

THESIS

THE DEVELOPMENT OF A MULTIDIMENSIONAL MEASURE OF RELATIONAL  
CHANGE DURING PARENTAL ILLNESS:  
THE PARENTAL ILLNESS RELATIONSHIP IMPACT SCALE

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## ABSTRACT

### MEASURING THE IMPACT OF PARENTAL ILLNESS ON RELATIONSHIPS

Existing instruments do not appear to satisfactorily measure the impact of parental illness on children's relationships with family and peers, a variable that may contribute significantly to long-term psychosocial outcomes for those who have experienced parental illness. A brief retrospective scale measuring the relational impact of parental illness was developed and validated within a sample of university students who identified as having had a seriously ill parent during childhood or adolescence. Participants responded to items assessing change in relationships with their ill parent, other parent, sibling(s), and peers during the time of parental illness. Analyses of the measure revealed evidence for the expected four-factor structure (Ill Parent, Other Parent, Sibling, and Peer), acceptable fit indices, and strong factor loadings. The measure also demonstrated good internal consistency and convergent validity. This evidence suggests that the Parental Illness Relationship Impact Scale may be successfully used to assess parental illness' perceived impact on childhood relationships.

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## CHAPTER I

### Introduction

Serious physical illness does not occur in a vacuum. The psychosocial ramifications of illness, evident among those suffering from their effects, also extend to the families of these individuals. Researchers have recently displayed a particular interest in the effects of parental illness on child functioning and development. Although the literature in this area is still rather underdeveloped when compared to the body of work examining the individual patient's experience of illness, research has suggested that parental illness is associated with increased risk of negative emotional, social, and behavioral outcomes in children, including lowered self-esteem, depression, anxiety, somatization, sleeping problems, and impaired school performance (Armistead, Klein, & Forehand, 1995; Grabiak, Bender, & Puskar, 2007; Huizinga, van der Graaf, Hoekstra, & Hoekstra-Weebers, 2004; Korneluk & Lee, 1998; Romer, Barkmann, Schulte-Markwort, Thomalla, & Riedesser, 2002; Visser, Pedersen & Revenson, 2005). The perceived impact of parental illness, rather than specific features of the illness itself, seems to be instrumental in predicting children's outcomes (Compas, Worsham, Ey, & Howell, 1996; Kotchick, Summers, Forehand, & Steele, 1997; Romer et al., 2002).

A number of researchers have found evidence that the nature and quality of family interactions, which may be strained by the introduction of a serious illness into a family, contribute to psychosocial functioning in children of ill parents (Faulkner & Davey, 2002;

Lewis, Hammond, & Woods, 1993; Steele, Forehand, & Armistead, 1997). It has also been suggested that the quality of peer relationships may exert an effect on children's adjustment to parental illness (Christ, Siegel, Freund, Langosch, Hendersen, et al., 1993; Vannatta, Grollman, Noll, & Gerhardt, 2008), although this is an area that does not appear to have been explored in any depth (Osborn, 2007). Despite the fact that much research in the area of family response to parental illness is conceptualized within a family systems framework, which proposes that individuals can only be understood within the context of their interdependent familial and social systems, we have a limited understanding of the ways in which changes in the complete constellation of a child's relationships, including the child's relationships with his or her ill parent, well parent, siblings, and peers, influence both the subjective experience of parental illness and objective measures of psychosocial adjustment.

The present study seeks to develop, psychometrically validate, and confirm the predicted factor structure of a global measure of the quality of various relationship dimensions affected by serious parental illness. In a future retrospective study, overall patterns of response on the relationship measure and its subscales will be used to provide an exploratory picture of relationship domains as affected by serious parental illness. If, as the author hypothesizes, a link exists between the general subjective impact of parental illness and college adjustment, this measure will also be used to explore the specific contribution of relationship impact factors to this association.

#### *Serious Parental Physical Illness*

Although it is difficult to establish the overall incidence of serious parental illness, it has been estimated that as many as 4-15% of children in Western societies may

have a parent with a serious illness (Barkmann et al., 2007; Romer et al., 2002; Worsham, Compas, & Sydney, 1997). The prevalence rate appears to be higher for adolescents, 13-14% of whom are estimated to experience serious parental illness (Pedersen & Revenson, 2005). Given national disease statistics, these numbers are hardly surprising. The American Cancer Society (2009) projected that 1,479,350 new cancer cases would be diagnosed in 2009, and its estimates of lifetime risk are grim: in the United States, women have slightly more than a 1 in 3 lifetime risk of developing cancer, while for men, the risk is a bit less than 1 in 2. Over two hundred individuals, most between the ages of 20 and 50, are diagnosed with multiple sclerosis every week in the U.S. (MSF, 2009). 26 million American adults live with chronic kidney disease (NKF, 2010). 56,300 Americans are infected with HIV each year; 57% of these individuals are between the ages of 24 and 44 (AIDS.gov, 2006). These figures represent only a subset of severe diseases, but they offer a glimpse of the extent of the problem: many individuals who develop these illnesses do so during their child-rearing years.

The concept of “serious illness” is somewhat problematic, as “serious” is a subjective term. Physical illness varies on an individual basis with regard to a number of dimensions, including onset, course, outcome, level of incapacitation, and level of uncertainty (Rolland, 1999), and it is difficult to objectively establish a hierarchy of seriousness. Some researchers of parental illness have employed the term “chronic illnesses,” which the CDC defines as “noncommunicable illnesses that are prolonged in duration, do not resolve spontaneously, and are rarely cured completely” (2009, p. 2). This definition of illness, which does a good job of encompassing a number of diseases that most individuals would consider serious (i.e., cancer, chronic renal failure), is

nevertheless imperfect in that it also extends to fairly unintrusive conditions (i.e., allergies) that are less likely to be associated with significant psychosocial effects (Barkmann, Romer, Watson, & Schulte-Markwort, 2007). For the purposes of this study, the definition used by Barkmann et al. (2007) will be employed to define serious physical parental illness: a “physical disease in one or both parents, which can be classified as life-threatening and/or having a severe impact on a patient’s quality of life” (p. 477).

