

Parental Directiveness in Childhood Survivors of Acute Lymphoblastic Leukemia

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## **Introduction**

In the child development literature, it has been well-established that parental intrusiveness is associated with poor psychosocial adjustment for children. Parental intrusiveness has been examined as one dimension of parental psychological control, which is thought to be particularly harmful for children because it prevents the establishment of children's sense of autonomy (Barber, Olsen, & Shagle, 1994). While this construct has been inconsistently defined in the literature, intrusiveness typically refers to parenting that demonstrates a lack of regard for children's autonomy. This is often demonstrated by parents imposing their own agenda on their child, through the use of demands, and in interruption of child's self-directed activity (Ipsa et al., 2004).

Historically, parental intrusiveness has been measured using the Child Report of Parent Behavior Inventory (CRPBI), which yields three scales: psychological control, behavioral control, and parental support (Schaefer, 1965). The intrusive parenting factor of the CRPBI, which measures the degree to which children rate their parents as telling them how to behave, control what they do, and insist that they do as they are told, is subsumed by the psychological control scale (Barber, Olsen, & Shagle, 1994). Measured in this way, intrusiveness has been consistently associated with child and adolescent depression and anxiety (Barber, 1996; Barber & Harmon, 2002; Pettit, Laird, Dodge, Bates, & Criss, 2001; Soenens, Luyckx, Vansteenkiste, Duriez, & Goossens, 2008). While the CRPBI is the most consistently used measure, it is a child-report measure that captures children's perceptions of their parents' behavior. A few studies have addressed this limitation by observationally coding parent-child interactions (Landry, Smith, Miller-Loncar, & Swank, 1997; Landry, Smith, Swank, & Miller-Loncar, 2000).

The current study focuses on one way that parent's demonstrate intrusiveness through their use of directives in the context of resolving conflict with their child. This behavior, henceforth referred to as parental directiveness, refers to instances where parents provide children with solutions to problems rather than using scaffolding to help their child generate their own solution. While parental directiveness is appropriate in early childhood, this behavior should diminish as children acquire problem solving competencies. Researchers believe that the use of this behavior prevents children from establishing the necessary foundation for later cognitive, linguistic, and social development, as well as their emerging independence (Landry et al., 2000). As such, several longitudinal studies have found parental directiveness to be associated with increased anxious withdrawal (Booth-Laforce et al., 2012), decrease goal-directed skills and social initiation (Landry et al., 2000), and poor social development (Landry et al., 1997).

Although there is ample evidence that parental directiveness is associated with negative child outcomes, there may be situations in which a more directive form of parenting is appropriate or necessary. One situation where this might be the case is when a child is diagnosed with a serious medical illness, such as cancer, Type 1 diabetes, cystic fibrosis, or asthma. These medical conditions typically require amplified parental control that is necessitated by the complexity of treatment regimens, as well as recommended by medical professionals (Silverstein, 2005). For example, when a child is seriously ill, parents are often highly involved with the administration of their child's medications and the care of intravenous lines or other medical equipment. Further, parents must coax their child to endure painful procedures, unpleasant treatments, and the uncomfortable side effects that can be associated with these medical regimens. Despite any resistance from their child, parents must ensure that their child complies with the treatment protocol so that they have the best possible chance of survival. As

such, Ellis, Templin, Naar-King, and Frey (2008) have suggested that it is particularly important to determine whether parental control behaviors may be adaptive in populations of medically ill children.

To our knowledge, no studies have examined directiveness in medically ill children. Given that directiveness is conceptualized as a dimension of psychological control, looking at other aspects of the larger construct in these populations can be informative. A limited number of studies have looked at psychological control in these populations and have found mixed results. Consistent with research on healthy children, Holmbeck et al. (2002) found that maternal overprotection, which is defined as providing an excessive amount of protection given a child's developmental level, was significantly related to child depression and externalizing behavior problems for children with spina bifida. Further, psychological control, as measured using the psychological control scale of the CRPBI, has been positively associated with depressed mood among adolescents with diabetes (Butler, Skinner, Gelfand, Berg, & Wiebe, 2007). Conversely, Colletti et al. (2008) found that parental overprotection was not associated with social, emotional, or behavioral maladjustment for children with cancer. Likewise, Mullins et al. (2004) found no association between overprotection and depression for children with Type 1 diabetes. The majority of research in these populations has focused on the parental overprotection aspect of psychological control. Because the nature of childhood medical illnesses may necessitate parental directiveness, it is also important to examine how the directiveness aspect of psychological control operates in these populations.

