (the characteristics of the individual) and available social support (the response of others to that individual). Historically, research on children's peer relations focused predominantly on the importance of social competence, assuming that a child with good social skills will be able to initiate and maintain supportive social relations. For example, Sarason et al. (1983) suggested that individuals with differing levels of social support are distinguishable by differences in levels of social skills. Consequently, therapeutic efforts to improve children's peer relations have consisted primarily of interventions to teach specific social skills. It was

hypothesized that, by training a child in appropriate social behavior, one could improve his/her peer relations and thus increase peer support. More recently, however, researchers have noted that there is not always a direct link between social competence and social support. For example, some children may exhibit appropriate social behaviors but still not be liked by their peers. Hymel and Rubin (1985) have argued that some children continue to be rejected by peers, despite improved social skills, due to an enduring reputational bias on the part of their peers. On the other hand, there are other children who may not always engage in appropriate social behavior, but who receive ample social support. For example, a mentally disabled child, who may lack adequate social skills, may be surrounded by people who support and help him. Such recent discussions have led to a new understanding of social competence and social support as two related, but distinct constructs which require distinct measures.

Both social competence (Asarnow, 1988; Elias, Gara, Ubriaco, Rothbaum, Clabby, & Schuyler, 1986; Spivack & Shure, 1982) and social support (Barerra, 1981; Cauce, Felner, & Primavera, 1982; Compas, Wagner, Slavin, & Vannatta, 1986; East, Hess, & Lerner, 1987; Wethington & Kessler, 1986) have independently been shown to relate to measures of adjustment. However, by examining social competence or social support in isolation, much of the past research has failed to provide a comprehensive view of the complex interaction between these two factors. When social competence and social support are examined in an established social network, the relative influences of each are confounded with one another, and therefore are hard to separate. School transitions may provide a means of disentangling the importance of

social competence and social support as protective factors in dealing with stress since, while these two factors are generally highly correlated on most occasions, school transitions provide a natural situation in which a child's social support, at least from peers, may be disrupted while his or her social competence remains constant. That is, school transitions create a situation in which children's peer support is artificially decreased to some extent (not all friends from the previous school will attend the new school), while the child's level of social competence is expected to remain stable.

Rationale and Hypotheses of the Present Study

The goal of the present study was to examine the effects of stress on children and to determine the relative contributions of social competence and social support to adjustment in a stressful situation, specifically the transition to junior high school. School transition was proposed as an optimal stressor because it has been shown in prior research to influence adjustment, because it affords the opportunity to study longitudinally the response to a common stress in a large sample of children, and because it is a predictable stressor which therefore makes possible a prospective pre-post research design.

To assess the relative contributions of social competence and social support to a child's coping ability, one must define and differentiate these interrelated concepts, and operationalize them in such a way as to make independent measurement possible. For the purposes of the present study, social competence was defined as the child's ability and/or willingness to initiate positive interactions with his/her peers, and was operationalized as self-reported social skills and overtures to peers. Social support was defined as

the provision of instrumental, informational, and socioemotional aid by significant others and was indexed by the child's reports of support from family and peers, the perceived adequacy of this support, reports of social overtures made to him/her by peers, the presence of a best friend, and the company of more familiar peers in the classroom. Multiple measures of each construct were employed to ensure that it was sampled adequately. A child's ability to interact and develop relationships with peers was expected to partially dictate the level of support he/she could receive from these relationships. Nevertheless, it was expected that those children who had lower social support or lower social competence would exhibit more adjustment problems in response to the stress of school transition.

The major hypotheses of the present study were as follows:

Hypothesis 1: The Effects of School Transition

It was predicted that children making the transition from an elementary school to a different school would report lower levels of social support and greater adjustment difficulties than would those students who remained in the same school.

Hypothesis 2: Social Competence versus Social Support as Predictors of Adjustment

For those subjects who experienced a school transition, it was hypothesized that both social competence, as measured by self-reported social skills ratings of the target child and self-reported social initiations by the target child, and social support, as measured by ratings of perceived social

support, the target child's reports of initiations of social contact by others, stable best friendships, and more familiar peers in the classroom, would predict behavioral and emotional adjustment immediately following the transition and six months later.

Hypothesis 3: The Influence of Different Sources of Social Support

Of the four sources of social support measured (family support, friendship support, general peer support, and teacher support), it was predicted that friendship support, as measured by perceived adequacy of support from friends, the target child's reports of peer initiations of social contact, and the presence of a best friend would be the strongest predictor of adjustment immediately following the transition and at follow-up, based on the premise that children at this age begin to rely more heavily on friends for guidance and security, and are typically less dependent on their parents for emotional support (East, Hess, & Lerner, 1987; Furman & Buhrmester, 1985). It was, however, also expected that general peer relations (classmate support) and family support would also significantly add to the prediction of adjustment at the time of the transition and six months later. Although their relative contributions to adjustment are unknown, it was expected that peer relations would be of greater importance during the school transition than would parental support (East et al., 1987; Furman & Buhrmester, 1985) and therefore would be a better predictor of adjustment. However, for those children with low perceived social support from peers, it was expected that degree of parental support would play a more important role in predicting adjustment.

Hypothesis 4: The Influence of Best Friend Relationships

In light of Paykel's (1978) finding that individuals who have experienced the loss of a significant other are at greater risk than those experiencing other types of stressors, and since the presence of a confidante has been shown to provide the highest level of stress-buffering support (Lowenthal & Haven, 1968; Brown, Bhrolchain, & Harris, 1975), it was predicted that children with stable best friendships following the transition to junior high school would demonstrate fewer emotional and behavioral difficulties than children with unstable best friendships (i.e. children with different best friends before and after the transition, children with a best friend at T1 but no best friend at T2, and children with no best friend at T1 but who report a best friend at T2) or children who reported no best friend both before and following the transition.

METHOD

Subjects

Subjects were recruited in two different schoolboards (one urban, one rural) from a total of ten elementary schools and eighteen classes. Of the 423 students in these classrooms, the parents of 214 (51%) consented to their participation. In the spring before the school transition (T1), 213 subjects completed the questionnaires, 45% from the urban schoolboard, and 55% from the rural schoolboard. There were 121 females (57%) and 92 males (43%). In the fall of the seventh grade (T2), 188 students (109 females and 79 males)

completed the questionnaires. One year after the initial testing (T3), there were 189 subjects (108 females and 81 males) who completed the questionnaires, reflecting an overall attrition rate of 11% from the beginning of the study.

Attrition bias was examined in terms of both the low consent rate achieved and the small number of subjects who did not complete the study. In order to determine if the attrition due to low consent resulted in a less deviant sample, the means and standard deviations of the CBCL Youth Self Report for the present sample were compared with the means and standard deviations for the normative sample of non-referred youths provided by Achenbach(1991). This comparison indicated that scores for the present sample were fairly consistent with those of the normative sample, and therefore that the present sample reasonably reflects a normal population.

To investigate whether there were any significant differences between the subjects who dropped out of the study after Time 1 (11%) and those that remained in the study, a series of one-way ANOVAs and MANOVAs were performed on T1 measures. Analyses indicated that there were no significant differences between groups on the CBCL Youth Self Report Internalizing Problems Scale scores, CBCL Youth Self Report Externalizing Problems Scale scores (Wilks' λ (2, 199) = 1.00, $p > .05$), CBCL Parent Report Internalizing Problems Scale scores, CBCL Parent Report Externalizing Problems Scale scores (Wilks' λ (2, 111) = .95, $p > .05$), the Scale of Available Behaviors scores or the Appraisals Scale scores (Wilks' λ (2, 200) = .99, $p > .05$), the Social Skills Rating System scores ($F(1, 159) = 1.40$, $p > .05$), or the self-reported stress ratings ($F(1, 200) = 2.01$, $p > .05$).

The sample consisted of three groups of children divided according to transition status. Group One (same school) consisted of 67 children from two different kindergarten to grade eight schools in the urban schoolboard who were being promoted to grade seven and were staying in the same school. Group Two (K to 8) consisted of 18 children from two kindergarten to grade six schools in the urban schoolboard who were being promoted to grade seven and were transferring to a kindergarten to grade eight school in the same school district. Group Three (junior high) consisted of 106 children from the rural schoolboard who were being promoted to grade seven and were transferring from a kindergarten to grade six elementary school to a junior high school. Given the small number of subjects in Group Two, Groups Two and Three were combined to form the transition group.

Measures

Child Behavior Checklist. Two of the standardized ratings scales developed by Achenbach and Edelbrock (1983) were used to assess each child's behavioral and emotional adjustment. In light of Boyle and Jones' (1985) suggestion that multiple-informant response formats be used when assessing problem behaviors, both the Parent Report and the Youth Self-Report forms were used.

The Child Behavior Checklist Parent Report Form (Achenbach & Edelbrock, 1983) was designed to measure children's social competence and behavior problems from the parent's perspective. Principle component factor analyses of the CBCL Parent Report Form problem behavior scores identified eight common narrow-band syndromes (withdrawn, somatic complaints,

anxious/depressed, social problems, thought problems, attention problems, delinquent behavior, aggressive behavior), two broad-band syndromes (internalizing and externalizing) and one mixed syndrome. For this study, only the Internalizing and Externalizing Problems Scale scores were used.

The Parent Report Form contains 118 behavior problem items and 20 social competence items which assess activities, involvement with social organizations and friends, and school performance. Norms were derived from data obtained in a home interview survey of parents of 1,400 randomly selected children. Intraclass correlations exceeded .90 for agreement between mothers' and fathers' ratings of specific items and for one-week test-retest reliabilities of mothers' ratings. The Parent Report Form has demonstrated good discriminative validity, differentiating between children referred for mental health services and normal controls (Achenbach, 1978; Achenbach & Edelbrock, 1979, 1981, 1983). In a recent study of the convergence between a clinical diagnostic approach and an empirical-quantitative diagnostic approach, Kasius, Ferdinand, van den Berg, and Verhulst (1997) found evidence of the predictive validity of the Child Behavior Checklist, such that scores on individual subscales predicted DSM-III-R diagnoses.

Due to the schoolboards' concerns about parents' perceptions of the offensiveness of some items, 15 items were removed from the questionnaire prior to its administration (see Appendix B for a list of the items that were removed from the CBCL Parent Report Form).

The Child Behavior Checklist Youth Self Report (YSR) (Achenbach & Edelbrock, 1983) was designed to measure social competence and behavior problems as perceived by the child in children aged 11 to 18 with at least a

mental age of 10 years and a 5th grade reading level. The YSR includes most of the same items as the CBCL, but they are written in the first person. However, a few items were replaced with more age-appropriate and socially desirable questions. Achenbach and Edelbrock (1983) reported a test-retest correlation of .69 for total self-reported behavior problem scores over a 6-month interval for youths referred to a community mental health center. The YSR was significantly correlated with CBCL ratings of mothers and a clinician both at intake ($r = .37$ and $.55$, respectively) and at a six-month follow-up ($r = .56$ and $.48$, respectively).

Due to the schoolboards' concerns about the offensiveness of items relating to suicidal behavior, two such items were removed from the YSR prior to its administration (Item 18: I deliberately try to hurt or kill myself, Item 91: I think about killing myself).

Raw scores for the Child Behavior Checklist Parent Report and Youth Self Report Internalizing and Externalizing Problems Scales were converted to T scores for each sex within the current sample. Achenbach's T score equivalents were not used due to the elimination of items in both the Parent Report and the Youth Self-Report. The T-score transformation was performed because raw scores are not equivalent across the sexes and the transformation thus helped to facilitate comparisons of subjects' scores across both sexes and respondents. Original analyses were performed using the T scores. To ensure that the conversion did not alter the results, analyses were repeated using the raw scores. The results were almost identical, and consequently, only analyses using T-scores are reported.

The Survey of Children's Social Support. The Survey of Children's Social Support (Dubow & Ullman, 1989) is a child self-report measure of three aspects of social support: the frequency of supportive behaviors available from the child's social support network (Scale of Available Behaviors, or SAB); the child's subjective appraisals of family, friend, peer, and teacher support (APP); and the size of the child's network (NET). The SOCSS was chosen primarily because it measures the separate elements of social support put forth by Barrera (1986) as important for children. However, given that the size of the child's network has not been shown to be as powerful a predictor, only SAB and APP scores were used.

The SAB scale (see Appendix C) measures the availability of supportive behaviors from network members, including subscales measuring informational, emotional, and tangible support. Psychometric research by Dubow and Ullman (1989) found the SAB to have good internal consistency (Cronbach's alpha estimates .91 and .94) and to have acceptable test-retest reliability over a two-week period for total scale scores (.74), with subscale reliabilities ranging from .61 to .69.

The Appraisals Scale (APP) (see Appendix C) assesses the child's subjective appraisal of the quality of support received. This scale is divided into four subscales addressing support from family, friends, peers, and teachers. Internal consistency is good, with Cronbach's alpha for the total scale and the subscales exceeding .90. Test-retest reliability for a one-week interval was .88 for the total APP scale score, with subscale reliabilities ranging from .79 to .87.

Dubow and Ullman (1989) also provided some evidence for the convergent and discriminant validity of the Appraisals Scale and the Scale of Available Behaviors. For example, the Appraisals subscales were significantly correlated with the corresponding subscales of Harter's Social Support Scale for children (Harter, 1985), another measure of perceived social support. In addition, Harter's Loneliness subscale, developed to assess perceived peer isolation, correlated most highly with the Appraisals Scale Peer Support subscale. The Loneliness subscale was also moderately correlated with the Scale of Available Behaviors, which, according to Dubow and Ullman (1989), indicated that children who received fewer supportive behaviors from others report being more lonely.

Best Friend. To determine whether the child had a best friend, children were asked: "Do you have a best friend?", "If so, who is it?", "How do you know this person?" (school versus non-school) (see Appendix D). Reciprocal nominations were not used for several reasons. First, reciprocal nominations require that all of the children nominated as a best friend be interviewed as to the friendship status of the target child. Typically, reciprocal nominations for friendship are measured only within a classroom, and therefore do not account for those best friendships outside of the classroom. Second, children in the classroom whose parents did not give consent for them to participate in the study could not be used to determine reciprocal friendships. Furthermore, as with adults, it is children's perceptions of social support that have been linked significantly to adjustment (East et al., 1987).

Social Skills Rating System. The Social Skills Rating System (SSRS) is a 34-item self-report scale of social skills (Gresham & Elliott, 1990), containing

such items as "I say nice things to others when they have done something well" and "I ask friends for help with my problems". One advantage of the SSRS over other social skills measures is that the items are more behavioral in nature, describing specific actions, such as nodding or smiling at others, rather than more global concepts such as 'being friendly to others'. The SSRS has four subscales: Cooperation, Assertion, Self-Control, and Empathy.

Gresham and Elliott (1990) provided psychometric data for the SSRS. The standardization sample consisted of 4,170 schoolchildren in grades 3-10, matched for grade and sex. It approximated the U.S. national distribution on several secondary sampling variables, including race, geographic region, and community size. The internal consistency estimate for the SSRS total scale was .83, with subscale estimates ranging from .51 (Assertion) to .74 (Empathy). The relatively high internal consistency of the SSRS total score indicates good scale homogeneity, and suggests that the items assess a single underlying construct. Test-retest reliability, over a period of four weeks, for the SSRS total scale was .68, with subscale reliabilities ranging from .52 (Self-Control) to .66 (Empathy). Items were chosen based on a broad survey of the empirical literature on the assessment and training of social skills in children.

Stress Rating Scale. A seven-point Likert scale was used as a measure of the individual's current level of stress. Students were asked to circle the number that described how bothered, upset, or stressed they felt by the things that were happening in their lives currently. Anchors for the scale were "0 - not bothered at all" and "6 - extremely bothered". (see Appendix E)

Things I Do with Others (TIDO). The Things I Do With Others (devised for the purposes of this study) was a diary-type log used to record the social

activities of the child which were expected to provide social support (see Appendix F). The diary consisted of printed sheets which allowed the child to record all of his/her activities with others (e.g. playing with a friend after school, going to a movie with a family member, having a sleepover, etc.), and who initiated the activity, as well as all telephone calls, including the direction of the call (incoming or outgoing), and the child's relationship to the other party. The TIDO was completed for a two week period at each of the three testing times. The goal of this instrument was to provide both a measure of behavioral social competence (i.e. how often the target child sought contact with members of his/her social network) and social support (i.e. how often others sought out the target child).

Continuity of Classroom Peers. The continuity of classroom peers was measured by asking subjects to check off from a class list of the previous year those students with whom they share classes in the transition year.

Number of Previous School Transitions. Given the cumulative effects demonstrated for stressors, students were asked to indicate how many times in the past they had changed schools.

Procedure

Subjects were administered a number of self-report questionnaires at each of three testing times: in the spring of the school year prior to the transition (T1), in the fall immediately following the school transition (T2), and in the spring of the transition year (T3). The measures were administered in a group format during regular class hours. Testing sessions at each point in time involved two classroom visits of no more than one hour. The Survey of

Children's Social Support, the Social Skills Rating System, the Child Behavior Checklist Youth Self-Report, and the stress scale were administered at T1, T2, and T3. At T2, students were asked to identify, using a classlist, those students in their current classroom who had been in their classroom the previous year. In addition, students were asked to complete a daily log, *The Things I Do With Others*, over a two-week period at T1, T2, and T3. This instrument was distributed during the first testing session at each of the three timepoints. Any difficulties in responding to the diary were addressed at the second testing session, usually the next day. Students were asked to return the completed journal after two weeks. Journals were picked up in the classroom by a member of the research team. Several attempts were made at each timepoint to recover the journals. The Child Behavior Checklist Parent Report was sent home from school with the student at each of the testing times to be completed by the parent and returned by pre-paid mail.

Testing participants twice in grade seven was done for two reasons. First, it made it possible to test for the timing and chronicity of problems linked to the school transition. Second, it enabled us to identify factors linked to improvements in adjustment over time.