In order to assess whether serious parental illness predicts certain psychosocial outcomes, however, researchers have needed a way to quantify the seriousness of illness. Lewis et al.’s model of family coping (Korneluk & Lee, 1998; Lewis, Hammond, & Woods, 1993) posits that different diseases are associated with significantly different psychosocial demands and describes illness in terms of these specific demands, individual characteristics, dyadic characteristics, and family dynamics. In a similar vein, Rolland (1999) proposes a family systems framework of parental illness that conceptualizes illness in terms of disease characteristics (i.e., onset, course, outcome); the developmental phases of the illness, the individual, and the family; and important family system variables (such as boundaries and roles). Many researchers seem to agree with the premise shared by these two models: specific illnesses affect individuals and families in unique ways, and the significance of these effects are determined in part by the objective characteristics of the disease in question.

A convincing body of literature, however, supports the notion that specific, objective disease characteristics may not carry much predictive weight. In a study of the children of hemophilic and HIV-positive fathers, Kotchick et al. (1997) found that subjective impact of illness was associated with psychosocial outcomes, while objective

measures of illness severity were not. One study of adolescents' adjustment to both mental and physical parental illnesses found that perceptions of parental disability or distress, rather than diagnostic category, were the principal risk factor for maladjustment (Hirsch, Moos, & Reischl, 1985). Compas et al. (1996) found that children's subjective perceptions of their parents' cancer were more predictive of distress than the stage or prognosis of the cancer, a conclusion that Romer et al. (2002) also endorsed. In a review of literature examining the impact of parental physical illness on children's adjustment, Korneluk and Lee (1998) reported that "the predicted role of disease severity has not been confirmed in the existing research. Instead, family members' perceptions of disease severity and stressfulness appear to be involved in child adjustment" (p. 189). Visser et al. (2004) found that specific cancer features, including cancer type and stage, time since diagnosis, and objective levels of severity, did not seem to be related to child functioning. Given these findings, it seems that a measure of the *subjective* impact of parental disease, rather than a detailed classification and assessment of disease characteristics, is a more suitable predictor of psychosocial outcomes. And if we consider the attention-guiding and meaning-making processes assumed to underlie individuals' internal working models of the world – that is, the mental representations we create for ourselves and the social and environmental contexts we occupy (Pietromonaco & Barrett, 2000; Bowlby, 1973) – it follows that subjective experiences would do more to guide responses to parental illness than objective factors would.

#### *Psychosocial Outcomes Associated with Parental Illness*

Although most existing research suggests that children of somatically ill parents are at risk for negative psychosocial outcomes (Armistead et al., 1995; Daly, 2008;



Grabiak et al., 2007; Pedersen & Revenson, 2005; Romer et al., 2002; Visser et al. 2004), the nature of these outcomes and the extent to which they are experienced is still a matter of some debate. In a study of children's adjustment to parental cancer, Welch, Wadsworth, and Compas (1996) found that children's emotional distress varied substantially as a function of sex, age, sex of the ill parent, time since diagnosis, and source of report. In a review of literature assessing the impact of parental cancer, Visser et al. (2004) found that although qualitative studies reported difficulties in all domains of functioning, quantitative studies offered an inconsistent picture: if effects were found at all, they were generally restricted to emotional difficulties. Osborne (2007) performed an extensive review of parental cancer literature and concluded that "evidence suggests that children and adolescents do not generally experience elevated levels of serious psychosocial difficulties compared to reference groups, but they are at a slightly increased risk for internalizing type problems." Her review also found that increasing time since cancer diagnosis did not predict improvements in children's functioning, suggesting that parental cancer's impact may extend well beyond the period of diagnosis and treatment. A corresponding review of adolescent adjustment by Grabiak et al. (2007) offered a somewhat stronger conclusion: "adolescents who have a parent with cancer are distressed and this distress must be recognized *and* addressed by the parent diagnosed with cancer, family members, health care professionals and school personnel" (p. 135). In the most recent available review of research examining the children of parents with any serious somatic illness, Romer et al. (2002) concluded that the children of somatically ill parents generally had higher scores on scales of psychological maladjustment and

emotional distress than other children. This view of parental illness endorsed by Grabiak et al. (2007) and Romer et al. (2002) is a widely accepted perspective within the field.

### *Parental Illness and Family Relationships*

Family relationships appear to be influenced by parental illness, although the nature of this influence is not well-understood. In a qualitative study of 87 children with terminally ill parents (Christ et al., 1993), many children reported that their parents (both ill and well) seemed irritable, angry, distracted, and impatient, suggesting some deterioration of parent-child relationships. Christ et al. (1993) also noted that “the nature and quality of the children’s previous relationship with both their parents significantly affected their reactions to the inevitable changes in these relationships” (p. 423); children who initially had a close relationship with their ill parent and a distant relationship with their well parent “often felt particularly abandoned within the family” (p. 423). The children also indicated that their relationships with their siblings grew more distant and conflicted during the time of their parents’ illness. The authors suggested that this change may have occurred because the children felt that they could express tense, anxious feelings toward their siblings more safely than they could their parents. Similar themes were uncovered in a qualitative study of the impact of parental terminal cancer on adolescents (Christ, Siegel, & Sperber, 1994), which found that some adolescents reported more difficult relationships with their well parent, more distant relationships with their ill parent, and feelings of abandonment and loneliness if they had been closer to their ill parent than to their well parent. Leedham and Meyerowitz (1999) found that many grown daughters of cancer patients recalled difficulties in their relationship with their healthy parent, including negative feelings toward the parent (resentment, feelings

of distance) and problems with the parent's behavior (e.g., parent was too demanding). In a review of cancer's effects on parenting and the family, Faulkner and Davey (2002) assert that "treatment demands or preoccupation with the illness can make the parent physically or emotionally unavailable to the child or adolescent. Overall, parental illness has been found to cause parental withdrawal, indifference, unreliability, hostility, and coerciveness, which are linked to impaired adaptability of the child in the form of behavioral, social, and self-esteem problems" (Faulkner & Davey, 2002, p. 65).