Cancer is one example of a childhood medical illness that necessitates high levels of parental involvement in the management of a child's care. Treatment for childhood cancer often involves painful procedures, unpleasant side effects, and long hospital stays. Children are also

exposed to chemotherapy, radiation therapy, and invasive medical procedures that are often highly distressing; yet adherence to treatment protocols is essential to their survival. Parents of children with cancer play an active role in ensuring their child's adherence, despite understandable resistance from their child. Thus, during active treatment for childhood cancer, parents may be compelled to utilize directive parenting strategies to ensure their child's compliance. Parental directiveness may be adaptive within this unique setting, as it serves to propel a child through treatment, despite a child's reluctance and resistance. To the extent that children are frequently exposed to this type of parenting over the course of treatment, children may become accustomed to these directive strategies and parental directiveness may no longer be detrimental to psychosocial adjustment in childhood survivors of cancer.

Few studies have examined parenting in the context of childhood cancer. Long and Marsland (2011) point out that the majority of studies on parenting in families dealing with childhood cancer focus on parenting stress as the variable of interest. Studies of parenting stress provide information about the strain experienced by parents but do not provide information about specific parenting behaviors that may set children at risk for poor psychosocial adjustment. Examining individual dimensions of parenting behavior can increase understanding of the correlates of psychosocial adjustment in medically ill and healthy populations and inform intervention and prevention efforts.

### **The Current Study**

The current study examines whether parental directiveness operate differently in a population of childhood cancer survivors than in healthy children. In this study, directiveness was examined among childhood survivors of cancer who were at least 1 year out of treatment. During treatment, parent's use of directive parenting may be functional in that it helps the child

adhere to their treatment protocol. However, it is less clear how parental directiveness may operate in survivors of childhood cancer after treatment demands are removed. Examining the role of directiveness in a survivor population is therefore a more stringent test of the effects of this parenting behavior on internalizing problems in cancer populations.

Because we will be examining a survivorship population, the treatment-related stressors that may have elicited more parental directiveness are no longer present. As such, we do not expect there to be differences between the cancer survivor and control group in levels of parental directiveness. Rather, it may be that repeated exposure to directive parenting in the context of cancer treatment alters the way children experience this parenting behavior. To examine how parental directiveness may function in survivors of childhood cancer and healthy controls, we will test whether cancer survivorship moderates the relation between directive parenting and children's internalizing symptoms. Specifically, we hypothesize that directive parenting will be associated with increased internalizing symptoms for healthy, control participants, but not for the childhood survivors of acute lymphoblastic leukemia. Child internalizing problems was examined because parental directiveness has been most consistently associated with this dimension of child adjustment in normative populations.

## Methods

### Overview

This current study is part of an existing study of family adjustment in survivors of pediatric cancer. Two groups of children and their mothers were included in the original study. One group consisted of children who recently completed treatment for Acute Lymphoblastic Leukemia (ALL), and the other group was composed of children who had never experienced a life threatening illness. We selected ALL because it is the most common form of childhood cancer. As part of the larger study, children and their mothers engaged in a parent-child interaction and also completed measures of child adjustment.

### Participants

**Survivors of childhood cancer.** Survivors of pediatric Acute Lymphoblastic Leukemia (ALL) were recruited from survivor registries at two medical centers in the Pacific Northwest. These children were 7-12 years old and were at least one year off treatment. Survivors were excluded from the study if they had been diagnosed with a pervasive developmental disorder, mental retardation or some type of physical disability. Clinicians at the two medical centers screened potential participants prior to recruitment to ensure that all the survivors of cancer met the necessary inclusion criteria.

Twenty-five ALL survivors (10 boys, 15 girls) ranging from 7 years, 1 month to 12 years, 9 months old ( $M = 10.04$  years) and their mothers ( $M = 40.76$  years) participated in the study. The majority of the families were European American (88.5%), followed by Hispanic (3.8%) and biracial/multiracial (7.7%) families. On average, the ALL survivors were 4.54 years ( $SD = 1.96$ ) post-diagnosis.

**Healthy participants.** Participants in the healthy control group were recruited from public and private schools in the same medium-sized metropolitan city that the cancer participants were recruited from. Approximately 1,700 brochures were distributed to families of children between 7 and 12 years old, and 77 families expressed interest in participating. Potential families were excluded if they had a history of severe or chronic medical illness, pervasive developmental disorder, mental retardation, or a physical disability.

Twenty-two healthy controls (10 boys, 12 girls) between the ages 7 years 5 months and 12 years 9 months ( $M = 10$  years 3 months) and their mothers participated in this study. Most families identified themselves as European American (88%), with 4% identifying as Asian and 8% as biracial/multiracial. With the exception of two children, each child in the control group was matched with a survivors of cancer based on age, gender, and ethnicity. There were no significant differences found between the two groups on these demographic variables.