RESULTS

Preliminary Analyses

Major analyses were performed using STATISTICA REGRESSION and STATISTICA MANCOVA. Prior to performing the statistical analyses, the data were screened for missing values, and basic assumptions concerning univariate outliers, multivariate outliers, and normality were examined.

Missing data were evaluated for each variable. The Social Skills Rating System was identified as having a substantial amount of missing item data across the three timepoints. However, the majority of subjects with missing data had only one or two missing items. For subjects having three or less missing items, the missing values were recoded to one (the mid-score on a three point scale), according to the SSRS manual instructions. Due to poor compliance in returning the CBCL Parent Report, there was a substantial amount of missing data for this instrument across the three timepoints. Although no substitutions for missing data were performed on this measure, it was retained for analysis, but in most cases was analyzed separately. 'The Things I Do With Others', a daily journal completed by the subjects, was also subject to poor response rates (50% at T1, 27% at T2, and 24% at T3). Given that its inclusion in the statistical analyses drastically reduced the sample size, it was excluded from further analyses. Missing data within all other variables was minimal and remained unaltered. Casewise deletion of missing data resulted in approximately a 5-10% loss of data within each analysis.

Within each continuous variable, univariate outliers were identified, and their influence was minimized by reducing these extreme scores to three standard deviations from the sample mean. With the use of a $p < .001$ criterion for Mahalanobis distance (Tabachnick & Fidell, 1996), multivariate outliers were identified and eliminated. A maximum of two multivariate outliers were eliminated from any analysis.

An examination of the normality of the distributions of the variables to be used in the multiple regressions revealed that several of the variables were significantly skewed. Square root transformations and logarithmic

transformations (when the square root transformations were ineffective) were performed on these variables to reduce the skewness. Analyses were performed using both the transformed data and the non-transformed data. Given that the results of these analyses were almost identical, only the results using the non-transformed data are reported.

Means and Standard Deviations of Measures

Means and standard deviations were calculated for all measures across the three timepoints separately for transition and no transition groups (see Tables 1-2).

Internal Consistency of Instruments

Cronbach's alpha coefficient (Cronbach, 1951), an estimate of the internal consistency of a measure, was calculated for measures used in the study. Estimates of internal consistency were good, ranging from .83 to .95, and were similar to the internal consistency coefficients reported by the authors of each measure. (See Appendix G)

Schoolboard and Sex Differences at Time 1

To investigate whether there were any initial differences between subjects in the two schoolboards (rural vs. urban) and to determine whether there were any differences in scores as a function of the sex of the subject, a series of 2 (Sex) X 2 (Schoolboard) ANOVAs and MANOVAs were performed on T1 measures.

Table 1.

**Means and Standard Deviations for Measures at Each Timepoint for
Transition Subjects**

Variable	Time 1		Time 2		Time 3	
	M	SD	M	SD	M	SD
CBCL Youth Self Report						
Internalizing Scale	11.76	6.89	9.79	6.36	9.70	7.19
Externalizing Scale	11.60	8.69	11.11	7.77	12.74	9.14
CBCL Parent Report						
Internalizing Scale	8.36	7.74	7.47	7.56	6.53	6.31
Externalizing Scale	8.39	7.93	7.91	6.26	6.93	5.48
Social Skills Rating System	54.97	12.45	55.98	10.91	52.64	12.62
Scale of Available Behaviors	136.77	20.60	140.95	20.11	142.91	20.27
Appraisals Scale						
Friend	40.06	5.95	40.99	6.28	40.74	6.45
Classmates	33.52	6.28	34.76	5.33	33.95	6.03
Peer	73.58	10.61	75.74	10.41	74.69	11.51
Family	49.12	7.96	48.53	8.42	47.23	9.44
Teacher	34.32	7.72	36.11	5.93	33.41	7.58
Stress Rating Scale	1.99	1.61	2.11	1.45	2.17	1.69
Total # of School Transitions	1.46	1.37				
# of Familiar Peers at T2			4.69	3.93		

Table 2.

Means and Standard Deviations for Measures at Each Timepoint for No-Transition Subjects

Variable	Time 1		Time 2		Time 3	
	M	SD	M	SD	M	SD
CBCL Youth Self Report						
Internalizing Scale	10.92	7.97	7.88	6.32	9.57	6.51
Externalizing Scale	9.92	7.24	9.09	7.78	10.80	8.14
CBCL Parent Report						
Internalizing Scale	8.06	7.53	9.62	8.28	9.72	10.33
Externalizing Scale	8.25	7.11	8.46	7.28	8.28	7.27
Social Skills Rating System	54.90	12.34	55.59	12.72	55.27	13.00
Scale of Available Behaviors	132.44	25.96	133.64	22.63	132.37	30.76
Appraisals Scale	153.04	24.12	150.56	22.38	148.16	23.37
Friend	37.86	7.73	37.55	6.71	39.05	7.13
Classmates	31.86	7.19	33.13	5.94	31.69	6.58
Peer	69.59	13.99	70.68	11.20	70.73	12.39
Family	46.84	8.41	45.64	9.85	45.83	9.24
Teacher	36.62	6.84	34.23	6.39	31.59	7.34
Stress Rating Scale	2.09	1.59	1.86	1.45	1.98	1.62
Total # of School Transitions	1.61	1.27				
# of Familiar Peers at T2			4.58	2.57		

A 2 (Sex) X 2 (Schoolboard) MANOVA performed on the CBCL Youth Self Report Internalizing Problems Scale scores and Externalizing Problems Scale scores indicated a significant effect of sex, Wilks' $\lambda (2, 182) = .94, p < .01$, but not of schoolboard, Wilks' $\lambda (2, 182) = 1.00, p > .05$. The interaction between sex and schoolboard, Wilks' $\lambda (2, 182) = .99, p > .05$, was not significant. To understand the main effect of sex, the two dependent variables were evaluated using a Bonferroni corrected alpha level of .025 (.05/2). Only the CBCL Youth Self Report Internalizing Problems Scale was significant ($F(1,183) = 7.02, p < .025$). Mean scores on the CBCL Youth Self Report Internalizing Problems scale were significantly higher for girls ($M = 12.59$) than for boys ($M = 9.76$).

A 2 (Sex) X 2 (Schoolboard) ANOVA performed on the Social Skills Rating System indicated a significant effect of sex, $F(1, 184) = 7.63, p < .01$, but not of schoolboard, $F(1,184) = .00, p > .05$. The interaction between sex and schoolboard, $F(1,184) = .01, p > .05$, was not significant. Girls had higher social skills scores ($M = 57.03$) than did boys ($M = 51.98$).

Additional 2 (Sex) X 2 (Schoolboard) MANOVA and ANOVA analyses indicated no significant effects of sex, of schoolboard, or of the interaction between sex and schoolboard for the following dependent variables: the Internalizing and the Externalizing scales of the CBCL Parent Report, the Survey of Children's Social Support Scale of Available Behaviors, the Survey of Children's Social Support Appraisals Scale total score and factor scores (friend, peer, and family), the self-reported stress rating, the total number of previous school transitions, and the continuity of peers in the classroom from T1 to T2.

Intercorrelations Among Variables at Time 1

Pearson product-moment correlation coefficients were calculated among the Time 1 measures (see Tables 3-4). In order to reduce the Type I error rate, a Bonferroni correction procedure was applied to the alpha level. Given the number of comparisons, a correction for all possible pairwise comparisons might have resulted in a failure to find any significant correlations. Therefore, a Bonferroni correction was applied to each of two groups: the first, a square matrix of the total scores at T1, and the second, a comparison of the Appraisals Scale factor scores at T1 with the total scores at T1. The first correlation matrix resulted in 36 unique pairwise comparisons excluding the diagonal elements in the matrix, and consequently, an adjusted alpha level of .001 (.05/36). The second correlation matrix resulted in 24 unique pairwise comparisons excluding the diagonal elements in the matrix, and consequently, an adjusted alpha level of .002 (.05/24).

The Internalizing and Externalizing Problems Scales of the adjustment measures (the CBCL Parent Report and the CBCL Youth Self Report) demonstrated significant intercorrelations. The Externalizing Problems Scale of the CBCL Youth Self Report was positively correlated with the Internalizing Problems Scale of the CBCL Youth Self Report and the Externalizing Problems Scales of the CBCL Parent Report. The Internalizing and Externalizing Problems Scales of the CBCL Parent Report were positively correlated.

Correlations of the Internalizing Problems Scale and the Externalizing Problems Scale of both the CBCL Youth Self Report and the CBCL Parent Report with the social skills measure (the Social Skills Rating System) were low to moderate in magnitude and negative. Significant negative correlations were

Table 3.

Correlation Coefficients for Measures at Time 1

Variable	TRANSTOT	STRESST1	APPT1TOT	SABT1TOT	SSRS1TTO
Youth Self Report Internalizing Scale	.01	.52***	-.41***	-.26***	-.25***
Youth Self Report Externalizing Scale	.07	.31***	-.37***	-.22**	-.57***
CBCL Parent Report Internalizing Scale	.20*	.21*	-.36***	-.32***	-.31***
CBCL Parent Report Externalizing Scale	.23*	.14	-.26**	-.22*	-.32***
Social Skills Rating System	-.05	-.28***	.48***	.42***	
Scale of Available Behaviors	.04	-.20**	.70***		
Appraisals Scale	-.04	-.43***			
Stress Rating Scale	.10				

Note. TRANSTOT = total number of school transitions; STRESST1 = Stress Rating Scale score; APPT1TOT = Appraisals Scale total score; SABT1TOT = Scale of Available Behaviors total score; SSRS1TTO = Social Skills Rating System total score; CBCL1TEX = CBCL Parent Report Externalizing Scale score; CBCL1TIN = CBCL Parent Report Internalizing Scale score; YSRT1TEX = CBCL Youth Self Report Externalizing Scale score; YSRT1TIN = CBCL Youth Self Report Internalizing Scale score.

* $p < .05$ ** $p < .01$ *** $p < .001$ (Bonferroni adjusted alpha level, $p < .001$)

Table 3. (continued)

Correlation Coefficients for Measures at Time 1

Variable	CBCL1TEX	CBCL1TIN	YSRT1TEX	YSRT1TIN
Youth Self Report Internalizing Scale	.06	.21*	.52*	
Youth Self Report Externalizing Scale	.36*	.25**		
CBCL Parent Report Internalizing Scale	.72*			
CBCL Parent Report Externalizing Scale				
Social Skills Rating System				
Scale of Available Behaviors				
Appraisals Scale				
Stress Rating Scale				

Note. TRANSTOT = total number of school transitions; STRESST1 = Stress Rating Scale score; APPT1TOT = Appraisals Scale total score; SABT1TOT = Scale of Available Behaviors total score; SSRS1TTO = Social Skills Rating System total score; CBCL1TEX = CBCL Parent Report Externalizing Scale score; CBCL1TIN = CBCL Parent Report Internalizing Scale score; YSRT1TEX = CBCL Youth Self Report Externalizing Scale score; YSRT1TIN = CBCL Youth Self Report Internalizing Scale score.

* $p < .05$ ** $p < .01$ *** $p < .001$ (Bonferroni adjusted alpha level, $p < .001$)

Table 4.

Correlation Coefficients for Measures at Time 1

Variable	APPT1FRD	APPT1CLS	APPT1FAM	APPT1TCH
Youth Self Report Internalizing Scale	-.22**	-.27***	-.33***	-.37***
Youth Self Report Externalizing Scale	-.18*	-.19**	-.28***	-.42***
CBCL Parent Report Internalizing Scale	-.34***	-.32***	-.21*	-.21*
CBCL Parent Report Externalizing Scale	-.25**	-.23*	-.19	-.11
Social Skills Rating System	.35***	.22**	.36***	.46***
Scale of Available Behaviors	.64***	.47***	.62***	.35***
Stress Rating Scale	-.21**	-.34***	-.37***	-.33***
Total # of school transitions	.03	-.01	-.05	-.07

Note. APPT1FRD = Appraisals Scale Friend factor score; APPT1CLS = Appraisals Scale Peer factor score; APPT1FAM = Appraisals Scale Family factor score; APPT1TCH = Appraisals Scale Teacher factor score.

* $p < .05$ ** $p < .01$ *** $p < .001$ (Bonferroni adjusted alpha level, $p < .002$)

found between the Internalizing Problems Scales of both the CBCL Youth Self Report and the CBCL Parent Report and the social support measures (the friend, classmates, family, and teacher factors of the Appraisals Scale, and the Scale of Available Behaviors). In contrast, the only significant correlation between externalizing problem behaviors and social support was found between the Externalizing Problems Scale of the CBCL Youth Self Report and the Appraisals Scale. This suggests that subjects who report higher levels of social support and social skills have fewer adjustment problems, and that social support is more directly related to internalizing behavior problems than to externalizing behavior problems.

Self-reported stress ratings at T1 were positively correlated with the Internalizing and Externalizing Problems Scales of the CBCL-Youth Self Report. In other words, subjects reporting higher levels of stress also reported greater problems of adjustment. The stress rating was negatively correlated with the total score and all the factor scores (friend, peer, and family) of the Appraisals Scale, as well as with the SSRS score, suggesting that children who report higher levels of stress experience lower levels of social support and report lower levels of social skills.

The measures of social support (the Scale of Available Behaviors and the total score and two of the three factor scores of the Appraisals Scale of the Children's Survey of Social Support), and the measure of social skills (SSRS) demonstrated low to high positive intercorrelations. Only the peer factor score was not significantly correlated with the SSRS score at the adjusted alpha level of significance.

The total number of school transitions was positively correlated only with the CBCL Parent Report Internalizing and Externalizing Scale scores at T1 (but not at T2 or T3). Because this variable was thus generally unrelated to other variables, it was eliminated from further analyses.

In summary, the correlation coefficients among T1 measures indicated that the variables were related to each other in the expected manner. Pearson product-moment correlation coefficients for Time 2 and Time 3 measures reflected similar patterns of association between the variables (see Tables 5-8).

Stability of Measures Across Time

To assess the stability of the measures, Pearson product-moment correlation coefficients were calculated for each measure across the three timepoints. Table 9 shows the stability coefficients of the dependent and independent variables. Correlations for each variable ranged from .40 to .80, and were all statistically significant [$p < .001$; Bonferroni adjusted alpha level, $p < .002$ (.05/33)]. Stability coefficients in the present study were generally similar to those reported by the authors of the measures.

Testing of Hypotheses

Effects of School Transitions on Social Support and Adjustment

To test the hypothesis that children who changed schools in the transition to junior high school would report lower levels of social support and greater adjustment difficulties than those who did not change schools, three separate 2 (Transition status) x 3 (Time) repeated measures multivariate analyses of variance (MANOVA) were performed on the Internalizing and

Table 5.

Correlation Coefficients for Measures at Time 2

Variable	TRANSTOT	STRESST2	APPT2TOT	SABT2TOT	SSRS2TTO
Youth Self Report Internalizing Scale	.05	.47***	-.36***	-.21**	-.21**
Youth Self Report Externalizing Scale	.04	.24**	-.39***	-.19*	-.57***
CBCL Parent Report Internalizing Scale	.13	.21	-.44***	-.42***	-.24*
CBCL Parent Report Externalizing Scale	.10	.18	-.22	-.10	-.10
Social Skills Rating System	-.05	-.15	.50***	.47***	
Scale of Available Behaviors	.01	-.18*	.67***		
Appraisals Scale	.02	-.43***			
Stress Rating Scale	.04				

Note. TRANSTOT = total number of school transitions; STRESST2 = Stress Rating Scale score; APPT2TOT = Appraisals Scale total score; SABT2TOT = Scale of Available Behaviors total score; SSRS2TTO = Social Skills Rating System total score; CBCL2TEX = CBCL Parent Report Externalizing Scale score; CBCL2TIN = CBCL Parent Report Internalizing Scale score; YSRT2TEX = CBCL Youth Self Report Externalizing Scale score; YSRT2TIN = CBCL Youth Self Report Internalizing Scale score.

* $p < .05$ ** $p < .01$ *** $p < .001$ (Bonferroni adjusted alpha level, $p < .001$)

Table 5. (continued)

Correlation Coefficients for Measures at Time 2

Variable	CBCL2TEX	CBCL2TIN	YSRT2TEX	YSRT2TIN
Youth Self Report Internalizing Scale	.08	.34**	.47***	
Youth Self Report Externalizing Scale	.20	.04		
CBCL Parent Report Internalizing Scale	.54***			
CBCL Parent Report Externalizing Scale				
Social Skills Rating System				
Scale of Available Behaviors				
Appraisals Scale				
Stress Rating Scale				

Note. TRANSTOT = total number of school transitions; STRESST2 = Stress Rating Scale score; APPT2TOT = Appraisals Scale total score; SABT2TOT = Scale of Available Behaviors total score; SSRS2TTO = Social Skills Rating System total score; CBCL2TEX = CBCL Parent Report Externalizing Scale score; CBCL2TIN = CBCL Parent Report Internalizing Scale score; YSRT2TEX = CBCL Youth Self Report Externalizing Scale score; YSRT2TIN = CBCL Youth Self Report Internalizing Scale score.

* $p < .05$ ** $p < .01$ *** $p < .001$ (Bonferroni adjusted alpha level, $p < .001$)

Table 6.

Correlation Coefficients for Measures at Time 2

Variable	APPT2FRD	APPT2CLS	APPT2FAM	APPT2TCH
Youth Self Report Internalizing Scale	-.18*	-.24***	-.37***	-.22**
Youth Self Report Externalizing Scale	-.19*	-.17*	-.44***	-.28***
CBCL Parent Report Internalizing Scale	-.43***	-.43***	-.37**	-.10
CBCL Parent Report Externalizing Scale	-.18	-.22	-.19	-.09
Social Skills Rating System	.37***	.28***	.46***	.33***
Scale of Available Behaviors	.65***	.44***	.52***	.37***
Stress Rating Scale	-.22**	-.30***	-.38***	-.38***
Total # of school transitions	.09	-.05	-.02	.04

Note. APPT2FRD = Appraisals Scale Friend factor score; APPT2CLS = Appraisals Scale Peer factor score; APPT2FAM = Appraisals Scale Family factor score; APPT2TCH = Appraisals Scale Teacher factor score.