Other researchers have found evidence that suggests that family relationships may improve following a parental diagnosis of serious illness. In the previously mentioned Leedham and Meyerowitz study (1999), almost two thirds of subjects reported that their relationship with their ill parent improved during the period of diagnosis and treatment, and over one third indicated that their relationship with their healthy parent improved. In a qualitative pilot study of British children of cancer patients (Nelson, Sloper, Charlton, & While, 1994), most children reported that their relationships with their parents and siblings had stayed the same or grown closer since their ill parent's diagnosis

Positive relationships between family members in families experiencing parental illness seem to predict improved child functioning. In families with mothers diagnosed with breast cancer, higher-quality relationships between fathers and children were associated with better child functioning (Lewis et al., 1993). In a study that drew data from the same sample as the Lewis et al. study, Conrad and Hammen (1993) found that positive perceptions of maternal parenting predicted a lower likelihood of psychological diagnosis in children. Hirsch et al. (1985) found that a positive family social environment was associated with better adjustment among the children of arthritic parents. On the

other hand, low family cohesion – an indication of more emotionally distant family relationships – has been associated with emotional and behavioral problems in the children of seriously ill parents (Huizinga, van der Graaf, Visser, Dijkstra, & Hoekstra-Weebers, 2003). In a study of the effects of paternal hemophilia, Steele et al. (1997) found that problems in the mother-child or father-child relationship predicted internalizing problems, with problems in the mother-child relationship accounting for more of the variance than problems in the father-child relationship. Lewis and Darby (2003) found that low-quality parent-child relationships were associated with significantly lower levels of self esteem and higher levels of anxiety among an adolescent sample. Indeed, parental relationships seem especially important with regard to psychosocial outcomes: in their 2002 review, Romer et al. assert that in many studies of parental illness and child functioning, “the essential link of transmission seemed to be the parent-child relationship” (p. 32).

The literature offers a mixed picture of the way in which parental illness affects family relationships: as Visser et al. (2004) report in their review of parental cancer literature, study results “concerning the consequences of the parent’s illness on the parent-child relationship varied within studies from an improvement in the parent-child relationship, to no change, to increased conflicts” (p. 689). One theoretical model of child adjustment to parental illness proposed by Armistead et al. (1995) suggests that parental illness negatively influences child functioning via disrupted parenting, which may occur either as a direct result of illness (i.e., reduced parental support as a result of illness demands, parental absence due to medical appointments and hospital stays) or as an indirect result of illness (i.e., parental depression, marital conflict). The model’s emphasis

on disrupted parenting as a mediator between parental physical illness and child functioning suggests that the nature of parent-child relationships may be key to understanding the effects of parental illness on adjustment. In any case, the somewhat confused body of literature concerning the ways that parental relationships impact and are impacted by parental illness and the relative dearth of research exploring the role of sibling relationships suggest a need for further exploration.

#### *Parental Illness and Peer Relationships*

Like family relationships, peer relationships also seem to be influenced by parental illness, although research in this area is very limited and the nature of this influence is not well understood. Children participating in Christ et al.'s 1993 study indicated that they were distressed by the loss of peer contacts and the reduction in extracurricular activities necessitated by the demands of their parent's illness. Almost 40% of subjects in Leedham and Meyerowitz's 1999 retrospective study of the effects of parental cancer recalled experiencing problems with friends during the period of their parent's illness; two-fifths reported that their peer relationships improved "in at least some cases" (p. 447). Many children participating in Nelson et al.'s 1994 qualitative study reported that they spent less time with friends as a result of their parent's illness and also indicated that they felt uncomfortable about telling their friends about their parent's illness. In a study comparing the peer relationships of children of mothers with breast cancer with those of a matched sample, Vannatta et al. (2008) found that although there did not seem to be overall differences between the two groups in terms of peer acceptance or friendship reciprocation, sons of mothers with cancer tended to be perceived as more isolated and socially sensitive than peers in the comparison group.

The literature also tentatively suggests an association between positive peer relationships and adjustment among the children of somatically ill parents. General social support and social competence have been associated with reduced incidence of clinical diagnoses among children of mothers with breast cancer (Conrad & Hammen, 1993). In Nelson et al.'s 1994 study, sons who spent less time with peers during the time of their parent's cancer had significantly higher anxiety scores than sons who spent more time with friends. It is clear, however, that more research is needed in this area.

#### *Need for Scale Development*

Given the current state of the literature, it is clear that there is a need for a) a better understanding of the changing quality of various relationship domains, including parental, sibling, and peer domains, during the time of serious parental illness; and b) an understanding of the role that changing relationship domains play in the association between the subjective experience of parental illness and adjustment. No currently existing scales adequately capture the impact of parental illness on relational domains affecting children.

Researchers have used a number of measures to examine relationship domains as related to serious parental illness. The short form of the Interaction Behavior Questionnaire (Robin & Foster, 1989), a dichotomous 20-item measure of communication and conflict behavior, has been used to assess the parent-child relationship during parental illness. In a similar vein, the Parent-Adolescent Communication Scale (Jackson, Bijstra, Oostra, & Bosma, 1998) assesses parental communication quality as perceived by adolescents. Though both of these measures appear to have acceptable psychometric properties, communication quality and perceived

relationship quality are not necessarily identical constructs. The Social Support Scale for Children (SSSC; Harter, 1985), a 24-item measure of children's perceived social support, is designed to measure support in the form of positive regard from parents, friends, classmates, and teachers. Although this measure assesses an admirable range of domains, it has been criticized for its confusing wording and limited applicability: it is intended to be used only with children between grades 3 and 8 (Malecki & Demaray, 2002). It also does not assess social support received from parents on an individual level or from siblings, domains that seem important to consider in the context of parental illness. The Child and Adolescent Social Support Scale (CASSS; Malecki, Demaray, & Elliott, 2004) is a psychometrically strong, 40-item measure of the frequency with which social support is received from four dimensions (parent, teacher, classmate, and close friend). This scale is available in both an elementary school version and a middle and high school version. Like the SSSC, however, this scale does not differentiate between individual parents, and it does not consider support from siblings.

Illness impact measures also exist, although all are problematic. Some researchers have employed Bergner's Sickness Impact Profile (1984), a rather prohibitively long (136-item) self-report measure of behavioral problems associated with illness. The more recent Impact of Illness Scale (Klimidis, Minas, & Yamamoto, 2001) and Illness Intrusiveness Ratings Scale (Devins, Dion, Pelletier, Shapiro, Abbey, et al. 2001) have also been used to quantify impact. Unfortunately, these scales are not designed for use with the children of ill parents, and they do not examine relational domains in appropriate depth. The fifteen-item Impact of Event Scale (Horowitz, Wilner, & Alvarez, 1979), most often used in studies of post-traumatic stress disorder, measures subjective distress

associated with a certain event in terms of current experiences of avoidance and intrusion, and it has demonstrated excellent reliability. This scale, however, does not offer the level of specificity desired for exploration of the impact of parental illness on children's relationships, and it requires respondents to answer items in terms of the past seven days, making it not particularly useful for retrospective studies of impact experienced during the time of parental illness. The promisingly-named Parental Illness Impact Scale - Revised (PIIS-R, Morley, Selai, Schrag, Thompson, & Jahanshahi, 2010; originally the Parental Illness Impact Scale (Parkinson's disease), or PIIS (PD), Schrag, Morley, Quinn, & Jahanshahi, 2004), is the first scale specifically designed to assess the impact of parental illness on children. This instrument measures parental illness impact via a series of dichotomous items assessing informational access and provision of care, a visual analogue scale, and six component scales consisting of Likert-response items (Burden of Daily Help, Emotional Impact, Social Impact, Communication and Understanding, Impact on Personal Future, Friends' Reactions, Parent/Child Relationship, and Global Well-Being). Originally designed for use with the adolescent and adult children of Parkinson's patients, this scale has recently been validated for use with the children of parents suffering from a variety of serious illnesses (Morley et al., 2010). However, the relative complexity and broad scope of the measure, the brevity of those subscales specifically assessing changes in relationship domains (3 items each), and the lack of items assessing the impact of parental illness on sibling relationships imply a need for scale development.