## **Procedures**

Mothers and children engaged in a conversation that took place during a home visit. Prior to the interaction, both mothers and children completed the Issues Checklist (Robin & Foster, 1989) that presented topics of disagreement that are commonly discussed in families, such as bedtime, homework, and fighting with siblings. Mothers and children were asked to rate how frequently these issues occurred and the degree to which each topic was emotionally charged. One mother-rated and one child-rated topic were subsequently chosen for their ten minute conversation. The interactions were videotaped and later coded by trained research assistants. During the visit, mothers also completed the Child Behavior Checklist as a measure of their child's psychosocial adjustment.

This study was approved by the institutional review boards at the two medical centers.

Informed consent was obtained from all parents in the study, and assent was obtained from all child participants.

## **Measures**

**Parenting behaviors.** Parent-child interactions were coded using the Parent and Child Coding System (PACCS: Katz, Heater, Walpole, & Cohen, 2007). The PACCS system is composed of 16 child behavior codes and 20 parent behavior codes. Research assistants were trained to use Mangold INTERACT, which is a software program used to code observational data in real time. Using INTERACT, coders watched the videotaped interactions in real time and coded behaviors on a second-by-second basis. All coders established PACCS reliability with a minimum of  $k = 0.60$ , and 96% of the tapes were coded with a  $k \geq 0.60$ .

For this study, we focused exclusively on parental directiveness. Directiveness was coded when mothers were directive in their problem solving efforts. Mothers who used directed problem solving made decisions for their child about the best solution to their problem using words like “will” and “need,” or they personally took on the responsibility of solving their child’s problem. In doing so, these mothers made little effort to involve their child in the problem solving process. Reliability for the directive parenting code was acceptable ( $\alpha = 0.92$ )

**Child internalizing behaviors.** To measure children’s problem behaviors, parents completed the Child Behavior Checklist, which is a 113-item index of child functioning (CBCL: Achenbach, 1983). The CBCL generates nine major subscales, including anxiety/depression, withdrawn/depressed, somatic complaints, social problems, thought problems, attention problems, rule breaking, aggressive behaviors, and total problems, and has well-established reliability and validity (Achenbach & Rescorla, 2004). Because directive parenting has been consistently associated with internalizing problems, T-scores on the anxiety/depression,

withdrawn/depressed subscales were used as measures of children's internalizing behavior problems.

## **Results**

### **Descriptive Statistics**

Descriptive statistics for key variables are presented in Table 1, and correlations among these variables are presented in Table 2. As expected, the two indices of children's internalizing problems, the Anxious/Depressed and Withdrawn/Depressed subscales, were significantly correlated. No correlations were found between the moderator (cancer survivorship) and the predictor (directive parenting behavior), or between the moderator and the Anxious/Depressed, Withdrawn/Depressed, and Total Internalizing Problems subscale T-scores of the CBCL.

### **Group Differences in Levels of Parental Directiveness**

To test for group differences in levels of directive parenting, we conducted an independent samples t-test. No significant differences were found in the use of parental directiveness between mothers in the cancer survivorship and control groups ( $t(45) = -0.73, p = 0.47$ ).

### **Moderating Effects of Cancer Survivorship**

Separate analyses were conducted examining whether cancer survivorship moderated the relation between mother's use of parental directiveness and each of the two measures of children's internalizing problems. As per Baron & Kenny's guidelines, the categorical moderator (survivor of cancer vs. healthy control) was dummy coded and the continuous predictor variable (percentage of time mothers used parental directiveness during the parent-child interaction) was centered.

Of the two moderation models, one achieved statistical significance. Cancer survivorship moderated the relation between directive parenting and children's withdrawal/depression (Table 3). This significant interaction was interpreted by plotting the simple regression lines for the group of survivors of cancer and the healthy control group, as shown in Figure 1 (Aiken & West, 1991). Values of  $\pm 1$  standard deviation were used to create high and low values for the predictor variable. Separate lines were plotted for each group, and the slopes of these lines were calculated. For mothers in the group of healthy control participants, greater use of parental directiveness was significantly associated with higher levels of children's withdrawal/depression,  $t(46) = 2.12, p = 0.04$ . Mother's use of parental directiveness was not significantly related to children's withdrawal/depression in the group of survivors of cancer,  $t(46) = -0.60, p = 0.56$ .

## Discussion

Research in child development has consistently demonstrated an association between parental directiveness and children's internalizing problems. To our knowledge, this study is the first to examine the relation between parental directiveness, which is one aspect of parental psychological control, and internalizing symptoms in a population of survivors of childhood cancer.