* $p < .05$ ** $p < .01$ *** $p < .001$ (Bonferroni adjusted alpha level, $p < .002$)

Table 7.

Correlation Coefficients for Measures at Time 3

Variable	TRANSTOT	STRESST3	APPT3TOT	SABT3TOT	SSRS3TTO
Youth Self Report Internalizing Scale	.03	.58***	-.58***	-.42***	-.34***
Youth Self Report Externalizing Scale	.09	.31***	-.46***	-.18*	-.60***
CBCL Parent Report Internalizing Scale	.12	.38**	-.41***	-.42***	-.34**
CBCL Parent Report Externalizing Scale	.10	.32*	-.31*	-.19	-.27*
Social Skills Rating System	-.09	-.30***	.44***	.35***	
Scale of Available Behaviors	.01	-.30**	.70***		
Appraisals Scale	-.07	-.46***			
Stress Rating Scale	-.01				

Note. TRANSTOT = total number of school transitions; STRESST3 = Stress Rating Scale score; APPT3TOT = Appraisals Scale total score; SABT3TOT = Scale of Available Behaviors total score; SSRS3TTO = Social Skills Rating System total score; CBCL3TEX = CBCL Parent Report Externalizing Scale score; CBCL3TIN = CBCL Parent Report Internalizing Scale score; YSRT3TEX = CBCL Youth Self Report Externalizing Scale score; YSRT3TIN = CBCL Youth Self Report Internalizing Scale score.

* $p < .05$ ** $p < .01$ *** $p < .001$ (Bonferroni adjusted alpha level, $p < .001$)

Table 7. (continued)

Correlation Coefficients for Measures at Time 3

Variable	CBCL3TEX	CBCL3TIN	YSRT3TEX	YSRT3TIN
Youth Self Report Internalizing Scale	.33**	.43***	.53***	
Youth Self Report Externalizing Scale	.44***	.22		
CBCL Parent Report Internalizing Scale	.54***			
CBCL Parent Report Externalizing Scale				
Social Skills Rating System				
Scale of Available Behaviors				
Appraisals Scale				
Stress Rating Scale				

Note. TRANSTOT = total number of school transitions; STRESST3 = Stress Rating Scale score; APPT3TOT = Appraisals Scale total score; SABL3TOT = Scale of Available Behaviors total score; SSRS3TTO = Social Skills Rating System total score; CBCL3TEX = CBCL Parent Report Externalizing Scale score; CBCL3TIN = CBCL Parent Report Internalizing Scale score; YSRT3TEX = CBCL Youth Self Report Externalizing Scale score; YSRT3TIN = CBCL Youth Self Report Internalizing Scale score.

* $p < .05$ ** $p < .01$ *** $p < .001$ (Bonferroni adjusted alpha level, $p < .001$)

Table 8.

Correlation Coefficients for Measures at Time 3

Variable	APPT3FRD	APPT3CLS	APPT3FAM	APPT3TCH
Youth Self Report Internalizing Scale	-.40***	-.43***	-.46***	-.41***
Youth Self Report Externalizing Scale	-.18*	-.19*	-.49***	-.44***
CBCL Parent Report Internalizing Scale	-.34**	-.33**	-.46***	-.11
CBCL Parent Report Externalizing Scale	-.11	-.19	-.41***	-.19
Social Skills Rating System	.28***	.20**	.42***	.36***
Scale of Available Behaviors	.65***	.59***	.52***	.33***
Stress Rating Scale	-.30***	-.31***	-.40***	-.32***
Total # of school transitions	.07	-.09	-.12	-.06

Note. APPT3FRD = Appraisals Scale Friend factor score; APPT3CLS = Appraisals Scale Peer factor score; APPT3FAM = Appraisals Scale Family factor score; APPT3TCH = Appraisals Scale Teacher factor score.

* $p < .05$ ** $p < .01$ *** $p < .001$ (Bonferroni adjusted alpha level, $p < .002$)

Table 9.

Stability Coefficients for Measures Across the Three Timepoints

Variable	Pearson's r		
	T1-T2	T2-T3	T1-T3
CBCL Youth Self Report			
Internalizing Scale	.66***	.61***	.64***
Externalizing Scale	.74***	.79***	.72***
CBCL Parent Report			
Internalizing Scale	.76***	.68***	.65***
Externalizing Scale	.67***	.51***	.71***
Social Skills Rating System	.70***	.69***	.58***
Scale of Available Behaviors	.69***	.66***	.48***
Appraisals Scale	.76***	.65***	.62***
Friend	.69***	.55***	.47***
Classmates (peer)	.66***	.54***	.44***
Family	.74***	.74***	.66***
Teacher	.41***	.63***	.40***
Stress Rating Scale	.63***	.48***	.44***

***p < .001 (Bonferroni adjusted alpha level, p < .002)

Externalizing Problems Scale scores of the CBCL Youth Self Report, the Internalizing and Externalizing Problems Scale scores of the CBCL Parent Report, and the Survey of Children's Social Support (Scale of Available Behaviors and the Appraisals Scale). Given the low response rate on the CBCL Parent Report, separate analyses were performed for the two sets of adjustment measures. The independent variable was transition status (transition versus no transition) and the repeated measures independent variable was time (T1-end of the 6th grade, T2-beginning of the 7th grade, and T3-end of the 7th grade).

The MANOVA indicated that the scores on the CBCL Youth Self Report Internalizing and Externalizing Problems Scales were not affected by transition status, Wilks' $\lambda(2, 174) = .98, p > .05$, or by time, Wilks' $\lambda(4, 172) = .98, p > .05$, or by the interaction between transition status and time, Wilks' $\lambda(4, 172) = .97, p > .05$. Similarly, the second MANOVA indicated that the scores on the CBCL Parent Report Internalizing and Externalizing Problems Scales were not affected by transition status, Wilks' $\lambda(2, 39) = .92, p > .05$, or by time, Wilks' $\lambda(4, 37) = .86, p > .05$, or by the interaction between transition status and time, Wilks' $\lambda(4, 37) = .79, p > .05$.

The MANOVA performed on the social support variables indicated that the scores on the Scale of Available Behaviors and the Appraisals Scale were significantly affected by time, Wilks' $\lambda(4, 172) = .80, p < .001$, but not by transition status, Wilks' $\lambda(2, 174) = .97, p > .05$, or their interaction, Wilks' $\lambda(4, 172) = .95, p > .05$.

To understand the main effect of time, the two dependent variables were evaluated using a Bonferroni corrected alpha level of .025 (.05/2). Both the

Scale of Available Behaviors ($F(2,350) = 7.78, p < .025$) and the Appraisals Scale ($F(2,350) = 6.26, p < .025$) contributed to the significant multivariate effect. Post hoc analyses (Tukey's HSD) revealed that mean scores on the Scale of Available Behaviors increased significantly from T1 ($M = 134.81$) to T3 ($M = 140.22$), but did not change significantly from T1 ($M = 134.81$) to T2 ($M = 137.67$), or from T2 ($M = 137.67$) to T3 ($M = 140.22$).

Additional post hoc analyses revealed that mean scores on the Appraisals Scale decreased significantly from T1 ($M = 155.59$) to T3 ($M = 151.99$) and from T2 ($M = 156.49$) to T3 ($M = 151.99$), but not from T1 ($M = 155.59$) to T2 ($M = 156.49$). These findings suggest that, while subjects' general assessment of the supportiveness of others (SAB) increased from T1 to T3, their perception of the supportiveness of specific types of relationships (APP) (i.e. friends, peers, family, teachers) remained stable from T1 to T2, but decreased from T1 to T3.

Given that there were no significant differences between subjects making the transition and those not making the transition on the dependent measures of adjustment, the transition groups were combined in subsequent analyses. The rationale for combining them was that, although attending a new school did not appear to have affected adjustment, it was still possible to test whether social competence and social support influenced adjustment in grade seven in the total sample.

Social Competence and Social Support as Predictors of Adjustment

It was hypothesized that both social competence and social support would add significantly to the prediction of adjustment in grade seven. In

order to test this hypothesis, three sets of hierarchical multiple regressions were performed.¹

In the first set of regressions, in order to determine how initial levels of social competence and social support at T1 predicted adjustment in grade seven (T2), adjustment scores at T2 (CBCL Parent Report Internalizing and Externalizing Problems Scales and CBCL Youth Self Report Internalizing and Externalizing Problems Scales) were regressed onto social competence scores (SSRS total scores) and social support scores (SOCSS-SAB total scores and SOCSS-APP total scores) at T1. A second set of hierarchical multiple regressions was performed to assess how levels of social competence and social support immediately after the transition (T2) predicted long-term adjustment (T3). In this set of regressions, stability of best friend relationships, and the total number of familiar peers in the transition classroom were included as additional measures of social support in the regressions using the subjects' self-reports of internalizing and externalizing adjustment problems. Initially, these measures were also to be used in the regressions using the CBCL Parent Report as the dependent variable. However, due to the low response rate for the CBCL Parent Report, the number of predictor variables was too great for the regression to be meaningful. A third set of hierarchical multiple regressions was performed to determine whether initial levels of social

¹The potential moderating effects of sex on the relationship between social support and adjustment and on the relationship between social competence and adjustment were examined using hierarchical regression analyses. These analyses indicated that there were no moderating effects for sex.

competence and social support at T1 would predict long-term adjustment at the end of the transition year (T3).²

The three sets of regression analyses examined the amount of variance accounted for by measures of social competence and social support for each of two subscales (Internalizing Problems scale and Externalizing Problems scale) in two measures of adjustment (CBCL Parent Report and CBCL Youth Self Report), for a total of twelve regressions. In order to reduce the Type I error rate, a Bonferroni correction procedure was applied to the alpha level for the three sets of regressions ($.05/3$). The probability level required to achieve significance was thus .017.

In each set of hierarchical multiple regressions, the subjects' prior level of adjustment was controlled for by entering either the T1 or T2 level of adjustment in the first step of the regression. It was then possible to assess the additional contribution of the remaining variables of interest. The predictor variables of social competence scores and social support scores were entered as a block in the second step.

Regressions for T1-T2. Tables 10-13 show that, in the first set of regressions, a significant amount of the variance in the four adjustment scores at T2 was accounted for by levels of adjustment at T1 (ranging from 45%

² Additional analyses were conducted to determine whether subjects whose adjustment declined at T2 relative to T1 differed significantly from subjects whose adjustment improved or remained constant from T1 to T2 on measures of social support and social competence. Three adjustment groups were determined by subtracting adjustment scores at T1 from adjustment scores at T2, and then selecting those subjects in the top, middle, and bottom 10% (approximately) of the change scores. A series of 2 (Sex) X 3 (Adjustment status) ANOVAs and MANOVAs indicated that there were no significant differences between the groups on measures of social support or social competence as a result of adjustment status.

Table 10.

Summary of Hierarchical Regression Analysis of CBCL Youth Self Report
Internalizing Scale Scores at Time 2 on Social Competence and Social
Support Total Scores at Time 1 (N=175)

Variable	B	β	R	Adj. R^2	ΔR^2
STEP 1. Youth Self Report Internalizing Scale (T1)	.64	.67	.67	.44	.45***
STEP 2. Scale of Available Behaviors	.00	.01	.67	.44	.00
Appraisals Scale	.02	.04			
Social Skills Rating System	-.07	-.07			
intercept	18.15				
F(4, 170) = 34.97***			Total R^2 =		.45

*** $p < .001$ (Bonferroni adjusted alpha level, $p < .017$)

Table 11.

Summary of Hierarchical Regression Analysis of CBCL Youth Self Report Externalizing Scale Scores at Time 2 on Social Competence and Social Support Total Scores at Time 1 (N=174)

Variable	B	β	R	Adj. R^2	ΔR^2
STEP 1. Youth Self Report Externalizing Scale (T1)	.58	.61	.74	.55	.55***
STEP 2. Scale of Available Behaviors	.03	.06	.76	.57	.03**
Appraisals Scale	-.04	-.10			
Social Skills Rating System	-.18	-.19			
Intercept	32.49				
F(4, 169) = 58.89***				Total R^2 =	.58

** $p < .01$ *** $p < .001$ (Bonferroni adjusted alpha level, $p < .017$)

Table 12.

Summary of Hierarchical Regression Analysis of CBCL Parent Report
Internalizing Scale Scores at Time 2 on Social Competence and Social
Support Total Scores at Time 1(N=63)

Variable	B	β	R	Adj. R^2	ΔR^2
STEP 1. CBCL Parent Report Internalizing Scale (T1)	.66	.69	.76	.57	.58***
STEP 2. Scale of Available Behaviors	.03	.08	.79	.59	.04
Appraisals Scale	-.08	-.19			
Social Skills Rating System	-.16	-.14			
Intercept	32.85				
$F(4, 58) = 23.72***$				Total $R^2 =$.62

*** $p < .001$ (Bonferroni adjusted alpha level, $p < .017$)

Table 13.

Summary of Hierarchical Regression Analysis of CBCL Parent Report Externalizing Scale Scores at Time 2 on Social Competence and Social Support Total Scores at Time 1(N=63)

Variable	B	β	R	Adj. R^2	ΔR^2
STEP 1.					
CBCL Parent Report Externalizing Scale (T1)	.66	.64	.67	.44	.45***
STEP 2.					
Scale of Available Behaviors	.07	.19	.69	.43	.02
Appraisals Scale	-.07	-.18			
Social Skills Rating System	-.12	-.10			
Intercept	24.30				
F(4, 58) = 12.87***				Total R^2	.47

*** $p < .001$ (Bonferroni adjusted alpha level, $p < .017$)

to 58%). Once prior levels of adjustment were accounted for in the parents' reports of internalizing and externalizing adjustment problems and the subjects' self-reports of internalizing adjustment problems, none of the other variables of interest at T1 (self-reported ratings of social skills and self-reported ratings of social support), entered as a block in the second step, contributed significantly to the ability to predict subsequent adjustment at the beginning of grade seven (T2). Their overall contribution, over and above what had already been accounted for by prior levels of adjustment, was small (ranging from 0% to 4%), and was not statistically significant. However, Table 10 shows that, once prior levels of adjustment (T1) were accounted for in subjects' self-reports of externalizing adjustment problems at T2, a small, but significant, amount of variance (3%) was accounted for by the predictor variables entered in the second step. Of those variables, only the measure of social competence was a significant contributor [$t(169) = -2.80, p < .01$].

Regressions for T2-T3. Tables 14-17 show that, in the second set of regressions, a significant amount of the variance in the four adjustment scores at T3 was accounted for by levels of adjustment at T2 (ranging from 24% to 62%). Once prior levels of adjustment were accounted for, the block of predictor variables at T2 entered in the second step, (social competence scores, self-reported ratings of social support, stability of friendship ratings, and the total number of familiar peers in the classroom) did not contribute significantly to the ability to predict subsequent long-term adjustment at the end of grade seven (T3). Their overall contribution, over and above what had already been accounted for by prior levels of adjustment, was small (ranging from 2% to 6%), and was not statistically significant.

Table 14.

Summary of Hierarchical Regression Analysis of CBCL Youth Self Report
Internalizing Scale Scores at Time 3 on Social Competence and Social
Support Total Scores at Time 2 (N=171)

Variable	<u>B</u>	<u>β</u>	<u>R</u>	Adj. <u>R</u> ²	<u>ΔR</u> ²
STEP 1. Youth Self Report Internalizing Scale (T2)	.56	.54	.60	.36	.36***
STEP 2. Scale of Available Behaviors	.07	.15	.63	.37	.04
Appraisals Scale	-.09	-.18			
Social Skills Rating System	-.10	-.10			
Friendship Stability (T1-T2)	-.10	-.00			
Continuity of classmates (T1-T2)	-.18	-.06			
Intercept	32.36				
	F(6, 164) = 17.84***			Total <u>R</u> ² =	.39

*** $p < .001$ (Bonferroni adjusted alpha level, $p < .017$)

Table 15.

Summary of Hierarchical Regression Analysis of CBCL Youth Self Report Externalizing Scale Scores at Time 3 on Social Competence and Social Support Total Scores at Time 2 (N=171)

Variable	B	β	R	Adj. R ²	ΔR^2
STEP 1. Youth Self Report Externalizing Scale (T2)	.79	.73	.79	.62	.62***
STEP 2. Scale of Available Behaviors	.03	.07	.80	.62	.02
Appraisals Scale	.02	.04			
Social Skills Rating System	-.15	-.15			
Friendship Stability (T1-T2)	-.18	-.01			
Continuity of classmates (T1-T2)	-.12	-.04			
Intercept	11.70				
F(6, 164) = 47.34***				Total R ² =	.63

*** $p < .001$ (Bonferroni adjusted alpha level, $p < .017$)

Table 16.

Summary of Hierarchical Regression Analysis of CBCL Parent Report
Internalizing Scale Scores at Time 3 on Social Competence and Social
Support Total Scores at Time 2 (N=41)

Variable	B	β	R	Adj. R^2	ΔR^2
STEP 1.					
CBCL Parent Report Internalizing Scale (T2)	.80	.61	.67	.44	.45***
STEP 2.					
Scale of Available Behaviors	.04	.09	.69	.42	.02
Appraisals Scale	-.08	-.16			
Social Skills Rating System	-.11	-.10			
intercept	22.80				
$F(4, 36) = 8.11***$				Total $R^2 =$.47

*** $p < .001$ (Bonferroni adjusted alpha level, $p < .017$)

Table 17.