### *Current Study*

The current study sought to develop a multidimensional measure of relational change during the time of parental illness and to establish the validity and reliability of this instrument.

## CHAPTER II

### Method

#### *Participants*

One hundred ninety-five university students participated in data collection during September and October of 2010. Data collection occurred at a large public institution in the western United States; participants were recruited from introductory psychology courses. The recruitment notice, which was posted via an online departmental research system, specifically solicited voluntary participation from students who had at some time experienced serious parental illness as defined by Barkmann et al. (2007): a “physical disease in one or both parents, which can be classified as life-threatening and/or having a severe impact on a patient’s quality of life” (p. 477). In exchange for their participation, participants received credit toward introductory psychology course requirements. One hundred fifty-six students (80%) were female and 39 (20%) were male. The high percentage of female participants is more likely a product of the increasingly female composition of psychology as a field rather than any gender differences in likelihood of experiences with serious parental illness. The American Psychological Association estimates that around three-quarters of psychology graduate students are female (Cynkar, 2007), suggesting that an undergraduate psychology research pool might be similarly disproportionate. It is also possible that there were gender differences in willingness to

disclose information about the impact of parental illness, although there is no immediate evidence for this speculation.

Participants ranged in age from 17 to 47, with an average age of 19.71 ( $SD = 3.97$ ). One hundred eighteen students (60.5%) identified as freshmen, 37 (19%) identified as sophomores, 26 (13.3%) identified as juniors, and 14 (7.2%) identified as seniors or beyond. Four students (2.1%) reported their ethnicity as Asian American/Asian, one (0.5%) as American Indian/Alaska Native, three (1.5%) as African American/Black, seven (3.6%) as Latino, four (2.1%) as Middle Eastern, one (0.5%) as Pacific Islander, 169 (86.7%) as White Non-Hispanic, and six (3.1%) as Other. One hundred sixty-three participants filled out the PIRIS in full, and only these complete responses were used to factor-analyze and validate the scale. Tinsley and Tinsley (1987) propose that a ratio of 5 to 10 subjects per item is generally adequate; by this standard, sample size in this study was quite acceptable, with a ratio of about 8 subjects to each item.

### *Scale Development*

Scale items were generated and tested in accordance with Loevinger's seminal guidelines for scale development (1957; Shirley, 2010): a construct was identified; existing literature and instruments exploring the construct were examined; a theoretically-consistent operational definition of the construct was established; rational, globally representative items were generated by subject matter experts (SMEs); the developed measure was administered to participants; data were analyzed via factor analysis; weak, problematic items were eliminated; and reliability and validity analyses were conducted. The scale development process utilized was also largely in keeping with a more recent set of guidelines proposed by DeVellis (2003), who recommends a similar procedure: clearly

determining the construct to be measured, generating an item pool, determining measurement format, seeking review/revision by experts, considering inclusion of validation items, administering the items to a development sample, evaluating the performance of individual items, and optimizing scale length.

**Parental Illness Relationship Impact Scale.** The measure developed for this study was dubbed the Parental Illness Relationship Impact Scale (PIRIS). The instrument asks respondents to indicate how much they agree with statements about the nature of their personal relationships in relation to parental illness. Items were designed to assess for illness-related change in the respondent's relationships with his or her ill parent, other parent, siblings (if any), and peers. Response options were presented as a 7-point (1-7) Likert-type scale with responses ranging from *strongly disagree* to *strongly agree* (see appendix A for a copy of the initial measure). As might be expected, the Ill Parent subscale was designed to assess for illness-related change in the participant's relationship with his or her ill parent; the Other Parent, Sibling, and Peer subscales are intended to assess illness-related change in a participant's relationships with her or his other parent, siblings, and peers, respectively.

The twenty items developed were rationally/theoretically driven, with general item subject areas determined on the basis of existing literature (i.e., which relationship domains seemed most affected or likely to be affected by parental illness). Specific items were generated by subject matter experts (that is, individuals with a comprehensive understanding of the construct at hand), and worded in accordance with the item development recommendations suggested by DeVellis (2003) and Comrey (1988). Items were written so as not to be exceptionally lengthy, difficult to comprehend, double-

barreled, or ambiguous. Same-valence items on each subscale were written to be variations of a single core idea, and only one opposite-valence validation item was included per subscale (due to the typically poor performance of opposite-valence items reported by DeVellis, 2003).

Because it was expected that many relationships would likely be deleteriously affected to some degree by parental illness, most items were worded to reflect negative changes in relationship quality, with one reverse-coded item per subscale in the initial version of the measure. It was assumed that some participants might be dealing with parental illness at the time of the study, and all participants therefore received the following written instructions prior to responding to the items: *“The following items deal with parental illness. The items are written in past tense. If your parent currently has a serious illness, please answer on the basis of your entire experience with that parent’s illness, including the present.”* Because some participants may have had two parents with a serious illness, directions designed to address this issue were presented in parentheses at the beginning of each subscale (for example: *“If both of your parents have or had a serious illness, choose the parent whose illness had the strongest impact on your life and respond relative to that parent.”*).

Special directions were also given addressing participants with only one parent (*“If [your other] parent is absent or deceased, please skip to the next section”*) or no siblings (*“If you have no siblings, please skip to the next section”*). Because a number of participants in any population could be expected to have no siblings or an absent/deceased parent, it was determined that average scores (rather than total scores) would be calculated for the instrument, eliminating the problem posed by necessarily

incomplete responding. Average scores were also deemed to be more meaningful than total scores due to their correspondence with the values assigned to each Likert-type response (i.e., a full scale score of 6.5 would demonstrate that on the whole, the participant *strongly agreed* that his or her relationships were negatively impacted by parental illness).

**The Child and Adolescent Social Support Scale.** The Child and Adolescent Social Support Scale (CASSS; Malecki, Demaray, & Elliott, 2004) was used to establish convergent validity for the PIRIS. This 60-item instrument measures perceived social support received by children and adolescents (grades 3-12) across five 12-item subscales: parent, teacher, classmate, close friend, and school. Respondents rate statements (i.e., “My parent(s) take time to help me decide things”) for frequency on a 6-point Likert scale with response options ranging from *never* to *always*. Items are also rated for importance, with three response options (*not important*, *important*, or *very important*). Importance ratings “are intended primarily for clinical interpretation of students’ responses on the CASSS” (Malecki & Demaray, 2002, p. 4). Reported reliabilities are very good, with subscale coefficient alphas ranging from .90 to .96 and a total frequency scale alpha of .97 (n = 515; Malecki, Demaray, & Elliott, 2004). The measure also exhibits acceptable convergent validity (Malecki, Demaray, & Elliott, 2004). The instructions and item verb tenses were slightly modified to accommodate the retrospective nature of the present study. See appendix B for a selection of representative items from this modified version of the CASSS.

**The Parental Illness Impact Scale – Revised.** The Social Impact, Friends’ Reactions, and Parent/Child Relationship subscales of the Parental Illness Impact Scale -

Revised (PIIS-R; Morley et al., 2010) were also used to establish convergent validity for the PIRIS. The PIIS-R is a 56-item instrument designed to assess the impact of parental illness across numerous subscales, including Burden of Daily Help, Emotional Impact, Social Impact, Communication and Understanding, Impact on Personal Future, Friends' Reactions, Parent/Child Relationship, and Global Well-Being. Forty-two items were answerable on a five-point Likert-type scale with response options varying across subscales (i.e., *All the time to never*, or *poor to excellent*). Fourteen items (i.e., "Did you have all the information you needed about your parent's illness?") were dichotomous (*yes* or *no*), and a visual analogue scale was present to allow respondents to rate overall quality of life during a parent's illness. Coefficient alphas for the three subscales of interest - the Social Impact, Friends' Reactions, and Parent/Child Relationship subscales – were reported as .83, .79, and .56, respectively (n = 169; Morley et al., 2010). The total instrument alpha value was reported to be .92, and there is evidence for good construct, concurrent, and discriminant validity (Morley et al., 2010). See appendix C for a selection of representative items from the PIIS-R.

### *Procedure*

Participants received a web-delivered informed consent form that described the study, outlined any potential risks that might be associated with participation, and provided an assurance of confidentiality. Participants filled out a series of online forms, including a demographics form, a general information form including items assessing overall impact of parental illness, the CASSS, the PIIS-R, and the PIRIS, as well as a brief selection of assessments meant to be used in a future examination of the psychosocial effects of parental illness. After completing the surveys, participants

received online debriefing forms explaining the study's purpose, providing information about university counseling services, and offering contact information for the primary investigator. Participants' names were not linked to their online survey responses, and all completed surveys were stored in a protected electronic folder.



## CHAPTER III

### Results

#### *Parental Illness Relationship Impact Scale*

**Confirmatory Factor Analysis.** The correlation matrix of the Parental Illness Relationship Impact Scale (PIRIS) was subjected to confirmatory factor analysis (CFA) with the intent of assessing the fit of the obtained data with the hypothesized underlying four-factor structure (those factors being Ill Parent, Other Parent, Sibling, and Peer). As there was good reason to believe that items would conform to the theorized structure, exploratory factor analysis (EFA) was deemed unnecessary (Stapleton, 1997). Complex factor loadings were not allowed, and because factors were expected to be correlated with each other, all latent factors were allowed to intercorrelate. The following indices of model fit were employed: the Comparative Fit Index (CFI), the Root Mean Square Error of Approximation (RMSEA), and the Tucker Lewis Index (TLI). These indices were selected on the basis of recommendations by Hu and Bentler (1999), who suggest that a combination of relative fit indices (such as the TLI) and indices in other categories (with particular emphasis on using either the RMSEA or SRMR).

As Hu and Bentler (1998) note, “it is difficult to designate a specific cutoff value for each fit index because it does not work equally well with various types of fit indices, sample sizes, estimators, or distributions” (p. 449). Indeed, there is evidence that maximum-likelihood-based TLI and RMSEA tend to over-reject models when sample

size is small (<250; Hu & Bentler, 1998). It seems that any index value must be interpreted with caution. For the purpose of this study, it was determined that CFI values should exceed .90, TLI values should exceed .90 (as per the recommendations of Hu & Bentler, 1998), and RMSEA values should ideally fall below .08 but not above .10 (Browne & Cudeck, 1993).

Means, standard deviations, and factor loadings for the original twenty-item measure are presented in Table 1. Four items were removed due to low factor loadings (below .70, as per the criterion recommended by Garson (2011): this is, Garson admits, a higher standard than is typically adopted by scale developers, but factor loadings for the PIRIS were high enough to accommodate) and/or very large covariance residuals (exceeding .15). As presented in Table 2, model fit for the sixteen-item revision was fairly good, with a CFI of .956, a TLI of .946, and an RMSEA of .086. All factor loadings were significant and quite high, ranging from .8257 to .9490 (see Table 1). This analysis confirmed the predicted four-factor structure, with each factor represented by a subscale. See appendix D for a copy of the revised 16-item measure.

In an effort to explore whether a better fit might be obtained, four items with residuals greater than 0.1 were removed, resulting in a twelve-item revision with a CFI of .974, a TLI of .964, and an RMSEA of .075. Factor loadings for this twelve-item version ranged from .8191 to .9646. This revision did seem to produce an improvement in fit indices. However, given the adequate fit demonstrated by the sixteen-item version and its potential for producing greater variance than a twelve-item version, it seemed most prudent to retain sixteen items.

**Reliability Analysis.** The PIRIS' internal consistency was assessed by calculating inter-item correlations and split-half reliability. While cutoff levels vary, in general a Cronbach's alpha ( $\alpha$ ) between .70 and .80 can typically be considered "respectable," and values above .80 can be considered "very good" or excellent ( DeVellis, 2003). By this criterion, the PIRIS exhibited excellent inter-item consistency, with a Cronbach's alpha ( $\alpha$ ) of .92. Subscales exhibited excellent internal consistency, producing alphas of .93 (Ill Parent subscale), .93 (Other Parent subscale), .95 (Sibling subscale), and .95 (Peer subscale).