Summary of Hierarchical Regression Analysis of CBCL Parent Report Externalizing Scale Scores at Time 3 on Social Competence and Social Support Total Scores at Time 2 (N=41)

Variable	<u>B</u>	<u>β</u>	<u>R</u>	Adj. <u>R</u> ²	<u>ΔR</u> ²
STEP 1. CBCL Parent Report Externalizing Scale (T2)	.50	.43	.49	.22	.24***
STEP 2. Scale of Available Behaviors	.12	.27	.55	.23	.06
Appraisals Scale	-.17	-.36			
Social Skills Rating System	-.15	-.14			
Intercept	42.05				
F(4, 36) = 3.95**				Total <u>R</u> ² =	.31

p < .01 *p < .001 (Bonferroni adjusted alpha level, p < .017)

Regressions for T1-T3. Tables 18-21 show that, as was the case in the first two sets of regressions, a significant amount of the variance in the four adjustment scores at T3 was accounted for by levels of adjustment at T1 (ranging from 39% to 53%). Tables 18-19 show that, for subjects' self-reports of adjustment at T3, no additional significant amount of variance was accounted for when the measures of social competence and social support at T1 were entered as a block in the second step.

Table 20 shows the amount of variance accounted for in parents' reports of internalizing adjustment problems by self-reports of social competence and social support at T1 once the variance attributable to prior levels of adjustment had been removed. The remaining predictor variables, entered as a block in the second step, significantly increased R^2 and accounted for 18% of the variance. Of those variables, only the Appraisals Scale was a significant contributor [$t(47) = -2.55, p < .05$].

Table 21 shows the amount of variance accounted for in parents' reports of externalizing adjustment problems by self-reports of social competence and social support at T1 once the variance from prior levels of adjustment had been removed. The remaining predictor variables, entered as a block in the second step, significantly increased R^2 . The group of variables accounted for 11% of the variance. While the overall contribution was significant, none of the individual variables accounted for a significant amount of the variance.

Regressions for T2. Given that prior levels of social competence and social support were not consistent predictors of adjustment measured at the beginning of grade seven, additional regression analyses were performed which examined the amount of variance in adjustment scores (CBCL Youth Self

Table 18.

Summary of Hierarchical Regression Analysis of CBCL Youth Self Report
Internalizing Scale Scores at Time 3 on Social Competence and Social
Support Total Scores at Time 1 (N=179)

Variable	B	β	R	Adj. R ²	ΔR ²
STEP 1.					
Youth Self Report Internalizing Scale (T1)	.59	.59	.63	.39	.39***
STEP 2.					
Scale of Available Behaviors	.03	.07	.64	.39	.01
Appraisals Scale	-.07	-.15			
Social Skills Rating System	.04	.04			
Intercept	24.87				
F(4, 174) = 29.43***				Total R ² =	.40

***p < .001 (Bonferroni adjusted alpha level, p < .017)

Table 19.

Summary of Hierarchical Regression Analysis of CBCL Youth Self Report Externalizing Scale Scores at Time 3 on Social Competence and Social Support Total Scores at Time 1 (N=179)

Variable	B	β	R	Adj. R^2	ΔR^2
STEP 1. Youth Self Report Externalizing Scale (T1)	.68	.66	.73	.52	.53***
STEP 2. Scale of Available Behaviors	.03	.08	.73	.53	.01
Appraisals Scale	-.02	-.05			
Social Skills Rating System	-.13	-.13			
Intercept	20.94				
F(4, 174) = 50.89***				Total R^2 =	.54

*** $p < .001$ (Bonferroni adjusted alpha level, $p < .017$)

Table 20.

Summary of Hierarchical Regression Analysis of CBCL Parent Report
Internalizing Scale Scores at Time 3 on Social Competence and Social
Support Total Scores at Time 1 (N=52)

Variable	B	β	R	Adj. R^2	ΔR^2
STEP 1. CBCL Parent Report Internalizing Scale (T1)	.78	.60	.66	.43	.44***
STEP 2. Scale of Available Behaviors	-.10	-.24	.79	.59	.18***
Appraisals Scale	-.15	-.31			
Social Skills Rating System	.26	.23			
Intercept	35.17				
F(4, 47) = 19.29***			Total R^2		.62

*** $p < .001$ (Bonferroni adjusted alpha level, $p < .017$)

Table 21.

Summary of Hierarchical Regression Analysis of CBCL Parent Report Externalizing Scale Scores at Time 3 on Social Competence and Social Support Total Scores at Time 1 (N=52)

Variable	B	β	R	Adj. R^2	ΔR^2
STEP 1. CBCL Parent Report Externalizing Scale (T1)	.88	.70	.71	.50	.51***
STEP 2. Scale of Available Behaviors	-.11	-.27	.79	.59	.11**
Appraisals Scale	-.08	-.19			
Social Skills Rating System	.24	.23			
Intercept	21.72				
	$F(4, 47) = 19.61***$			Total $R^2 =$.63

** $p < .01$ *** $p < .001$ (Bonferroni adjusted alpha level, $p < .017$)

Report Internalizing and Externalizing Problem Scales and CBCL Parent Report Internalizing and Externalizing Problem Scales) at the beginning of grade seven accounted for by social competence and social support scores, measured concurrently. This allowed for an assessment of whether lower social support at T2 was associated with greater problems of adjustment. Significance levels were adjusted, taking into account the previous three sets of regressions, using a Bonferroni correction procedure which resulted in an adjusted alpha level of .013 (.05/4).

In this set of regressions, the subjects' prior level of adjustment (T1) and prior levels of social support (T1) were controlled for by entering them as a block in the first step of the regression. It was then possible to assess the additional contribution of the remaining variables of interest, specifically, social competence scores and social support scores at T2.

Tables 22-25 show that a significant amount of the variance in the four adjustment scores at T2 was accounted for by the group of variables entered in the first step (ranging from 41% to 56%). Of those variables, only the prior level of adjustment was a significant contributor in each of the four regressions.

Table 22 shows the amount of variance accounted for in subjects' self-reports of internalizing adjustment problems at T2 by self-reports of social competence and social support at T2 once the variance from prior levels of adjustment and social support (T1) had been removed. The remaining predictor variables, entered as a block in the second step, significantly increased R^2 . The group of variables accounted for 4% of the variance. While

Table 22.

Summary of Hierarchical Regression Analysis of CBCL Youth Self Report Internalizing Scale Scores on Social Competence and Social Support Total Scores at Time 2 (N=176)

Variable	B	β	R	Adj. R^2	ΔR^2
STEP 1.					
Youth Self Report Internalizing Scale (T1)	.64	.67	.67	.44	.45***
Scale of Available Behaviors (T1)	.04	.10			
Appraisals Scale (T1)	.08	.17			
STEP 2.					
Scale of Available Behaviors (T2)	-.05	-.12	.70	.48	.04**
Appraisals Scale (T2)	-.10	-.22			
Social Skills Rating System (T2)	-.03	-.03			
Intercept	24.86				
F(6, 169) = 27.47***				Total R^2	.49

** $p < .01$ *** $p < .001$ (Bonferroni adjusted alpha level, $p < .013$)

Table 23.

Summary of Hierarchical Regression Analysis of CBCL Youth Self Report Externalizing Scale Scores on Social Competence and Social Support Total Scores at Time 2 (N=176)

Variable	B	β	R	Adj. R ²	ΔR^2
STEP 1.					
Youth Self Report Externalizing Scale (T1)	.54	.58	.75	.56	.56***
Scale of Available Behaviors (T1)	.03	.08			
Appraisals Scale (T1)	-.02	-.04			
STEP 2.					
Scale of Available Behaviors (T2)	.02	.06	.79	.61	.06***
Appraisals Scale (T2)	-.05	-.12			
Social Skills Rating System (T2)	-.25	-.28			
Intercept	38.67				
F(6, 169) = 46.45***				Total R ²	.62

*** $p < .001$ (Bonferroni adjusted alpha level, $p < .013$)

Table 24.

Summary of Hierarchical Regression Analysis of CBCL Parent ReportInternalizing Scale Scores on Social Competence and Social Support TotalScores at Time 2 (N=60)

Variable	B	β	R	Adj. R^2	ΔR^2
STEP 1.					
CBCL Parent Report Internalizing Scale (T1)	.64	.68	.75	.54	.56***
Scale of Available Behaviors (T1)	.05	.14			
Appraisals Scale (T1)	-.04	-.12			
STEP 2.					
Scale of Available Behaviors (T2)	-.09	-.21	.77	.54	.02
Appraisals Scale (T2)	-.01	-.03			
Social Skills Rating System (T2)	-.05	-.04			
Intercept	33.86				
$F(6,53) = 12.62^{***}$				Total $R^2 =$.59

*** $p < .001$ (Bonferroni adjusted alpha level, $p < .013$)

Table 25.

Summary of Hierarchical Regression Analysis of CBCL Parent Report Externalizing Scale Scores on Social Competence and Social Support Total Scores at Time 2 (N=60)

Variable	<u>B</u>	<u>b</u>	<u>R</u>	Adj. <u>R</u> ²	<u>ΔR</u> ²
STEP 1.					
Youth Self Report Externalizing Scale (T1)	.63	.62	.64	.38	.41***
Scale of Available Behaviors (T1)	.04	.12			
Appraisals Scale (T1)	-.07	-.18			
STEP 2.					
Scale of Available Behaviors (T2)	.01	.02	.64	.35	.00
Appraisals Scale (T2)	.02	.04			
Social Skills Rating System (T2)	-.06	-.06			
Intercept	21.96				
F(6, 53) = 6.26***				Total <u>R</u> ²	.41

*** $p < .001$ (Bonferroni adjusted alpha level, $p < .013$)

the overall contribution was significant, none of the individual variables accounted for a significant amount of the variance.

Table 23 shows the amount of variance accounted for in subjects' self-reports of externalizing adjustment problems at T2 by self-reports of social competence and social support at T2 once the variance from prior levels of adjustment and social support (T1) had been removed. The remaining predictor variables, entered as a block in the second step, significantly increased R^2 . The group of variables accounted for 6% of the variance. Of those variables, only the measure of social competence was a significant contributor [$t(169) = -4.45, p < .001$].

Tables 24-25 show that, for parent's reports of adjustment at T2, no additional significant amount of variance was accounted for when the measures of social competence and social support at T2 were entered as a block in the second step.

The Influence of Different Sources of Social Support as Predictors of Adjustment

Although total social support scores had not contributed consistently to the prediction of adjustment, it was possible that particular types of support were important for adjustment. It was hypothesized that, of the four sources of social support measured, friendship support would be the best predictor of adjustment to the school transition, followed by general peer support, family support, and teacher support, respectively. In order to test this hypothesis, three sets of hierarchical multiple regressions were performed.

To determine whether levels of specific types of social support in the year prior to the transition (T1) predicted adjustment levels at the beginning of grade seven (T2) and to assess which type of support was the best predictor, adjustment scores at T2 (CBCL-Parent Report Internalizing and Externalizing problems scales, CBCL-Youth Self Report Internalizing and Externalizing problems scales) were regressed onto friendship support scores, general peer support scores, family support scores, and teacher support scores at T1. A second set of hierarchical multiple regressions was performed to assess how levels of different sources of social support immediately following the transition (T2) predicted long-term adjustment at follow-up (T3) and to assess which type of support was the best predictor of adjustment. A third set of hierarchical multiple regressions was performed to determine whether levels of specific types of social support at T1 influenced long-term adjustment in grade seven (T3) and to assess which type of support was the best predictor of adjustment.

The three sets of regression analyses examined the amount of variance accounted for by measures of social competence and social support for each of two subscales (Internalizing Problems and Externalizing Problems) in two measures of adjustment (CBCL Parent Report and CBCL Youth Self Report), for a total of twelve regressions. In order to reduce the Type I error rate, a Bonferroni correction procedure was applied to the alpha level for the three sets of regressions ($.05/3$), resulting in a probability level of .017.

In each set of hierarchical multiple regressions, the subjects' prior level of adjustment was controlled for by entering either the T1 or T2 level of adjustment in the first step of the hierarchical regression. It was then

possible to assess the additional contribution of the remaining variables of interest. The order of entry of the variables of social support was pre-determined based on findings in the literature which suggest that friendships and peer relationships become increasingly more important at this age (Furman & Buhrmester, 1985). The predictor variables of friendship support scores, general peer support scores, family support scores, and teacher support scores were entered in the second, third, fourth, and fifth steps of the regression, respectively.

Regressions for T1-T2. Tables 26-29 show that, in the first set of regressions, a significant amount of the variance in the four adjustment scores at T2 was accounted for by levels of adjustment at T1 (ranging from 45% to 58%). Once prior levels of adjustment were accounted for, none of the other variables of interest at T1 (friend support, peer support, family support, and teacher support) contributed significantly to the ability to predict subsequent adjustment at the beginning of grade seven (T2).

Regressions for T2-T3. Tables 30-33 show that, in the second set of regressions, a significant amount of the variance in the four adjustment scores at T3 was accounted for by levels of adjustment at T2 (ranging from 24% to 63%). Once prior levels of adjustment were accounted for, none of the other variables of interest at T2 (friend support, peer support, family support, and teacher support) contributed significantly to the ability to predict subsequent long-term adjustment at the end of the transition year (T3).

Regressions for T1-T3. Tables 34-37 show that, as was the case in the first two sets of regressions, a significant amount of the variance in the four adjustment scores at T3 was accounted for by levels of adjustment at T1

Table 26.

Summary of Hierarchical Regression Analysis of CBCL Youth Self Report
Internalizing Scale Scores at Time 2 on Appraisals Scale Factor Scores at
Time 1 (N=176)

Variable	B	β	R	Adj. R^2	ΔR^2
STEP 1. Youth Self Report Internalizing Scale (T1)	.64	.67	.67	.45	.45***
STEP 2. Appraisals Scale-Friend	.14	.10	.67	.45	.00
STEP 3. Appraisals Scale-Peer	-.12	-.08	.68	.45	.00
STEP 4. Appraisals Scale-Family	-.04	-.03	.68	.45	.00
STEP 5. Appraisals Scale-Teacher	.03	.02	.68	.44	.00
Intercept	16.70				
$F(5, 170) = 28.82^{***}$				Total $R^2 =$.46

*** $p < .001$ (Bonferroni adjusted alpha level, $p < .017$)

Table 28.

Summary of Hierarchical Regression Analysis of CBCL Parent Report
Internalizing Scale scores at Time 2 on Appraisals Scale Factor Scores at
Time 1 (N=63)

Variable	B	β	R	Adj. R^2	ΔR^2
STEP 1. CBCL Parent Report Internalizing Scale (T1)	.69	.71	.76	.57	.58***
STEP 2. Appraisals Scale-Friend	-.12	-.08	.77	.58	.02
STEP 3. Appraisals Scale-Peer	.09	.06	.77	.57	.00
STEP 4. Appraisals Scale-Family	-.12	-.10	.78	.58	.01
STEP 5. Appraisals Scale-Teacher	-.13	-.10	.78	.58	.01
Intercept	27.61				
F(5, 57) = 18.17***				Total R^2	.61

*** $p < .001$ (Bonferroni adjusted alpha level, $p < .017$)

Table 29.

Summary of Hierarchical Regression Analysis of CBCL Parent Report
Externalizing Scale scores at Time 2 on Appraisals Scale Factor Scores at
Time 1 (N=63)

Variable	<u>B</u>	<u>β</u>	<u>R</u>	Adj. <u>R</u> ²	<u>ΔR</u> ²
STEP 1. CBCL Parent Report Externalizing Scale (T1)	.66	.65	.67	.44	.45***
STEP 2. Appraisals Scale-Friend	-.05	-.04	.67	.44	.01
STEP 3. Appraisals Scale-Peer	-.08	-.06	.68	.43	.00
STEP 4. Appraisals Scale-Family	.09	.08	.68	.42	.00
STEP 5. Appraisals Scale-Teacher	-.11	-.08	.68	.42	.00
Intercept	20.28				
F(5, 57) = 9.85***				Total <u>R</u> ² =	.46

***p < .001 (Bonferroni adjusted alpha level, p < .017)

Table 30.

Summary of Hierarchical Regression Analysis of CBCL Youth Self Report Internalizing Scale Scores at Time 3 on Appraisals Scale Factor Scores at Time 2 (N=179)

Variable	B	β	R	Adj. R ²	ΔR^2
STEP 1. Youth Self Report Internalizing Scale (T2)	.56	.54	.60	.36	.36***
STEP 2. Appraisals Scale-Friend	.08	.05	.60	.36	.00
STEP 3. Appraisals Scale-Peer	-.12	-.06	.61	.36	.00
STEP 4. Appraisals Scale-Family	-.17	-.15	.62	.37	.02
STEP 5. Appraisals Scale-Teacher	-.01	-.01	.62	.37	.00
Intercept	31.32				
	F(5, 173) = 21.81***			Total R ²	.39

***p < .001 (Bonferroni adjusted alpha level, p < .017)

Table 31.

Summary of Hierarchical Regression Analysis of CBCL Youth Self Report
Externalizing Scale Scores at Time 3 on Appraisals Scale Factor Scores at
Time 2 (N=179)

Variable	B	β	R	Adj. R^2	ΔR^2
STEP 1. Youth Self Report Externalizing Scale (T2)	.86	.79	.79	.63	.63***
STEP 2. Appraisals Scale-Friend	.05	.03	.80	.63	.00
STEP 3. Appraisals Scale-Peer	.16	.09	.80	.63	.00
STEP 4. Appraisals Scale-Family	-.04	-.04	.80	.63	.00
STEP 5. Appraisals Scale-Teacher	-.06	-.04	.80	.63	.00
Intercept	4.22				
F(5, 173) = 61.76***				Total R^2 =	.64

*** $p < .001$ (Bonferroni adjusted alpha level, $p < .017$)

Table 33.