**Validity Analysis.** A Pearson product-moment correlation coefficient was computed to examine the association between scores on the PIRIS and on the CASSS. Although the two measures differ in their aims (the CASSS does not examine relationships in the context of parental illness) and the social domains they measure, both are intended to examine quality of social support, with the PIRIS specifically examining negative quality. It could be assumed, then, that a significant negative correlation between the PIRIS and CASSS would represent good convergent validity for the PIRIS.

A moderate negative correlation was found between full scale scores ( $r = -.401$ ,  $n = 163$ ,  $p = .000$ ). The Ill Parent and Other Parent subscales of the PIRIS demonstrated moderate negative correlations with the Parent Support subscale of the CASSS ( $r = -.487$ ,  $n = 193$ ,  $p = .000$  and  $r = -.418$ ,  $n = 189$ ,  $p = .000$ , respectively), and there was a moderate negative correlation between the Peer subscale of the PIRIS and the Close Support subscale of the CASSS ( $r = -.338$ ,  $n = 185$ ,  $p = .000$ ). Correlations could not be computed for the Sibling subscale of the PIRIS, since there was no corresponding

subscale on the CASSS. Overall, correlations with the CASSS suggest adequate convergent validity for the PIRIS.

Scores on several PIRIS subscales were also correlated with the Social Impact, Friends' Reactions, and Parent/Child Relationship subscales of the PIIS-R, a measure of the impact of parental illness on a wide variety of life domains. Higher scores on the PIIS-R indicate superior well-being, meaning that significant negative correlations between scores on these subscales and corresponding subscales of the PIRIS would represent good convergent validity for the PIRIS. The Peer subscale of the PIRIS demonstrated moderate to large negative correlations with the Social Impact and Friends' Reactions subscales of the PIIS-R ( $r = -.596$ ,  $n = 185$ ,  $p = .000$  and  $r = -.424$ ,  $n = 184$ ,  $p = .000$ , respectively). The Parent/Child Relationship subscale of the PIIS-R was also negatively correlated with the Ill Parent subscale of the PIRIS ( $r = -.746$ ,  $n = 193$ ,  $p = .000$ ) and with the Other Parent subscale ( $r = -.232$ ,  $n = 189$ ,  $p = .001$ ). As was the case with the CASSS, correlations with the PIIS-R support the convergent validity of the PIRIS.

Finally, correlations between the subscales and full scale on the PIRIS were calculated to further support the construct validity of the scale (see Table 3). The size and direction of correlations between subscales confirmed measurement of a common construct, but correlations were small enough to indicate measurement of unique aspects of that construct.

## CHAPTER IV

### Discussion

The principal aim of this study was the development and psychometric validation of an instrument measuring relationship change effected by parental illness. Results of confirmatory factor analyses, reliability analyses, and validity analyses support the viability of this scale as a psychometrically strong product that can fill a measurement gap in the parental illness literature. The final 16-item version of the PIRIS appears to have a four-factor structure, acceptable fit indices (CFI = .956 , RMSEA = .086, TLI = .946 ), and excellent factor loadings (.826 to .949). It demonstrates a very good Chronbach's alpha (.92), with subscale reliabilities ranging from .93 to .95. Correlations with other instruments measuring similar constructs indicated good construct and convergent validity for the PIRIS: as expected, full scale PIRIS scores demonstrated a moderate negative correlation with full scale scores on the CASSS ( $r = -.401$ ), and correlations between corresponding subscales on the PIRIS and the CASSS ranged from -.338 to -.487. Several subscales of the PIRIS were also negatively correlated (as expected) with subscales of the PIIS-R, with values ranging from -.232 to -.746. Finally, the small positive correlations between subscales of the PIRIS offered additional support for the measure's construct validity, indicating that PIRIS subscales are measuring different facets of a common construct.

Interestingly, all items eliminated on the basis of confirmatory factor analyses were variations of the same reverse-scored stem: “I felt emotionally close to my [ill parent, other parent, sibling(s), or peers] despite my parent’s illness.” In retrospect, it makes sense that these items might not fit adequately with the other items on the measure, which were concerned with changes in relationship quality but did not assume the presence of a positive relationship prior to onset of parental illness. A respondent who might strongly agree with the statement “My relationship with my sibling(s) worsened as a result of my parent’s illness” might not disagree with the item “I felt emotionally close to my sibling(s) despite my parent’s illness” if the sibling relationship(s) had never been particularly close in the first place.

In general, the PIRIS appears to be a psychometrically solid instrument that accurately taps negative change in relationship quality in the context of parental illness. Its brevity and ease of administration, as well as its specific focus on relationship domains (including sibling relationships, which have traditionally been excluded from research in this area), are unique among instruments measuring the impact of parental illness. Given our limited understandings of the way that parental illness impacts relationships and research evidence for negative psychosocial outcomes among children who have been impacted by parental illness (e.g., Grabiak et al., 2007; Romer et al., 2002; Visser et al. 2004), this instrument is a timely and necessary addition to the selection of measures available to researchers and practitioners.

#### *Limitations and Directions for Future Research*

This study is associated with a number of limitations. First, the sample consisted largely of well-educated, white, young, female participants who were drawn by

convenience from an introductory psychology student pool at a university. Participants were self-selected, and it is possible that individuals for whom parental illness was too difficult to contemplate may have been repelled by the nature of the study; likewise, those who did participate may have been highly interested in the effects of parental illness, possibly limiting generalizability. At any rate, while the results may have been different with a more diverse, random sample, it should be pointed out that scale items are likely to have hung together as we might expect regardless of differences in impact across ethnicity or gender; that is, even though two participants might have experienced parental illness completely differently from one another, their responses would be expected to logically line up within subscales regardless of the direction of response. Level of education, and the ability to understand the wording used in scale items, is likely to have more of an impact on results than other variables, and it would be worthwhile to validate the scale in the future within a population of individuals not enrolled in college.

Data collection for this study necessarily relied on retrospective self-report, a method that is associated with concerns about reliability and accuracy (Stone, Bachrach, Jobe, Kurtzman, & Cain, 1999). Given inevitable memory inaccuracies, it seems that this method may not be ideal for assessing the relational impact of parental illness. However, few options *are* ideal for a study of this construct: self-report at the time of an experience requires an awareness of environment and personal state that is not well-developed in most young children (Lyman & Hembree-Kigin, 1994; Pepler & Craig, 1998), and even in-the-moment self-report measures for adolescents and adults raise questions about accuracy (Stone et al., 1999). Because the construct of interest is essentially subjective, objective measurement does not appear to be feasible.