Summary of Hierarchical Regression Analysis of CBCL Parent Report
Externalizing Scale scores at Time 3 on Appraisals Scale Factor Scores at
Time 2 (N=41)

Variable	<u>B</u>	<u>β</u>	<u>R</u>	Adj. <u>R</u> ²	<u>ΔR</u> ²
STEP 1. CBCL Parent Report Externalizing Scale (T2)	.54	.46	.49	.22	.24***
STEP 2. Appraisals Scale-Friend	-.20	-.11	.54	.26	.05
STEP 3. Appraisals Scale-Peer	-.36	-.20	.56	.26	.02
STEP 4. Appraisals Scale-Family	-.17	-.16	.56	.24	.00
STEP 5. Appraisals Scale-Teacher	.40	.23	.59	.25	.03
Intercept	36.52				
F(5, 35) = 3.73***				Total <u>R</u> ² =	.35

*** $p < .001$ (Bonferroni adjusted alpha level, $p < .017$)

Table 34.

Summary of Hierarchical Regression Analysis of CBCL Youth Self Report Internalizing Scale Scores at Time 3 on Appraisals Scale Factor Scores at Time 1 (N=182)

Variable	B	β	R	Adj. R^2	ΔR^2
STEP 1. Youth Self Report Internalizing Scale (T1)	.58	.58	.63	.39	.40***
STEP 2. Appraisals Scale-Friend	-.01	-.01	.63	.39	.00
STEP 3. Appraisals Scale-Peer	.04	.02	.63	.39	.00
STEP 4. Appraisals Scale-Family	-.05	-.04	.63	.39	.00
STEP 5. Appraisals Scale-Teacher	-.14	-.11	.64	.39	.01
Intercept	27.89				
$F(5, 176) = 24.54***$				Total $R^2 =$.41

*** $p < .001$ (Bonferroni adjusted alpha level, $p < .017$)

Table 35.

Summary of Hierarchical Regression Analysis of CBCL Youth Self Report Externalizing Scale Scores at Time 3 on Appraisals Scale Factor Scores at Time 1 (N=182)

Variable	B	β	R	Adj. R^2	ΔR^2
STEP 1. Youth Self Report Externalizing Scale (T1)	.68	.67	.72	.51	.51***
STEP 2. Appraisals Scale-Friend	.04	.03	.72	.51	.00
STEP 3. Appraisals Scale-Peer	.03	.02	.72	.51	.00
STEP 4. Appraisals Scale-Family	-.07	-.06	.72	.51	.01
STEP 5. Appraisals Scale-Teacher	-.11	-.09	.72	.51	.01
Intercept	21.07				
F(5, 176) = 38.96***				Total R^2 =	.53

*** $p < .001$ (Bonferroni adjusted alpha level, $p < .017$)

Table 36.

Summary of Hierarchical Regression Analysis of CBCL Parent Report
Internalizing Scale scores at Time 3 on Appraisals Scale Factor Scores at
Time 1 (N=52)

Variable	<u>B</u>	<u>β</u>	<u>R</u>	Adj. <u>R</u> ²	<u>ΔR</u> ²
STEP 1. CBCL Parent Report Internalizing Scale (T1)	.76	.59	.66	.43	.44***
STEP 2. Appraisals Scale-Friend	-.06	-.04	.70	.47	.05
STEP 3. Appraisals Scale-Peer	.07	.05	.70	.46	.00
STEP 4. Appraisals Scale-Family	-.49	-.41	.80	.61	.15***
STEP 5. Appraisals Scale-Teacher	-.13	-.10	.80	.61	.01
Intercept	41.71				
F(5, 46) = 16.74***				Total <u>R</u> ²	.65

*** $p < .001$ (Bonferroni adjusted alpha level, $p < .017$)

Table 37.

Summary of Hierarchical Regression Analysis of CBCL Parent Report
Externalizing Scale scores at Time 3 on Appraisals Scale Factor Scores at
Time 1 (N=52)

Variable	B	β	R	Adj. R^2	ΔR^2
STEP 1. CBCL Parent Report Externalizing Scale (T1)	.86	.68	.71	.50	.51***
STEP 2. Appraisals Scale-Friend	-.29	-.20	.76	.56	.06**
STEP 3. Appraisals Scale-Peer	.18	.12	.76	.55	.00
STEP 4. Appraisals Scale-Family	-.32	-.27	.80	.60	.06**
STEP 5. Appraisals Scale-Teacher	-.02	-.01	.80	.59	.00
Intercept	28.89				
F(5, 46) = 15.86***				Total R^2	.63

** $p < .01$ *** $p < .001$ (Bonferroni adjusted alpha level, $p < .017$)

(ranging from 40% to 51%). Table 34-35 show that, for subjects' self-reports of adjustment at T3, once prior levels of adjustment were accounted for, none of the other variables of interest at T1 (friend support, peer support, family support, and teacher support) contributed significantly to the ability to predict subsequent long-term adjustment at the end of the transition year (T3).

Table 36 shows the amount of variance accounted for in parents' reports of internalizing adjustment problems at T3 by self-reports of friend, peer, family, and teacher support once the variance from prior levels of adjustment was removed. Neither friend support, peer support, nor teacher support contributed significantly to R^2 . However, family support significantly increased R^2 and accounted for 15% of the variance.

Table 37 shows the amount of variance accounted for in parents' reports of externalizing adjustment problems by subjects' self-reports of friend, peer, family, and teacher support once the variance from prior levels of adjustment was removed. Friend support significantly increased R^2 and accounted for 6% of the variance. As with the parents' reports of internalizing adjustment problems, family support also accounted for a significant amount of variance (6%) in parents' reports of externalizing adjustment problems. Neither peer nor teacher support significantly increased R^2 .

It was also hypothesized that, for those children with low perceived social support from peers, parental support would play a more important role in predicting adjustment. In order to test this hypothesis, two groups of students, those that reported low perceived social support from peers [Appraisals Scale (peer factor) score < 69; N = 50] and those that reported high perceived social support from peers [Appraisals Scale (peer factor) score > 80;

N = 50], were identified. Multiple regression analyses were performed separately for each of the two groups of students.

In each set of regressions, adjustment scores at T2 (CBCL Youth Self Report Internalizing and Externalizing Problems Scales) were regressed onto Appraisals Scale (family support) scores at T2. Given the small number of CBCL Parent Reports completed at T2 and the reduced number of subjects due to the use of extreme groups in these analyses, only the CBCL Youth Self Reports were used. Prior levels of adjustment were controlled for by entering the T1 level of adjustment in the first step of the regression. The predictor variable, Appraisals Scale (family support) was entered in the second step.

In order to reduce the Type I error rate, a Bonferroni correction procedure was applied to the alpha level for the two sets of regressions ($.05/2$). The probability level required to achieve significance was thus $.025$.

Tables 38-41 show that, for both subjects reporting high and low perceived social support from peers, a significant amount of the variance in the adjustment scores at T2 was accounted for by levels of adjustment at T1 (ranging from 44% to 56%). Tables 38-39 show that, for subjects reporting low perceived support from peers, once prior levels of adjustment were accounted for in the subjects' self-reports of internalizing and externalizing adjustment problems, the subjects' ratings of family support at T2 did not contribute significantly to the ability to predict adjustment measured at the same time.

Table 40 shows that, for subjects reporting high perceived social support from peers, once prior levels of adjustment were accounted for in the subjects' self-reports of internalizing adjustment problems, the subjects' ratings of family support at T2 did not contribute significantly to the ability to

Table 38.

Summary of Hierarchical Regression Analysis of CBCL Youth Self Report Internalizing Scale Scores on Appraisals Scale (Family Support) Scores at Time 2 for Subjects with Low Perceived Peer Support (N=50)

Variable	<u>B</u>	<u>β</u>	<u>R</u>	Adj. <u>R</u> ²	<u>ΔR</u> ²
STEP 1.					
Youth Self Report Internalizing Scale (T1)	.69	.66	.66	.43	.44***
STEP 2.					
Appraisals Scale-Family	-.03	-.03	.67	.42	.00
Intercept	17.97				
F(2,47) = 18.69***				Total <u>R</u> ² =	.44

***p < .001 (Bonferroni adjusted alpha level, p < .025)

Table 39.

Summary of Hierarchical Regression Analysis of CBCL Youth Self Report Externalizing Scale Scores on Appraisals Scale (Family Support) Scores at Time 2 for Subjects with Low Perceived Peer Support (N=50)

Variable	B	β	R	Adj. R^2	ΔR^2
STEP 1.					
Youth Self Report Externalizing Scale (T1)	.66	.64	.68	.45	.46***
STEP 2.					
Appraisals Scale-Family	-.25	-.22	.71	.49	.05*
Intercept	28.35				
F(2,47) = 24.11***				Total R^2 =	.51

* $p < .05$ *** $p < .001$ (Bonferroni adjusted alpha level, $p < .025$)

Table 40.

Summary of Hierarchical Regression Analysis of CBCL Youth Self Report
Internalizing Scale Scores on Appraisals Scale (Family Support) Scores at
Time 2 for Subjects with High Perceived Peer Support (N=50)

Variable	<u>B</u>	<u>β</u>	<u>R</u>	<u>Adj. R²</u>	<u>ΔR²</u>
STEP 1.					
Youth Self Report Internalizing Scale (T1)	.56	.60	.67	.44	.45***
STEP 2.					
Appraisals Scale-Family	-.20	-.18	.69	.46	.03
Intercept	31.28				
F(2,47) = 21.63***				Total R ² =	.48

***p < .001 (Bonferroni adjusted alpha level, p < .025)

Table 41.

Summary of Hierarchical Regression Analysis of CBCL Youth Self Report Externalizing Scale Scores on Appraisals Scale (Family Support) Scores at Time 2 for Subjects with High Perceived Peer Support (N=50)

Variable	B	β	R	Adj. R^2	ΔR^2
STEP 1.					
Youth Self Report Externalizing Scale (T1)	.57	.65	.75	.55	.56***
STEP 2.					
Appraisals Scale-Family	-.29	-.28	.79	.61	.07**
Intercept	35.46				
F(2,47) = 40.07***				Total R^2 =	.63

** $p < .01$ *** $p < .001$ (Bonferroni adjusted alpha level, $p < .025$)

predict adjustment measured at the same time. However, Table 41 shows that, for subjects reporting high perceived social support from peers, once prior levels of adjustment were accounted for in subjects' self-reports of externalizing adjustment problems at T2, a small, but significant, amount of variance (7%) was accounted for by the Appraisals Scale family support score [$t(47) = -2.99, p < .01$].

The Influence of Best Friends as a Protective Factor During School Transitions

To test the hypothesis that those children with stable best friendships from grade six to grade seven would report lower levels of stress and fewer adjustment difficulties than those children who did not have stable best friendships or who reported no best friend at all, two separate 4 (best friend status) x 3 (time) repeated measures MANOVAs were performed, one on stress ratings and the CBCL Youth Self Report Internalizing and Externalizing Problems Scales, and the second on the CBCL Parent Report Internalizing and Externalizing Problems Scales. Separate analyses were conducted for the CBCL Parent Report and the Youth Self-Report due to the low response rate on the CBCL Parent Report. The independent variable of best friend status, coded at T2, had four levels [stable best friendship at school, stable best friendship not at school, unstable best friendship (i.e. children with different best friends before and after the transition, children with a best friend at T1 but no best friend at T2, and children with no best friend at T1 but who report a best friend at T2), and no best friendship].

The MANOVA performed on the stress rating and the CBCL Youth Self-Report Internalizing and Externalizing Scales showed no significant effects of

best friend status, Wilks' λ (9, 374) = .97, $p > .05$, time, Wilks' λ (6, 151) = .99, $p > .05$, or the interaction of best friend status and time, Wilks' λ (18, 427) = .91, $p > .05$. The MANOVA performed on the CBCL Parent Report Internalizing and Externalizing Problems Scales also showed no significant effects of best friend status, Wilks' λ (6, 74) = .99, $p > .05$, time, Wilks' λ (4, 35) = .91, $p > .05$, or the interaction of best friend status and time, Wilks' λ (12, 92) = .67, $p > .05$.

In order to increase power, two additional MANOVAs were performed, one in which the small 'no best friend' category ($N = 11$) was eliminated, and another in which the stable best friend categories (stable best friend at school and stable best friend not at school) were combined and only stable and unstable categories were used. However, no significant group differences in stress or adjustment were revealed as a function of the restructuring of the best friend categories.

The Relationship between Stress, Social Competence, Social Support, and Adjustment

Although there were no differences in adjustment as a function of moving to a new school, analyses were carried out to determine whether ratings of stress would predict self-reported adjustment scores. Given the small number of CBCL Parent Reports completed at T2 and T3, these exploratory analyses were conducted using only the CBCL Youth Self-Reports. Initially, an analytic strategy similar to that used in the previously reported sets of regression analyses was implemented to determine if prior levels of self-reported stress would predict adjustment at T2 and T3. In the first set of regressions, in order to determine how initial levels of stress at T1 predicted

adjustment at T2, self-reported adjustment scores at T2 (CBCL Youth Self Report Internalizing and Externalizing Problems Scales) were regressed onto stress scores at T1. Similarly, a second set of hierarchical multiple regressions was performed to assess how stress levels at T2 predicted long-term adjustment (T3), and a third set of hierarchical multiple regressions was performed to determine whether initial levels of stress at T1 would predict long-term adjustment at the end of grade seven (T3).

The three sets of regression analyses examined the amount of variance accounted for by self-reported stress levels for each of two subscales (Internalizing Problems Scale and Externalizing Problems Scale) in the CBCL Youth Self Report, resulting in a total of six regressions. In order to reduce the Type I error rate, a Bonferroni correction procedure was applied to the alpha level for the three sets of regressions ($.05/3$), resulting in a probability level required to achieve significance of .017.

In each set of hierarchical multiple regressions, the subjects' prior level of adjustment was controlled for by entering either the T1 or T2 level of adjustment in the first step of the regression. It was then possible to assess the additional contribution of the remaining variable of interest, namely self-reported stress level. These analyses revealed that, once prior levels of adjustment were accounted for, prior levels of self-reported stress, entered in the second step, did not contribute significantly to the prediction of adjustment scores at T2 or T3 (see Tables 42-47 for these results).³

³Regression analyses, performed to examine the potential moderating effects of social competence and social support on the relationship between stress levels and adjustment, and between transition status and adjustment, indicated that there were no moderating effects for social competence or social support in either of these relationships.

Table 42.

Summary of Hierarchical Regression Analysis of CBCL Youth Self Report
Internalizing Scale Scores at Time 2 on Stress Rating Scale Scores at Time 1
(N=177)

Variable	<u>B</u>	<u>β</u>	<u>R</u>	Adj. <u>R</u> ²	<u>ΔR</u> ²
STEP 1. Youth Self Report Internalizing Scale (T1)	.57	.60	.67	.44	.44***
STEP 2. Stress Rating Scale	.78	.13	.67	.45	.01
Intercept	19.38				
	F(2, 174) = 72.62***			Total <u>R</u> ² =	.45

*** $p < .001$ (Bonferroni adjusted alpha level, $p < .017$)

Table 43.

Summary of Hierarchical Regression Analysis of CBCL Youth Self Report
Externalizing Scale Scores at Time 2 on Stress Rating Scale Scores at Time
1 (N=177)

Variable	<u>B</u>	<u>β</u>	<u>R</u>	Adj. R^2	ΔR^2
STEP 1. Youth Self Report Externalizing Scale (T1)	.68	.73	.74	.55	.55***
STEP 2. Stress Rating Scale	.23	.04	.74	.54	.00
Intercept	15.20				
F(2, 174) = 106.38***				Total R^2 =	.55

*** $p < .001$ (Bonferroni adjusted alpha level, $p < .017$)

Table 44.

Summary of Hierarchical Regression Analysis of CBCL Youth Self Report
Internalizing Scale Scores at Time 3 on Stress Rating Scale Scores at Time 2
(N=167)

Variable	B	β	R	Adj. R ²	ΔR^2
STEP 1. Youth Self Report Internalizing Scale (T2)	.60	.56	.61	.36	.37***
STEP 2. Stress Rating Scale	.65	.09	.61	.37	.01
Intercept	18.97				
F(2, 164) = 48.93***				Total R ² =	.37

***p < .001 (Bonferroni adjusted alpha level, p < .017)

Table 45.

Summary of Hierarchical Regression Analysis of CBCL Youth Self Report
Externalizing Scale Scores at Time 3 on Stress Rating Scale Scores at Time
2 (N=167)

Variable	<u>B</u>	<u>β</u>	<u>R</u>	Adj. <u>R</u> ²	<u>ΔR</u> ²
STEP 1. Youth Self Report Externalizing Scale (T2)	.86	.78	.78	.60	.61***
STEP 2. Stress Rating Scale	.09	.01	.78	.60	.00
Intercept	7.52				
F(2, 164) = 126.83***				Total <u>R</u> ²	.61

*** $p < .001$ (Bonferroni adjusted alpha level, $p < .017$)

Table 46.

Summary of Hierarchical Regression Analysis of CBCL Youth Self Report
Internalizing Scale Scores at Time 3 on Stress Rating Scale Scores at Time 1
(N=181)

Variable	B	β	R	Adj. R^2	ΔR^2
STEP 1. Youth Self Report Internalizing Scale (T1)	.59	.58	.64	.41	.41***
STEP 2. Stress Rating Scale	.75	.12	.65	.42	.01
Intercept	19.44				
F(2, 178) = 64.86***				Total R^2 =	.42

*** $p < .001$ (Bonferroni adjusted alpha level, $p < .017$)

Table 47.

Summary of Hierarchical Regression Analysis of CBCL Youth Self Report Externalizing Scale Scores at Time 3 on Stress Rating Scale Scores at Time 1 (N=181)

Variable	<u>B</u>	<u>β</u>	<u>R</u>	Adj. <u>R</u> ²	<u>ΔR</u> ²
STEP 1. Youth Self Report Externalizing Scale (T1)	.70	.69	.71	.50	.51***
STEP 2. Stress Rating Scale	.49	.08	.72	.51	.01
Intercept	13.84				
F(2, 178) = 93.46***				Total <u>R</u> ² =	.51

*** $p < .001$ (Bonferroni adjusted alpha level, $p < .017$)

Given that prior levels of stress were not predictive of adjustment, additional regression analyses were performed which examined the amount of variance in adjustment scores (CBCL Youth Self Report Internalizing and Externalizing Problems Scales) at T2 and T3 accounted for by self-reported stress levels, measured concurrently. Significance levels were adjusted, taking into account the previous three sets of regressions, using a Bonferroni correction procedure which resulted in an adjusted alpha level of .01 (.05/5). With prior levels of adjustment as a covariate, stress scores contributed significantly to the prediction of Internalizing Problems Scale scores at T2 accounting for 6% of the variance and at T3 accounting for 14% of the variance, and Externalizing Problems Scale scores at T3 accounting for 4% of the variance (see Tables 48-51 for the results of these analyses).

Although social competence and social support scores had not been shown to predict adjustment scores consistently, analyses were carried out to examine whether social competence and social support were predictive of self-reported stress levels. In the first set of regressions, in order to determine how initial levels of social competence and social support at T1 predicted stress levels at T2, self-reported stress ratings at T2 were regressed onto social competence scores (SSRS total scores) and social support scores (SOCSS-SAB total scores and SOCSS-APP total scores) at T1. A second set of hierarchical multiple regressions was performed to assess how social competence and social support scores at T2 predicted stress ratings at T3, and a third set of hierarchical multiple regressions was performed to determine whether initial levels of social competence and social support at T1 would predict stress ratings at the end of the transition year (T3).

Table 48.

Summary of Hierarchical Regression Analysis of CBCL Youth Self Report
Internalizing Scale Scores on Stress Rating Scale Scores at Time 2 (N=166)

Variable	<u>B</u>	<u>β</u>	<u>R</u>	Adj. <u>R</u> ²	<u>ΔR</u> ²
STEP 1. Youth Self Report Internalizing Scale (T1)	.53	.27	.66	.44	.44***
STEP 2. Stress Rating Scale	1.71	.57	.71	.50	.06***
Intercept	19.34				
F(2, 163) = 82.60***				Total <u>R</u> ² =	.50

*** $p < .001$ (Bonferroni adjusted alpha level, $p < .01$)

Table 49.

**Summary of Hierarchical Regression Analysis of CBCL Youth Self Report
Externalizing Scale Scores on Stress Rating Scale Scores at Time 2 (N=166)**

Variable	B	β	R	Adj. R^2	ΔR^2
STEP 1.					
Youth Self Report Externalizing Scale (T1)	.69	.71	.73	.52	.53***
STEP 2.					
Stress Rating Scale	.64	.10	.73	.53	.01
Intercept	13.88				
F(2, 163) = 94.78***				Total R^2 =	.54

*** $p < .001$ (Bonferroni adjusted alpha level, $p < .01$)

Table 50.

Summary of Hierarchical Regression Analysis of CBCL Youth Self Report
Internalizing Scale Scores on Stress Rating Scale Scores at Time 3 (N=181)

Variable	B	β	R	Adj. R^2	ΔR^2
STEP 1. Youth Self Report Internalizing Scale (T2)	.46	.44	.61	.37	.37***
STEP 2. Stress Rating Scale	2.45	.41	.71	.50	.14***
Intercept	22.36				
	F(2, 178) = 90.96***			Total $R^2 =$.51

*** $p < .001$ (Bonferroni adjusted alpha level, $p < .01$)

Table 51.

Summary of Hierarchical Regression Analysis of CBCL Youth Self Report
Externalizing Scale Scores on Stress Rating Scale Scores at Time 3 (N=181)

Variable	B	β	R	Adj. R^2	ΔR^2
STEP 1. Youth Self Report Externalizing Scale (T2)	.83	.76	.79	.63	.63***
STEP 2. Stress Rating Scale	1.27	.21	.82	.67	.04***
Intercept	6.27				
F(2, 178) = 183.75***				Total R^2 =	.67

*** $p < .001$ (Bonferroni adjusted alpha level, $p < .01$)

In order to reduce the Type I error rate, a Bonferroni correction procedure was applied to the alpha level for the three regressions ($.05/3$). The probability level required to achieve significance was thus adjusted to an alpha of .017.

In each set of hierarchical multiple regressions, the subjects' prior level of stress was controlled for by entering either the T1 or T2 stress rating in the first step of the regression. It was then possible to assess the additional contribution of the remaining variables of interest. The predictor variables of social competence scores (SSRS total scores) and social support scores (SAB total scores and APP total scores) were entered as a block in the second step. These analyses revealed that, once prior levels of stress were accounted for, prior levels of social competence and social support did not contribute significantly to the prediction of stress ratings at T2 or T3 (see Tables 52-54).

Given that prior levels of social competence and social support were not predictive of stress, additional regression analyses were performed which examined the amount of variance in stress ratings at T2 and T3 accounted for by social competence and social support scores, measured concurrently. Significance levels were adjusted, taking into account the previous three sets of regressions, using a Bonferroni correction procedure which resulted in an adjusted alpha level of .01 ($.05/5$) (see Tables 55-56 for the results of these analyses).

As Table 55 indicates, a significant amount of the variance in the stress ratings at T2 was accounted for by levels of stress at T1 (41%). Once prior levels of stress (T1) were accounted for in subjects' self-reported stress ratings at T2, a small, but significant, amount of variance (6%) was accounted for by

Table 52.

Summary of Hierarchical Regression Analysis of Stress Rating Scale Scores at Time 2 on Social Competence and Social Support Total Scores at Time 1 (N=166)

Variable	<u>B</u>	<u>β</u>	<u>R</u>	Adj. <u>R</u> ²	<u>ΔR</u> ²
STEP 1.					
Stress Rating Scale (T1)	.52	.58	.64	.40	.41***
STEP 2.					
Scale of Available Behaviors	.01	.09	.65	.41	.02
Appraisals Scale	-.01	-.19			
Social Skills Rating System	.01	.03			
Intercept	1.89				
F(4, 161) = 29.22***				Total <u>R</u> ² =	.42

*** $p < .001$ (Bonferroni adjusted alpha level, $p < .017$)

Table 53.

Summary of Hierarchical Regression Analysis of Stress Rating Scale Scores at Time 3 on Social Competence and Social Support Total Scores at Time 2 (N=165)

Variable	<u>B</u>	<u>β</u>	<u>R</u>	Adj. <u>R</u> ²	<u>ΔR</u> ²
STEP 1.					
Stress Rating Scale (T2)	.55	.47	.48	.23	.23***
STEP 2.					
Scale of Available Behaviors	.00	.01	.49	.22	.01
Appraisals Scale	.00	.01			
Social Skills Rating System	-.02	-.09			
Intercept	1.59				
F(4, 160) = 12.41***				Total <u>R</u> ² =	.24

*** $p < .001$ (Bonferroni adjusted alpha level, $p < .017$)

Table 54.

Summary of Hierarchical Regression Analysis of Stress Rating Scale Scores at Time 3 on Social Competence and Social Support Total Scores at Time 1 (N=180)

Variable	B	β	R	Adj. R^2	ΔR^2
STEP 1. Stress Rating Scale (T1)	.42	.41	.45	.20	.20***
STEP 2. Scale of Available Behaviors	.00	.04	.46	.19	.01
Appraisals Scale	-.01	-.07			
Social Skills Rating System	-.01	-.07			
Intercept	2.34				
	F(4, 175) = 11.62***			Total R^2 =	.21

***p < .001 (Bonferroni adjusted alpha level, p < .017)

Table 55.

Summary of Hierarchical Regression Analysis of Stress Rating Scale Scores on Social Competence and Social Support Total Scores at Time 2 (N=166)

Variable	B	β	R	Adj. R^2	ΔR^2
STEP 1. Stress Rating Scale (T1)	.50	.55	.64	.40	.41***
STEP 2. Scale of Available Behaviors	.01	.10	.68	.45	.06***
Appraisals Scale	-.03	-.35			
Social Skills Rating System	.02	.13			
Intercept	3.06				
F(4, 161) = 35.04***			Total R^2 =		.47

*** $p < .001$ (Bonferroni adjusted alpha level, $p < .01$)

Table 56.

Summary of Hierarchical Regression Analysis of Stress Rating Scale Scores on Social Competence and Social Support Total Scores at Time 3 (N=165)

Variable	B	β	R	Adj. R^2	ΔR^2
STEP 1.					
Stress Rating Scale (T2)	.42	.36	.48	.23	.23***
STEP 2.					
Scale of Available Behaviors	.00	.01	.61	.36	.14***
Appraisals Scale	-.02	-.31			
Social Skills Rating System	-.03	-.14			
Intercept	5.89				
F(4, 160) = 23.85***				Total R^2 =	.37

*** $p < .001$ (Bonferroni adjusted alpha level, $p < .01$)

the predictor variables (self-reported ratings of social skills, and self-reported ratings of social support) entered in the second step. Of those variables, only the appraisals measure of social support was a significant contributor [$t(161) = -3.98, p < .017$].

Table 56 indicates that a significant amount of the variance in the stress ratings at T3 was accounted for by levels of stress at T2 (23%). Once prior levels of stress (T2) were accounted for in subjects' self-reported stress ratings at T3, a significant amount of variance (14%) was accounted for by the predictor variables (self-reported ratings of social skills, and self-reported ratings of social support) entered in the second step. Of those variables, only the appraisals measure of social support was a significant contributor [$t(160) = -3.20, p < .017$].

Although the regression analyses indicated that, when measured concurrently, stress levels contributed somewhat to the prediction of adjustment scores, and that social competence and social support scores contributed to the prediction of stress scores, it was felt that the limited range of the stress measure (ranging from 0 to 6) might not have facilitated an adequate examination of the relationship between stress, social support, social competence, and adjustment. An alternative approach to examining the predictive power of stress scores for the entire sample is to compare subjects' scores at the extremes of stress (low versus high). As expected, an examination of the frequency of endorsement of each of the seven stress categories indicated that only a small number of subjects had endorsed the high stress categories. Consequently, two groups of students, those that reported low

stress (stress rating score = 0; N = 27) and those that reported high stress (stress rating score = 4, 5, 6; N = 27) were identified and used in the following analyses.

Two separate 2 (Stress) x 3 (Time) repeated measures MANOVAs were performed on the dependent variables of adjustment (CBCL Youth Self Report Internalizing and Externalizing Problems Scale scores) and social support (SOCSS-SAB total scores, SOCSS-APP total scores), and a 2 (Stress) x 3 (Time) repeated measures ANOVA was performed on the dependent variable of social competence (SSRS total scores).

In the first MANOVA, scores on the CBCL Youth Self Report Internalizing and Externalizing Problems Scales were affected by stress rating category, Wilks' $\lambda (2, 50) = .62, p < .001$, but not by time, Wilks' $\lambda (4, 48) = .91, p > .05$, or by the interaction between stress rating category and time, Wilks' $\lambda (4, 48) = .91, p > .05$.

To understand the main effect of stress rating category, the two dependent variables were evaluated using a Bonferroni corrected alpha level of .025 (.05/2). Both the Youth Self Report Internalizing Problems Scale ($F(1, 51) = 31.17, p < .025$) and the Youth Self Report Externalizing Problems Scale ($F(1, 51) = 5.79, p < .025$) contributed to the significant multivariate effect. Mean scores on the Youth Self Report Internalizing Problems Scale were significantly lower for students reporting low stress levels ($M = 42.88$) than for students reporting high stress levels ($M = 54.29$). Similarly, mean scores on the Youth Self Report Externalizing Problems Scale were significantly lower for students reporting low stress levels ($M = 45.29$) than for students reporting high levels of stress ($M = 49.99$).

In the second MANOVA, scores on the Scale of Available Behaviors and the Appraisals Scale were found to be significantly affected by stress rating category, Wilks' $\lambda (2, 50) = .69, p < .001$, and by time, Wilks' $\lambda (4, 48) = .66, p < .001$, but not by the interaction between stress rating category and time, Wilks' $\lambda (4, 48) = .93, p > .05$.

To understand the main effect of stress rating category, the two dependent variables were evaluated using a Bonferroni corrected alpha level of .025 (.05/2). Only the Appraisals Scale ($F(1, 51) = 17.77, p < .025$) contributed to the significant multivariate effect. Post hoc analyses (Tukey's HSD) revealed that mean scores on the Appraisals Scale were significantly higher for students reporting low levels of stress ($M = 169.09$) than for students reporting high stress levels ($M = 147.23$).

To understand the main effect of time, the two dependent variables were evaluated using a Bonferroni corrected alpha level of .025 (.05/2). Only the Scale of Available Behaviors ($F(2, 102) = 4.93, p < .025$) contributed to the significant multivariate effect. Mean scores on the Scale of Available Behaviors increased significantly from T1 ($M = 135.39$) to T3 ($M = 142.08$), but did not change significantly from T1 ($M = 135.39$) to T2 ($M = 135.13$), or from T2 ($M = 135.13$) to T3 ($M = 142.08$).

Given that the analyses of social support indicated that students with lower stress ratings reported higher scores on the Appraisals Scale, which assesses the support received from specific types of relationships, an additional MANOVA was performed to ascertain which type of support was most important. A 2 (Stress) X 3 (Time) repeated measures MANOVA was performed on the factor scores of the Appraisals Scale (friend, peer, family, and teacher

support). Again, the independent variable was stress rating category (low versus high) and the repeated measures independent variable was time.

The Appraisals Scale factor scores were found to be significantly affected by stress rating category, Wilks' $\lambda(4, 48) = .71, p < .01$, but not by time, Wilks' $\lambda(8, 44) = .73, p > .05$, or by the interaction between stress rating category and time, Wilks' $\lambda(8, 44) = .85, p > .05$. To understand the main effect of stress rating category, the four dependent variables were evaluated using a Bonferroni corrected alpha level of .013 (.05/4). The peer support factor ($F(1, 51) = 11.25, p < .013$), family support factor ($F(1, 51) = 12.50, p < .013$), and teacher support factor ($F(1, 51) = 16.05, p < .013$) all contributed to the significant multivariate effect. The friendship support factor was not a significant contributor, $F(1, 51) = 4.74, p = .034$. Mean scores on the peer support factor were significantly higher for students who reported low levels of stress ($M = 36.64$) than for students who reported high levels of stress ($M = 32.04$). Similarly, mean scores on the family support factor were significantly higher for students who reported low levels of stress ($M = 51.96$) than for students who reported high levels of stress ($M = 44.04$), and mean scores on the teacher support factor were significantly higher for students who reported low levels of stress ($M = 38.94$) than for students who reported high levels of stress ($M = 32.96$).

In the ANOVA, scores on the Social Skills Rating System were not affected by stress rating category, $F(1, 52) = 1.53, p > .05$, by time, $F(2, 104) = .64, p > .05$, or by the interaction between stress rating category and time, $F(2, 104) = .31, p > .05$.

DISCUSSION

The goal of the present study was to examine the impact of the transition from elementary school into junior high school on children's emotional and behavioral adjustment, and to determine whether an individual's social competence and social support were differentially predictive of adjustment following the transition. Several studies have reported that children making the transition into junior high school experience emotional and behavioral difficulties (Robinson, Garber, & Hilsman, 1995; Simmons & Blyth, 1987; Wigfield & Eccles, 1994; Wigfield, Eccles, MacIver, Reuman, & Midgley, 1991). In contrast to these findings, the present study did not demonstrate that the transition to junior high school had significant adverse effects on adjustment. In this study, there were no differences on measures of adjustment across time between the control subjects who stayed in the same school in grade seven and the transition group who changed schools in grade seven. In other words, children did not seem to be experiencing greater adjustment difficulties as a function of the transition to a new school.

Some researchers have suggested that the transition to junior high school is stressful due to the daily hassles created by the environmental changes (e.g. changes to the daily routine, greater academic demands, larger school environment, new authority figures, and loss of familiar peers) (Fenzel & Blyth, 1986). Others have suggested that the stress experienced by students making a school transition may be related to characteristics of the junior high school (e.g. new geographic location, greater distance from residence, and different atmosphere of the surrounding area) (Felner, Ginter, & Primavera,

1982; McDougall & Hymel, 1998). For example, children who are transferring into a junior high school located in a rougher area across town to which they are bussed for lengthy periods may find the transition more stressful than those who are changing to a junior high school located a few blocks from their elementary school and within walking distance from home. For students in the present study, it may simply be that the transition to junior high school was not all that difficult. Perhaps the environmental changes were not as marked for these students as for students in other studies where the transition was found to have a significant effect on adjustment. Most students in the present sample had already been exposed to more than one teacher in elementary school, and often had experienced substantial changes in school personnel from year to year due to staff transfers. Unlike the transition to high school, when students are faced with a large portion of the new school population being composed of much older students, subjects in this study were transferring into either a junior high school containing just grades seven and eight, or into a kindergarten to grade eight school from a kindergarten to grade six school, where they were among the oldest students. In addition, there were no significant differences between transition and no transition subjects in the number of peers they had known in grade six who were present in grade seven.

School transitions are clearly not generic in nature. There is great variability in the transition experience from one school to the next. In order to grasp the impact of the transition from an ecological perspective, one might choose to examine schools that differ in size, program structure, levels of pre-transition involvement with the incoming students (e.g. pre-transition school

visits, establishing a buddy system with current students), and levels of teacher-student interaction outside of the classroom (e.g. extracurricular activities).

In the present study, it was not possible to follow the few students who, perhaps due to a family move or interest in another type of school program, were not transferring with their classmates into the junior high schools which had been allocated for our use through the schoolboards. These students represent a unique subsample of children making the otherwise normative transition to junior high school, and would have been interesting to study due to their probable greater isolation from friends and familiar peers, which may have placed them at increased risk for adjustment problems. Not sampling such a group may thus underestimate the effects of transitions.

Finally, as a result of the increased concern about the effects of school transitions within the schoolboards used for this research project, the schools that participated in this study had recently begun to implement programs to make the transition process easier, including orientation programs, classroom visits in the spring prior to the transition, and buddy systems for incoming students. Given the findings of the current research, it would appear that such intervention programs were effective.