In future research utilizing the PIRIS, it may be worthwhile to validate the measure with a more diverse, non-convenience sample (particularly a sample including more men and individuals who are not college-educated). With regard to practical use of the PIRIS, a future study will seek to examine the the contribution of specific negative relationship impact factors (as measured by the PIRIS) to the association between general subjective impact of parental illness and long-term psychosocial adjustment.

### *Implications*

Existing instruments do not satisfactorily measure the impact of parental illness on children's relationships, a variable that may contribute significantly to psychosocial outcomes for those who have experienced parental illness. Given the very small body of research examining the long-term effects of parental illness or the factors that contribute to these effects, it seems probable that research utilizing the PIRIS will be able to add something of value to current understandings of the subject. The instrument could also be used as a brief assessment tool for clinicians working with individuals who have been impacted by parental illness, to gauge impact on relationships with family members and peers and provide an exploratory picture of social functioning in the wake of a parent's illness. Given the numbers of university psychology students who identified as having been affected by parental illness for this study alone, it seems that the PIRIS could also be a useful addition to an assessment battery in a university counseling setting. Because of the potentially disruptive effects parental illness can have on family relationships and parenting (Christ et al., 1993; Christ, Siegel, & Sperber, 1994; Armistead et al., 1995), the PIRIS could also be a valuable screening tool for counselors working with couples or families experiencing a serious illness.



### *Conclusion*

An instrument measuring the relational impact of parental illness was developed and validated within a college sample. Participants responded to items assessing negative change in relationships with the ill parent, other parent, sibling(s), and peers during the time of parental illness. Results indicated that the scale has a four-factor structure and has good reliability and validity. It may be useful to validate the scale with a more diverse sample in future psychometric research.

**\*\* Author's note: A free copy of the PIRIS may be obtained by contacting the author at**

**[lindsey.y.copeland@gmail.com](mailto:lindsey.y.copeland@gmail.com).\*\***

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Table 1

Means, Standard Deviations, and Standardized Factor Loadings for PIRIS Items.

Variable	Mean	SD	Initial Factor Loading	Final Factor Loading (if retained)
Ill Parent				
Item 1	2.21	1.711	0.8562	0.8540
Item 2	2.42	1.892	0.8427	0.8337
Item 3	2.48	1.919	0.9328	0.9387
Item 4	2.52	1.892	0.8893	0.8904
Item 5R	2.47	1.616	0.5486	---
Other Parent				
Item 6	2.53	1.832	0.8484	0.8512
Item 7	2.27	1.615	0.8971	0.9017
Item 8	2.33	1.649	0.9287	0.9261
Item 9R	2.86	1.878	0.4516	---
Item 10	2.35	1.673	0.8316	0.8257
Sibling				
Item 11R	2.50	1.566	0.6266	---
Item 12	2.13	1.466	0.8485	0.8494
Item 13	1.99	1.300	0.9452	0.9445
Item 14	2.19	1.516	0.9107	0.9116
Item 15	2.04	1.310	0.9495	0.9490
Peer				
Item 16	2.71	1.770	0.9261	0.9271
Item 17	2.71	1.757	0.8925	0.8938
Item 18R	2.97	1.667	0.3999	---
Item 19	2.26	1.471	0.8897	0.8870
Item 20	2.57	1.710	0.9118	0.9117

\*R = reversed item; higher scores indicate stronger negative relational impact

Table 2

Summary of CFA Model Fit Indices for PIRIS.

Model	$\chi^2$	<i>df</i>	<i>p</i>	TLI	CFI	RMSEA
Null model, all 20 items	3081.05	190	.000	--	--	0.306
Four factor model, all 20 items	362.82	164	.000	0.920	0.931	0.087
Null model, 16 items	2741.35	120	.000	--	--	0.367
Four factor model, 16 items (final model)	214.51	98	.000	0.946	0.956	0.086

Table 3

Intercorrelations of PIRIS Subscale and Full Scale Scores.

	Ill Parent	Other Parent	Sibling	Peer	PIRIS Full Scale
Ill Parent	1	.343**	.546**	.262**	.760**
Other Parent	.343**	1	.451**	.295**	.728**
Sibling	.546**	.451**	1	.300**	.767**
Peer	.262**	.295**	.300**	1	.646**
PIRIS Full Scale	.760**	.728**	.767**	.646**	1

\*\*Correlation is significant,  $p = .000$

## Appendix A

## PIRIS (Original Version)

*The following items deal with parental illness. The items are written in past tense. If your parent currently has a serious illness, please answer on the basis of your entire experience with that parent's illness, including the present.*

---

*For the following items, consider your relationship with the parent who experienced or is experiencing serious illness. (If both of your parents have or had a serious illness, choose the parent whose illness had the strongest impact on your life and respond relative to that parent.) Choose one response for each item.*

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
My relationship with my ill parent worsened as a result of his or her illness.							
My relationship with my ill parent grew more distant as a result of his or her illness.							
As a result of my ill parent's illness, my relationship with my ill parent was not as good as it might have been.							
It was hard for me to connect with my ill parent because of his or her illness.							
I felt emotionally close to my ill parent despite his or her illness.							

*For the following items, consider your relationship with your other parent (the parent who has not experienced serious illness). If this parent is absent or deceased, please skip to the next section. (If both of your parents have or had a serious illness, choose the parent whose illness or had the lesser impact on your life and respond relative to that parent.) Choose one response for each item.*

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
As a result of my ill parent's illness, my relationship with my other parent was not as good as it might have been.							
It was hard for me to connect with my other parent because of my ill parent's illness.							
My relationship with my other parent grew more distant as a result of the stresses of my ill parent's illness.							
I felt emotionally close to my other parent despite my ill parent's illness.							
My relationship with my other parent worsened as a result of the stresses of my ill parent's illness.							

*For the following items, consider your relationships with your sibling(s) during the time of your parent's illness. If you have no siblings, please skip to the next section. (If both of your parents have or had a serious illness, choose the parent whose illness had the strongest impact on your life and respond relative to that parent.)*

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
I felt emotionally close to my sibling(s) despite my parent's illness.							
My relationship with my sibling(s) grew more distant as a result of my parent's illness.							
My relationship with my sibling(s) worsened as a result of my parent's illness.							
As a result of my parent's illness, my relationship with my sibling(s) was not as good as it might have been.							
It was hard for me to connect with my sibling(s) because of my parent's illness.							