Since the initial conceptualization of this project, significant strides have been made in our understanding of the impact of the transition to junior high school. Originally, studies on school transitions during adolescence were predicated on the belief that students in general are adversely affected by the transition. Consequently, studies examined changes in students on constructs such as self-esteem, academic achievement, and peer relations/social

adjustment as measures of adjustment across the transition (McDougall & Hymel, 1998; Proctor & Choi, 1994; Robinson, Garber, & Hilsman, 1995). Although, as mentioned in the introduction, some studies reported changes in adjustment across the transition, the findings have been inconsistent. There have been several more recent studies that, like the present investigation, found that the transition to junior high school is not an especially stressful life event for most students, and does not necessarily have negative effects on adjustment (Berndt & Mekos, 1995; McDougall & Hymel, 1998; Proctor & Choi, 1994). There is even evidence indicating that some children improve in adjustment following the transition (Nottelmann, 1987; Proctor & Choi, 1994).

The inconsistencies in the literature regarding the impact of school transitions may reflect both methodological and theoretical issues. There are several methodological factors to consider. First, most studies access a single board in a specified geographic area (e.g. urban versus rural), often using a sample of students that all transfer into the same junior high school (McDougall, & Hymel, 1998; Proctor & Choi, 1994). In the current study, there were several methodological improvements. Two different schoolboards were used, one located in the city and the other located in a neighboring rural area. In addition, as mentioned previously, the nature of the transition varied such that some children transferred from a kindergarten to grade six school to a kindergarten to grade eight school while others transferred to a junior high school. Second, a vast number of the studies examining the impact of school transitions have failed to include a comparison group of children who were not making the transition (Barone, Aguirre-Deandreis, & Trickett, 1991; McDougall, & Hymel, 1998; Proctor & Choi, 1994). Without a comparison group,

it is easy to assume, but difficult to prove, that changes in dependent variables across time are a function of the school transition. For example, in the present study, MANOVA analyses indicated a significant effect for time on one measure of social support, such that social support decreased significantly from T1 to T3. However, there was no significant interaction effect between transition status and time. Without the presence of a comparison group, one could mistakenly make the assumption that the decrease in social support was a function of the school transition.

It is also possible that the wide variety of indices that have been used to measure adjustment across studies may have contributed to the inconsistencies in the literature about the impact of the junior high school transition. Researchers have assessed adjustment in terms of changes in self-esteem, academic achievement, the presence of depressive symptoms, and behavioral difficulties (Blyth, Simmons, & Carlton-Ford, 1983; Fenzel & Blyth, 1986; Hirsch & Rapkin, 1987; Proctor & Choi, 1994; Robinson, Garber, & Hilsman, 1995; Seidman et al., 1994). With so much inconsistency in methodological formats across studies, it is difficult to make meaningful comparisons.

Another difficulty associated with the variety of indices used to measure adjustment concerns the issue of stability. Adjustment, depending upon how it is defined and measured, can be a relatively stable, trait-like or unstable, state-like construct. Choosing an appropriate measure of adjustment was perhaps the most difficult decision in the current study. Individual measures of self-esteem, depression, and anxiety were considered. However, it was decided that a single measure containing a variety of components would be a better indicator of overall adjustment. With this in mind, several behavior checklists

were considered. Of those, the Child Behavior Checklist was chosen for a variety of reasons. First, it could be used with multiple respondents. In addition, it has been widely used in studies of children's adjustment. Overall, it was considered the most appropriate measure of adjustment for the present study. Nevertheless, it was not without limitations. As noted in the manual (Achenbach, 1983), the CBCL, like most other behavior checklists, demonstrates high levels of long-term stability in normal populations. This was true in the present sample as well. When, in the regression analyses performed to predict adjustment immediately following the transition and at follow-up, prior levels of adjustment were entered as a covariate, they accounted for a substantial amount of the variance for each subsequent measure of adjustment. Since adjustment problems before the transition predicted adjustment problems after the transition so well, the CBCL may not have been able to reflect the more transient behavioral changes one might expect to result from a situational stressor. Had a more state-like measure of adjustment been chosen, the results might have been different.

Most previous studies have overlooked the influence of pre-existing chronic stresses and/or other situational stressors co-occurring at the time of the transition which may have been influencing adjustment. Consequently, there is no way of knowing if the adjustment difficulties reported in some studies were attributable solely to the current transition or to the cumulative effect of the transition plus other concomitant stressful influences which may have magnified the effects of the transition. There has been a substantial amount of research to demonstrate the exponential impact of exposure to multiple life stresses, some of the most notable being the early work of Rutter

and his colleagues (Rutter, 1979; Rutter, Cox, Tupling, Berger, & Yule, 1975; Rutter, Yule, et al., 1975). More recent studies have also supported the importance of accumulated stress (Robinson et al., 1995). In the present study, subjects rated their overall stress level at each time point to capture the cumulative nature of stressful life events. Analyses performed in the present study supported the notion that, while individuals may readily adapt to a single stressful life event, it is the cumulative impact of multiple stressors or chronic stress that adversely affects adjustment.

The inconsistencies in the research findings may also indicate that it is not that the transition to junior high school is or is not stressful for the population at large, but rather that it is only stressful for a small, and perhaps specific, group of people. For example, Seidman, Allen, Aber, Mitchell, & Feinman (1994) found that school transitions were particularly problematic for poor youth in urban school districts. Girls, but not boys, have also been demonstrated to experience declines in self-esteem across the transition (Lord et al., 1994; Simmons & Blyth, 1987). Even in studies in which it was demonstrated that the transition to junior high school was not particularly stressful for the majority of students, it has been reported that a small, but significant, number of subjects found the transition to be difficult (Fenzel & Blyth, 1986; McDougall & Hymel, 1998; Proctor & Choi, 1994). In a recent study of the junior high school transition, McDougall & Hymel (1998) suggested that the effects of transition are best explained in light of individual differences among subjects on characteristics such as self-esteem, academic achievement, peer relations/social adjustment, self-perceptions, and cognitive style.

Although the prevailing assumption in earlier studies was that adjustment problems during the transition period signify difficulties in coping with the school transition itself (Blyth, Simmons, & Carlton-Ford, 1983; Crockett, Petersen, Graber, Schulenberg, & Ebata, 1989), McDougall & Hymel (1998) suggested that many other common experiences during adolescence, both normative (e.g. puberty, dating) and non-normative (e.g. relocation, parental divorce), may contribute to adjustment difficulties. They have argued that researchers need to focus specifically on the student's experience of the school transition as the outcome measure. McDougall & Hymel (1998) directly assessed students' feelings about the transition by asking them questions like "How happy are you about the first month of grade 7?" and "How stressful was it for you to change schools this year?". Students responded on a five-point interval scale. This "Overall Transition Experience" (OTE) score was then used as the dependent variable in regression analyses, with measures of self-concept, school attitudes/behaviors, social adjustment, academic achievement, and sex used as the predictor variables. The results indicated that measures of social adjustment and school attitudes/behaviors are good predictors of individual differences in perception of the transition experience. However, while we need to ask students directly about their experience of the school transition, it is important also to explore its value as a predictor variable, alone and in combination with other predictor variables (e.g. cumulative stress ratings) for measures of adjustment such as depression, anxiety, and externalizing behavior problems. If the transition to junior high school is simply a situational stressor that is easily overcome, and if the only result of a difficult school transition is the child's negative perception of it, but there are

no further implications for the child's intellectual, emotional, or social development, then there is little need for intervention. In the end, the ultimate question is whether or not the particular life experience is significant enough, either alone or in conjunction with other life experiences, to influence the child's ability to function successfully in the world.

It thus appears that it is not whether or not a school transition is inherently stressful, but rather how the student's perception/expectations of the transition influences their experience of it. Proctor and Choi (1994) emphasized that life events or transitions, when predictable, universal, and not necessarily viewed as undesirable, often cause very little stress. Earlier, Cohen, Burt, and Bjork (1987) suggested that positive as well as negative life events may have adverse effects on adjustment by virtue of the fact that a life event may have both desirable and undesirable qualities, and may vary in its degree of desirability across individuals. The transition to junior high school is perhaps one such event. Although a time of change, transferring into junior high school is a predictable part of promotion through the grades, and everyone is expected to make the transition. The transition to junior high school, while perhaps anticipated with some apprehension, is also likely to be viewed as desirable because it is a marker for increasing maturity (Proctor and Choi, 1994). Hence, the variability in individuals' responses to transition may lie in individuals' differing perceptions of the transition. Future research might examine individuals' perceptions of the anticipated transition as a possible mediating factor in the relationship between school transitions and adjustment.

The Impact of Cumulative Stress

There is substantial support in the literature for the idea of the negative impact of accumulated stress on children, such that while a single life event may not adversely affect adjustment, exposure to chronic stress or multiple stressors can lead to adjustment problems (Compas, Grant, & Ey, 1994; Nolen-Hoeksema, Girgus, & Seligman, 1992). The fact that concurrent but not prior stress predicted poorer adjustment in the present study is consistent with research which suggests that the more temporally proximal the measurement of information (e.g. peer relations, social support, stress ratings, adjustment) is to the stressful event, the greater its predictive value is (DeRosier, Kupersmidt, & Patterson, 1994; Johnson, 1986). The present results are consistent with other studies that have found that stress levels are significant predictors of both internalizing and externalizing behavior problems (Compas, Howell, Phares, Williams, & Giunta, 1989; Robinson, Garber, & Hilsman, 1995). However, here self-reports of stress accounted for a larger portion of the variance in internalizing problem scores than in externalizing problem scores. This finding is in contrast to the findings of Compas et al. (1989) and Robinson et al. (1995), who found that stress levels accounted for significant variance in both internalizing and externalizing problem behaviors.

Analyses comparing subjects identified as high and low in stress found that children reporting high levels of stress had higher mean scores on both internalizing and externalizing problem scales than children reporting low levels of stress, and correlation analyses indicated that stress ratings were moderately stable over the one-year testing period. Although it is not possible

from these analyses to determine whether a causal relationship exists, these findings do suggest that, while single situational stressors do not seem to affect general adjustment, cumulative stress is related to long-term adjustment.

The Role of Social Competence and Social Support as Buffers Against Stress

The second major research question addressed in the present study examined the roles of social competence and social support in helping children adjust to stressful life experiences, particularly the transition to junior high school. Contrary to predictions, prior levels of social competence and perceived social support were not consistent predictors of adjustment at the time of the transition or at the follow-up. There were a few notable exceptions. Social competence in grade six, as measured by self-reports of behavioral social skills, accounted for a significant amount of the variance in students' self-reports of externalizing adjustment problems at the beginning of grade seven. Similarly, social competence was also found to predict students' self-reports of externalizing adjustment problems when both were measured at the beginning of grade seven. Social support in grade six, as measured by the Appraisals Scale, accounted for a significant amount of the variance in parents' reports of internalizing adjustment problems at the end of grade seven. Finally, both social competence and social support measures in grade six accounted for a significant amount of the variance in parents' reports of externalizing adjustment problems at the end of grade seven. Given the stability of the adjustment measure used in the present study, these results

do suggest that both social competence and social support are important determinants of adjustment.

Additional analyses found group differences on measures of social support between extreme groups of children who reported low levels of stress and children who reported high levels of stress. Children experiencing high levels of stress reported significantly lower levels of social support than did those children who reported low levels of stress. Moreover, perceived social support predicted stress scores. The nature of the analyses does not allow for conclusions about the direction of causality. However, these findings suggest that social support and stress are integrally related. Social support may buffer the effects of stress in children, or stress may lower perceptions of support from others.

One goal of the present study was to tease apart and assess the separate influences of social competence and social support. Comparisons of high-stress and low-stress subjects indicated that there were no significant group differences on the measure of social competence. The fact that significant differences were found between high-stress and low-stress subjects on measures of adjustment and social support reinforces the importance of distinguishing between social competence and social support.

The Influence of Specific Sources of Social Support

The current study was unable to demonstrate consistent evidence for the importance of one specific type of relationship (friend, peer, family, or teacher) as a source of social support. Contrary to predictions, levels of perceived social support from specific relationships were not consistent

predictors of adjustment. However, of the four sources of support assessed, family support appeared to be the most important predictor of adjustment. Family support in grade six was found to predict parents' reports of adjustment at the end of grade seven. When social support was measured concurrently with adjustment at the beginning of grade seven, family support predicted both parents' reports of internalizing adjustment problems and subjects' self-reports of externalizing problems. Although the pattern of results was not totally consistent, the current findings suggest that children's perceptions of the support they receive from family members plays an important role in their adjustment, a finding that is consistent with results from other studies (Kashani, Canfield, Borduin, Soltys, & Reid, 1994; Kashani & Shepperd, 1990; Rhodes & Jason, 1990).

There was less evidence for the importance of support from friendships for adjustment. Levels of perceived social support from friends in grade six were not predictive of students' self-reports or parent's reports of adjustment at the beginning of grade seven, but were found to predict parents' reports of externalizing adjustment problems at the end of grade seven. However, when measured concurrently, levels of perceived support from friends did not predict adjustment. In addition, there were no significant differences in adjustment as a function of whether the child retained the same best friend in grade seven, had a different best friend, or reported having no best friend.

One possible explanation for the failure to find differences in adjustment as a function of whether a child had a stable best friend or had different best friends at different points in time lies in the apparent lack of significance placed on the presence of a single "best" friendship by children

of this age group. Despite researchers' efforts to encourage students to name only one best friend, a substantial number of subjects insisted that they had more than one. Many children in fact listed several people as a best friend at each of the timepoints, making it difficult to identify a very best friend. This suggests that the best friend relationship may be less important at this age than relationships with a larger group of friends. However, the present study did not use reciprocal nominations for friendships, and a different picture might have emerged had such a measure been used.

Overall, there were very few children who reported having a best friend at T1 but no best friend at T2 ($n=7$), or who reported having no best friend at T1 or T2 ($n=4$). Other studies have suggested that it may not be the presence of a best friend relationship but the quality of that relationship that is more important for adjustment (Berndt, 1988; Buhrmester, 1990; Hartup, 1996; Ladd, 1990).

Contributions of the Present Study

The present study made several significant methodological improvements in comparison to prior research in its examination of the impact of the transition from grade six to grade seven. There was greater heterogeneity in the current sample than in most previous studies (McDougall, & Hymel, 1998; Proctor & Choi, 1994). Subjects for this project were recruited from two different schoolboards, one serving children living in a city, and the other serving children living in a rural environment. In addition, two different types of transitions were addressed, one in which children transferred into a similar school structure (K-6 to K-8), and the other in which

children were promoted to a separate junior high school containing only grades seven and eight. The present study also included a control group of subjects that did not change schools. This latter group appeared to be critical to evaluating the impact of changing schools.

The present study also improved upon previous research in the area by incorporating a measure of cumulative stress. By assessing the child's general stress level during the time of the transition, it was possible to determine whether changes in adjustment were a function of the transition specifically, or a reflection of cumulative stress. In addition, the present study used a multiple-respondent measure of adjustment in order to assess adjustment from a perspective other than the child's. Finally, three timepoints were used which allowed for not only the assessment of adjustment at the time of the life change, but also for a look at long-term adjustment.

Hindsight is 20/20: Limitations of the Present Study

Any project involving human participants is subject to a variety of compromises, and the current study was no exception. There were several methodological difficulties with which we were confronted throughout the course of this study, including issues of measurement, time constraints, and participant motivation.

As mentioned previously, the measure of adjustment used in the present study did not appear to be sensitive to the effects of a short-term situational stressor, specifically the school transition. Perhaps more state-like measures of adjustment that tapped into the individual's feelings about, and perceptions and appraisals of stressful life experiences rather than more trait-like

problem behaviors would have been more sensitive to school transition effects, particularly since there is evidence to suggest that seemingly resilient children may not be emotionally healthy even though their outward behavior appears appropriately functional (Farber & Egeland, 1987; Luthar, 1991).

A second issue of measurement involved the assessment of stress. Initially, stress was to be measured in much greater detail, using a measure that evaluated a child's stress by quantifying it in terms of the number of stressors, both situational and chronic, to which the child was exposed. However, due to the time constraints imposed by the schools, it was decided that, of all the constructs to be measured, stress was the most readily abbreviated. Consequently, a seven-point Likert scale assessing the subject's perception of his/her general stress level was used. There were a number of drawbacks associated with using such a simplistic measure of stress.

First, the stress measure used did not specifically address the stress associated with the school transition. Given that the focus of the study was on the impact of the transition to junior high school, it would have been advantageous to evaluate stress in a manner similar to that used by McDougall & Hymel (1998), by asking questions such as "How stressful was it for you to change schools this year?" That being said, use of the Stress Rating Scale, while not an indication of school-related stress, did provide an index of cumulative stress and, given its predictive value, appears to have been a relatively sensitive and important measure.

Second, the psychometric properties of this measure had not been established, leaving open the question of whether it actually measures the construct of stress adequately. Paul Meehl (1973) has suggested that the

validity of a measure can be established by examining its "nomological net". In other words, the measure should correlate with other related variables in the expected direction, and should not be correlated with variables to which you would not expect it to be related. Table 3 indicates that stress was positively correlated with self-reported adjustment problems and negatively correlated with self-reported social support and social competence as one might predict. Nevertheless, further psychometric review of the instrument and correlations with other multi-item stress measures are necessary to evaluate its adequacy as a measure of stress.

A third issue of measurement was related to the unforeseen difficulties associated with establishing an operational definition of best friendships. Reciprocal best friendship nominations are considered to be the gold standard for determining real friendships, primarily due to the influence of social desirability when measuring friendships. The rationale for using reciprocal nominations is based on the premise that most children will feel compelled to say that they have a best friend, whether they do or not. In the present sample, social pressure was, in fact, observed among the children during the testing. However, it appeared not to be pressure to list the most popular child, but rather to nominate everyone in their friendship group. Attempting to overcome the potential influence of social desirability may not necessitate the use of reciprocal nominations, a procedure fraught with its own difficulties. The practical liabilities of reciprocal nominations are such that only students who are participating in the study can be nominated, due to the requirement that all those nominated must be interviewed to determine if the friendship is indeed mutual, thereby eliminating supportive friendships outside of school.

In an attempt to be methodologically rigorous, we may lose the flavor of what we are trying to assess. What we really want to know is whether the child is getting support from a particular friendship. This can be measured in several ways. For example, it would be advantageous, where possible, to collect individual interview data about each child's best friendship. In this way, the child would be free to identify only those individuals who truly were best friends. Furthermore, one might assess reciprocity behaviorally, by determining whether the target child and the nominated child have contact with each other outside of school (e.g. phone calls, going to movies). In the present study, we attempted to do just that, by using self-reports of social contact as reported in the journal. Unfortunately, due to the low response rate for the journal, we were unable to establish behavioral reciprocity. In addition, we attempted to eliminate more ephemeral friendships, by defining best friendships as those that were stable from T1 to T2. Nevertheless, it seems that whether or not the child perceives himself/herself as having a best friend may be more important than whether the other child perceives the relationship in the same way.

Participant motivation was one of our greatest problems. The fact that only 52% of parents consented for their children to participate may have reflected a negative reaction to political forces affecting educational systems at the time. In addition, given that the schools did not allow the use of incentives to stimulate initial interest or to facilitate compliance in completing assessment instruments, considerable difficulty was experienced when attempting to retrieve study materials that were taken home (e.g. journal of social contacts, CBCL Parent Report), despite great efforts made to

ensure their return (e.g. classroom reminders, and stamped, self-addressed envelopes for the CBCL). With both the CBCL Parent Report and the journal, response rates decreased substantially at each subsequent testing timepoint. This influenced the study in several ways. First, the low response rate of the CBCL Parent Report meant that there was decreased power in the analyses performed on it. Second, although the journal was to be used as a measure of both social competence and social support, its low rate of completion made it impossible to utilize it as planned.

CONCLUSION

Although inconclusive, findings to date seem to suggest that school transitions in themselves do not result in long-term adjustment problems for most children. The findings of the present study are consistent with this general idea. However, this is not to say that school transitions are not stressful, and that they can't prove to be a difficult hurdle for some individuals. Chances are, though, that the school transition is perceived as stressful because it is yet another straw on the proverbial "camel's back". This should perhaps be the jumping off point for future studies. Like numerous studies before it, the present study has added to the evidence for the cumulative effect of stress. We know that adolescence is a difficult time, filled with many types of transitions. Consequently, it seems that future research should concern itself less with attempting to identify which one of life's experiences has the greatest negative impact on a child, and instead focus on preventive methods to identify those children who are exposed to multiple stressors. Furthermore, more emphasis should be placed on the child's general

perception of the stressfulness of life and less on the actual number and nature of life events. The present results provide some evidence that both social support and social competence are important for adjustment, and suggest that social support in particular is integrally linked to dealing with stress.

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APPENDIX A

PARENT/GUARDIAN INFORMATION LETTER



ÉCOLE DE PSYCHOLOGIE
SCHOOL OF PSYCHOLOGY

Dear Parent or Guardian:

We are doing a research project to look at how changes at school affect children. We hope to learn how families and friends help children deal with the stress of changing programs and/or schools, and what can be done to make it easier for children in the future to deal with these changes. All of the students in your child's classroom are being asked to participate.

The study will last one year, with questionnaires being given to the students at three different times: the Spring of Grade 6, the fall of Grade 7, and the Spring of Grade 7. Each child will be asked to complete four different questionnaires. The questionnaires will take a maximum of two fifty-minute sessions to complete. All testing will be scheduled in the classroom, at the convenience of the teacher, to interrupt the daily routine as little as possible.

This research project has been approved by the Western Quebec Protestant School Board and by the principal of your child's school. We would like your child to participate. If you agree to let your child participate, he/she will be asked to:

- complete a questionnaire about how others help him/her.
- indicate how much stress he/she is feeling.
- complete a questionnaire about his/her own behavior and feelings.
- complete a questionnaire to tell us how their classmates act.
- complete a questionnaire about how he/she acts with others.
- identify familiar classmates in his/her new class in Grade 7.
- and keep a short diary for two weeks of his/her phone calls and activities.

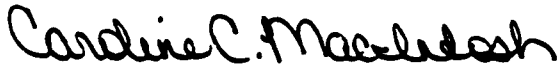
You, as parents, will be asked to fill out a behavior checklist, which takes 10-15 minutes, at each of the three testing times. We will provide stamped, self-addressed envelopes for you to return the questionnaires to us.

We believe that most children will enjoy participating in this study. Participation is voluntary and is not in any way related to a child's grades at school or to receiving any services at the school. Only those students with written permission from parents may participate in this project. Students who are not participating in the research will be given this time as a study/reading period. Any parent or child who wishes to stop participating at any time may do so. Results of the study will be given only for groups of children. No individual child's results will be presented at any time.

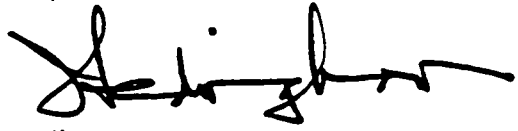
Your cooperation with this project would be greatly appreciated. If you have any further questions please do not hesitate to contact us at the numbers listed below. Your interest is certainly welcomed! We will be pleased to provide you with a summary of the results when they are available.

Whether or not you decide to allow your child's participation, please complete the attached form and return it to the school tomorrow.

Thank you in advance for your help.



Caroline C. MacIntosh
Ph.D. Candidate
University of Ottawa
736-0936



Jane E. Ledingham
Ph.D. C. Psych.
University of Ottawa
564-9263

PARENT/GUARDIAN CONSENT FORM

I understand that the investigators are interested only in group data and not in individual answers. Information gathered from this project is confidential and is protected under the Freedom of Information and Protection of Privacy Act, 1989 (Bill 49). In this regard, complete confidentiality of my child's responses is assured.

I have read and understood the request for my son/daughter to participate in the study entitled "Protective Factors in School Transitions". I have discussed this with my son/daughter and

I give permission for my son/daughter to participate.

I do not give permission for my son/daughter to participate.

Name of Student: _____
(please print)

Signature of Parent/Guardian: _____

Date: _____

APPENDIX B

CHILD BEHAVIOR CHECKLIST PARENT REPORT FORM

(omitted items)

Child Behavior Checklist Parent Report Form

(omitted items)

- 5. Behaves like opposite sex
- 6. Bowel movements outside toilet
- 15. Cruel to animals
- 18. Deliberately harms self or attempts suicide
- 28. Eats or drinks things that are not food-don't include sweets (describe)
- 49. Constipated, doesn't move bowels
- 58. Picks nose, skin, or other parts of body (describe)
- 59. Plays with own sex parts in public
- 60. Plays with own sex parts too much
- 73. Sexual problems (describe)
- 78. Smears or plays with bowel movements
- 91. Talks about killing self
- 96. Thinks about sex too much
- 105. Uses alcohol or drugs for nonmedical purposes (describe)
- 110. Wishes to be of opposite sex

APPENDIX C

SURVEY OF CHILDREN'S SOCIAL SUPPORT

I. SCALE OF AVAILABLE BEHAVIORS

II. APPRAISALS SCALE

Survey of Children's Social Support
I. Scale of Available Behaviors

1. How often does somebody help you when you need help making up your mind about something?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

2. How often does someone help you when you want to settle an argument or fight that you had?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

3. How often can you find someone to talk to when you are mad about something?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

4. When you are happy, how often can you find someone who will be happy with you?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

5. How often does somebody help you calm down when you are nervous about something?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

6. When you want to go someplace, how often does someone take you?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

7. When you want to learn how to do something new, how often does someone teach you how to do it?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

8. When you want to know all about a new movie or TV show, can you find someone to tell you about it?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

9. When you have to do a special project for school (like a book report or a science project), can you find someone to give you advice about what to do?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

10. How often does someone give you ideas about how to spend your time when you have nothing to do.

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

11. When you want to play with somebody's new toy or game, how often do they share it with you?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

12. How often does someone give you money when you want to buy candy or something else?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

13. How often can you find someone to talk to who will make you feel better when you had a fight?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

14. How often does somebody notice when you are upset about something?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

15. How often can you find someone to be with when you are lonely?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

16. How often do you get a special reward or treat?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

17. How often do people give you something that they don't need anymore?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

18. How often do you go on vacations or trips with your family?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

19. How often does someone make you feel better when you mess up at something?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

20. How often does somebody make you feel better when you hurt yourself?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

21. How often does someone help you when you want to learn how to do better at something?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

22. When you don't understand a question, how often does somebody help answer it for you?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

23. How often does somebody cheer you up when you lose a game?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

24. When you have a secret you want to share, how often can you find someone to tell it to?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

25. When you want to trade things with other people, how often do they trade with you?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

26. When you try to sell something to people you know (like girl guide cookies, or a candy or magazine sale), how often do they buy it from you?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

27. When you have a problem you want to talk about, how often can you find someone to tell it to?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

28. How often does somebody cheer you up when you are sad?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

29. How often does somebody say nice things to you when you do something well?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

30. How often does somebody stand up for you when you get picked on?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

31. How often do people say things to you that make you feel good, or happy, or important?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

32. How often can you find someone to help you when you get in trouble?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

33. How often are people happy for you when you do something well?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

34. When you do work (like drawings or other papers), how much are other people interested in it (by hanging it up, or sending it to your grandparents)?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

35. How often do people listen to you when you have ideas?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

36. When something is bothering you, how often does somebody help you forget about it?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

37. How often can you find somebody to be with when you don't feel good?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

38. How often are you one of the first to be chosen for a team?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

Survey of Children's Social Support
II. Appraisals Scale

1. Some kids feel left out by their friends, but other kids don't. Do you feel left out by your friends?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

2. Some kids are well-liked by their friends, but other kids aren't. Are you well-liked by your friends?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

3. Some kids get picked on and teased by their friends, but other kids don't. Do you get picked on and teased by your friends?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

4. Some kids' friends make fun of them, but other kids' friends don't. Do your friends make fun of you?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

5. Some kids' friends like to hear their ideas, but other kids' friends don't. Do your friends like to hear your ideas?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

6. Some kids and their friends do a lot of things for each other, but other kids and their friends don't. Do you and your friends do a lot of things for each other?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

7. Some kids feel very close to their friends, but other kids don't. Do you feel very close to your friends?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

8. Some kids can count on their friends for help or advice when they have problems, but other kids can't. Can you count on your friends for help or advice when you have problems?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

9. Some kids think their friends really care about them, but other kids don't. Do you think your friends care about you?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

10. Some kids' friends make them feel bad, but other kids' friends don't. Do your friends make you feel bad?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

11. Some kids can count on their family for help or advice when they have problems, but other kids cannot. Can you count on your family for help or advice when you have problems?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

12. Some kids and their families do a lot of things for each other, but other kids and their families don't. Do you and your family do a lot of things for each other?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

13. Some kids' families make them feel bad, but other kids' families don't. Does your family make you feel bad?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

14. Some kids share a lot with their family, but other kids don't. Do you share a lot with your family?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

15. Some kids have a hard time talking to their family, but other kids don't. Do you have a hard time talking to your family?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

16. Some kids feel like their family is there when they need them, but other kids don't feel this way. Do you feel like your family is never there when you need them?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

17. Some kids feel left out by their family, but other kids don't. Do you feel left out by your family?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

18. Some kids' families ignore their ideas, but other kids' families don't. Does your family listen to your ideas?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

19. Some kids are an important member of their family, but other kids are not. Are you an important member of your family?

always	most of the time	sometimes	hardly ever	never
(1)	(2)	(3)	(4)	(5)

20. Some kids think their families really care about them, but other kids think their families don't. Do you think your family cares about you?

always	most of the time	sometimes	hardly ever	never
(1)	(2)	(3)	(4)	(5)

21. Some kids feel like they belong in their family, but other kids feel like they don't belong. Do you feel like you don't belong in your family?

always	most of the time	sometimes	hardly ever	never
(1)	(2)	(3)	(4)	(5)

22. Some kids think their families are mean to them, but other kids don't. Do you think your family is mean to you?

always	most of the time	sometimes	hardly ever	never
(1)	(2)	(3)	(4)	(5)

23. Some kids feel like they belong in their class, but other kids feel like they don't belong. Do you feel like you don't belong in your class?

always	most of the time	sometimes	hardly ever	never
(1)	(2)	(3)	(4)	(5)

24. Some kids feel left out by their class, but other kids don't. Do you feel left out by your class?

always	most of the time	sometimes	hardly ever	never
(1)	(2)	(3)	(4)	(5)

25. Some kids feel like nobody in their class cares about them, but others don't feel this way. Do you feel like nobody in your class cares about you?

always	most of the time	sometimes	hardly ever	never
(1)	(2)	(3)	(4)	(5)

26. Some kids are well-liked by their classmates, but others are not. Are you well-liked by your classmates?

always	most of the time	sometimes	hardly ever	never
(1)	(2)	(3)	(4)	(5)

27. In some classes, kids do a lot of things for each other, but in other classes they don't. In your class, do kids do a lot of things for each other?

always	most of the time	sometimes	hardly ever	never
(1)	(2)	(3)	(4)	(5)

28. Some kids' classmates make fun of them, but other kids' classmates don't. Do your classmates make fun of you?

always	most of the time	sometimes	hardly ever	never
(1)	(2)	(3)	(4)	(5)

29. Some kids' classmates help them with their problems, but other kids' classmates don't. Do your classmates help you with your problems?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

30. Some kids get picked on and teased by their classmates, but other kids don't. Do you get picked on and teased by your classmates?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

31. Some kids' classmates make them feel bad, but other kids' classmates don't. Do your classmates make you feel bad?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

32. Some kids feel very close to their teachers, but other kids don't. Do you feel very close to your teachers?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

33. Some kids' teachers make them feel like they are not good enough, but other kids' teachers don't make them feel this way. Do your teachers make you feel like you are not good enough?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

34. Some kids have a hard time talking to their teachers, but other kids don't. Do you have a hard time talking to your teachers?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

35. Some kids think their teachers care about them, but other kids don't. Do you think your teachers care about you?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

36. Some teachers are good to ask for help or advice about problems, but other teachers are not. Are your teachers good to ask for help or advice about your problems?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

37. Some kids' teachers are mean to them, but other kids' teachers are not. Are your teachers mean to you?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

38. Some kids have teachers who make them feel important, but other kids don't. Do your teachers make you feel important?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

39. Some kids' teachers make them feel bad, but other kids' teachers don't. Do your teachers make you feel bad?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

40. Some kids' teachers choose them for special jobs, but other kids' teachers don't. Do your teachers choose you for special jobs?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

41. Some kids' teachers make them feel nervous, but other kids' teachers don't. Do your teachers make you feel nervous?

always (1)	most of the time (2)	sometimes (3)	hardly ever (4)	never (5)
---------------	-------------------------	------------------	--------------------	--------------

APPENDIX D
BEST FRIEND ADDENDUM

1. Do you have a best friend? (check one)

Yes _____ No _____

2. If so, who is it?

First name

Last name

3. This person is a: boy _____ girl _____

4. How do you know this person? (check one)

_____ In your class

_____ In your school

_____ In your neighborhood

_____ At your church

_____ Other

APPENDIX E
STRESS RATING SCALE

STRESS SCALE

Please circle the number that describes to how bothered, upset, or stressed you feel by the things that are happening in your life right now.

0	1	2	3	4	5	6
Not bothered at all	Bothered just a tiny bit	Bothered a little	Somewhat bothered	Quite bothered	Very bothered	Extremely bothered

APPENDIX F

THE THINGS I DO WITH OTHERS

INSTRUCTIONS: THINGS I DO WITH OTHERS

We would like you to use this booklet like a diary. For the next two weeks, we want you to fill out a page every morning about what you did the day before. The top part of the page is for writing down telephone calls, both those that you make and those that you get from others. Write down whether the person you spoke to was a friend, parent, grandparent, or someone else, and check whether you called them or they called you. You don't have to write down what you talked about. You might want to keep a list by your phone so you can remind yourself in the morning.

The bottom half of the page is to be used for your activities. Please tell us what things you have done that day, who participated with you, and who suggested the activity. That is, who had the idea for the activity and asked the others to participate.

For example, if you went and got your friend to play ball after supper, you would put down:

Activity: "playing ball"

People Involved: friend - put down their name(s)

Then, you would check the blank after "I asked them".

On Monday, you can write down everything you remember from the weekend.

Remember, some days you may not have any calls or activities and other days you may have lots of calls or activities. So, just write down what you did that day.

Name _____

Date _____

TELEPHONE CALLS

Type of Person Spoken To:

(friend, parent, grandparent,
brother, sister, etc.)

(check one)

I called them

They called me

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

ACTIVITIES (for example: playing, movies, sports, doing homework together)

1. Activity: _____

People Involved: _____

(check one) I asked them They asked me

2. Activity: _____

People Involved: _____

(check one) I asked them They asked me

3. Activity: _____

People Involved: _____

(check one) I asked them They asked me

APPENDIX G

Cronbach's Alpha Coefficients for Measures Across the Three Timepoints

Table A.

Cronbach's Alpha Coefficients for Measures Across the Three Timepoints

Variable	Cronbach's alpha		
	Time 1	Time 2	Time 3
CBCL Youth Self Report			
Internalizing Scale	.88	.88	.90
Externalizing Scale	.90	.90	.91
CBCL Parent Report			
Internalizing Scale	.90	.91	.92
Externalizing Scale	.90	.86	.86
Social Skills Rating System	.91	.90	.91
Scale of Available Behaviors	.94	.95	.95
Appraisals Scale	.92	.93	.94
Friend	.88	.91	.91
Classmates	.84	.83	.88
Family	.84	.89	.91
Teacher	.87	.85	.90