*For the following items, consider your relationships with your friends during the time of your parent's illness. (If both of your parents have or had a serious illness, choose the parent whose illness had the strongest impact on your life and respond relative to that parent.)*

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
My relationships with my friends grew more distant as a result of my parent's illness.							
It was hard for me to connect with friends because of my parent's illness.							
I felt emotionally close to my friends despite my parent's illness.							
My relationships with my friends worsened as a result of my parent's illness.							
As a result of my parent's illness, my relationships with my friends were not as good as they might have been.							



## Appendix B

The following is a sample of content from the Child and Adolescent Social Support Scale (modified to reflect the retrospective nature of the present study).

Think about the time when your parent first became ill. For the next set of questions, you will be asked to respond to sentences about some form of support or help that you might have received from either a parent, a teacher, a classmate, a close friend, or people in your school. Read each sentence carefully and respond to them honestly. There are no right or wrong answers.

For each sentence you are asked to provide two responses. First, rate how often you received the support described and then rate how important the support was to you. Below is an **example**. Please read it carefully before starting your own ratings.

---

	HOW OFTEN?	IMPORTANT?
	<div>Never Almost Never Some of the Time Most of the</div>	<div>Not Important Important Very Important</div>
My teacher(s) helped me solve problems.	1 2 3 4 5 6	1 2 3

---

In this example, the student describes her 'teacher helped me solve problems' as something that happened 'some of the time' and that was 'important' to her.

**Do not skip any sentences. Please go to the next page and answer the questions.  
Thank you!**

### MY PARENT(S)...

Never Almost Never Some of the Time Most of the	Very Important Important Not Important
-------------------------------------------------------------	----------------------------------------------

1. ... showed they were proud of me.
2. ...understood me.
3. ...listened to me when I needed to talk.
4. ...made suggestions when I didn't know what to do.
5. ... gave me good advice.
6. ... helped me solve problems by giving me information.
7. ... told me I did a good job when I did something well.
8. ... nicely told me when I made mistakes.
9. ... rewarded me when I did something well.
10. ... helped me practice my activities.
11. ... took time to help me decide things.
12. ... got me many of the things I needed.

1	2	3	4	5	6		1	2	3
1	2	3	4	5	6		1	2	3
1	2	3	4	5	6		1	2	3
1	2	3	4	5	6		1	2	3
1	2	3	4	5	6		1	2	3
1	2	3	4	5	6		1	2	3
1	2	3	4	5	6		1	2	3
1	2	3	4	5	6		1	2	3
1	2	3	4	5	6		1	2	3
1	2	3	4	5	6		1	2	3
1	2	3	4	5	6		1	2	3
1	2	3	4	5	6		1	2	3

## Appendix C

The following is a sample of content from the Parental Illness Impact Scale – Revised, modified to reflect the retrospective nature of the study.

**Instructions:** *This questionnaire asks about your health and well-being, and how you feel your parent's illness has affected you. Your individual answers will not be shared with anyone. The questions are divided into a number of different sections. Please **answer every question** by placing a tick in the box that describes most closely how you feel. If you are not sure about an answer please give the **best answer you can**.*

*If your parent is currently ill, please respond on the basis of your entire experience of your parent's illness, including the present. If both of your parents have experienced a serious illness, please respond relative to the parent whose illness has had the largest impact on your life.*

During your parent's illness, how often did you feel that...		All the time	Often	Some-times	Rarely	Never
1.	Your parent's illness meant that you spent less <u>time</u> with your friends?					
2.	Your parent's illness harmed your <u>relationships</u> with friends?					
3.	Your parent's illness meant you spent less time on social activities, <i>for example</i> hobbies or sports?					
4.	Your parent's illness meant you had less <u>independence</u> ( <i>for example</i> going out less)?					
5.	Your parent's illness affected <u>your own</u> daily routine?					
6.	Having a parent with a serious illness affected your family <u>financially</u> ( <i>for example</i> not having enough money)?					

## Appendix D

## PIRIS (Final Version)

*The following items deal with parental illness. The items are written in past tense. If your parent currently has a serious illness, please answer on the basis of your entire experience with that parent's illness, including the present.*

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*For the following items, consider your relationship with the parent who experienced or is experiencing serious illness. (If both of your parents have or had a serious illness, choose the parent whose illness had the strongest impact on your life and respond relative to that parent.) Choose one response for each item.*

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
My relationship with my ill parent worsened as a result of his or her illness.							
My relationship with my ill parent grew more distant as a result of his or her illness.							
As a result of my ill parent's illness, my relationship with my ill parent was not as good as it might have been.							
It was hard for me to connect with my ill parent because of his or her illness.							

*For the following items, consider your relationship with your other parent (the parent who has not experienced serious illness). If this parent is absent or deceased, please skip to the next section. (If both of your parents have or had a serious illness, choose the parent whose illness or had the lesser impact on your life and respond relative to that parent.) Choose one response for each item.*

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
As a result of my ill parent's illness, my relationship with my other parent was not as good as it might have been.							
It was hard for me to connect with my other parent because of my ill parent's illness.							
My relationship with my other parent grew more distant as a result of the stresses of my ill parent's illness.							
My relationship with my other parent worsened as a result of the stresses of my ill parent's illness.							



*For the following items, consider your relationships with your sibling(s) during the time of your parent's illness. If you have no siblings, please skip to the next section. (If both of your parents have or had a serious illness, choose the parent whose illness had the strongest impact on your life and respond relative to that parent.)*

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
My relationship with my sibling(s) grew more distant as a result of my parent's illness.							
My relationship with my sibling(s) worsened as a result of my parent's illness.							
As a result of my parent's illness, my relationship with my sibling(s) was not as good as it might have been.							
It was hard for me to connect with my sibling(s) because of my parent's illness.							

*For the following items, consider your relationships with your friends during the time of your parent's illness. (If both of your parents have or had a serious illness, choose the parent whose illness had the strongest impact on your life and respond relative to that parent.)*

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
My relationships with my friends grew more distant as a result of my parent's illness.							
It was hard for me to connect with friends because of my parent's illness.							
My relationships with my friends worsened as a result of my parent's illness.							
As a result of my parent's illness, my relationships with my friends were not as good as they might have been.							