As expected, we did not find a significant difference between mothers of childhood survivors of cancer and healthy children in their use of parental directiveness. This is consistent with a study by Steele, Long, Reddy, Luhr, & Phipps (2003), which found that parental control behaviors remain stable following a child's cancer diagnosis during middle childhood. Given this study's cross-sectional design, we cannot determine whether survivor and control mothers differed on levels of parental directiveness while the survivor participants were undergoing treatment. Nevertheless, our results suggest that, at an average of 4.5 years post-diagnosis, mothers of ALL survivors and mothers of healthy control participants do not differ significantly on levels of directive parenting. Thus, parental directiveness predicted withdrawn/depressed behaviors differentially between the control and survivor groups, despite the absence of group differences in levels of directive parenting.

Partial support was found for the hypothesis that cancer survivorship moderates the relation between directive parenting and child internalizing behavior problems. Cancer survivorship significantly moderated the relation between directive parenting and children's depressed/withdrawn symptoms, but not the relation between directive parenting and children's anxious/depressed symptoms. Further examination of the pattern of results indicated that

directive parenting was significantly associated with increased withdrawn/depressed symptoms for children in the control group, but not for the survivors of acute lymphoblastic leukemia (ALL).

There are a couple of plausible explanations for our findings. First, it may be that parents' directiveness is delivered in a unique style when children are undergoing treatment. Darling and Steinberg (1993) argued that parenting practices should be examined in the context of stylistic aspects of parent-child relationships, as the style of delivery interacts with the actual parenting behaviors. For example, when children are undergoing cancer treatment, parents may convey directive statements with a warmer tone of voice or accompany their behaviors with physical contact. Once these parenting behavior patterns are established during the course of treatment, the same patterns are likely to be maintained after treatment and into survivorship. Further research is needed to examine the stylistic characteristics of parental directiveness used while children are undergoing cancer treatment.

Another possibility is that children may perceive parental directiveness as protective and comforting during a highly distressing, life-threatening experience. A number of studies have examined maternal and child illness uncertainty as predictors of child adjustment in samples of children with cancer and other medical illnesses (Neville, 1998; Page et al., 2012; Pai et al., 2007; Stewart, Mishel, Lynn, & Terhost, 2010). Illness uncertainty has been defined as a cognitive experience that involves ambiguity, unpredictability, complexity, and lack or inconsistency of information around illness or treatment (Mishel, 1990). In a study examining adolescents newly diagnosed with cancer, Neville (1998) found adolescents' illness uncertainty was significantly associated with increased psychological distress. The use of parental

directiveness may function to decrease children's illness uncertainty by providing them with a sense of certainty about anticipated procedures and treatment regimens.

Our study has several limitations. First, observational and questionnaire data were collected at a single time-point. Because survivors were only assessed after their treatment had ended, we do not have a measure of how mothers may have used parental directiveness before and during treatment. A longitudinal design is necessary to better understand the temporal order and directionality of the observed effects. Second, the small sample size limits the power of our analyses, and the absence of significant effects for the moderation models that included the Anxious/Withdrawn and Total Internalizing Problems subscales may be due to the small sample size. Finally, because the sample was limited to childhood survivors of acute lymphoblastic leukemia, there is a question about generalizability of results to other medically ill groups.

Despite these limitations, this study is the first observational examination of parenting behaviors in a population of survivors of childhood cancer. Further research is needed to examine how relations between other parenting behaviors that are well understood in populations of healthy children and child psychosocial adjustment may change over the course of treatment and into survivorship for medically ill children. Furthermore, additional research is needed to investigate how these relations and trajectories may differ as a function of children's developmental periods, cancer diagnoses, and family factors. Findings from these studies may help us to better understand and may ultimately inform efforts to help families with their parenting of children with cancer and chronic illnesses

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Table 1. Descriptive statistics for key variables

Variable	Survivors		Controls	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Parental Directiveness (% of time)	2.65	3.07	2.04	2.58
CBCL Anxious/Depressed	54.48	5.08	54.05	6.09
CBCL Withdrawn/Depressed	53.84	4.74	54.09	6.42

Table 2. Correlations between key variables

Variable	1	2	3	4
1. Parental Directiveness (% of time)	--	0.11	0.07	0.12
2. Cancer Survivorship		--	0.04	-0.02
3. CBCL Anxious/Depressed			--	0.56**
4. CBCL Withdrawn/Depressed				--

\*\*  $p < 0.01$

Table 3. Linear regression testing cancer survivorship as a moderator of the relation between parental directiveness and children's withdrawn/depressed symptoms

	$R^2$	$\Delta R^2$	$\Delta F$	B	$\beta$
Step 1	0.02		0.35		
Intercept				54.17	
Parental Directiveness				-0.40	0.12
Cancer Survivorship				0.24	-0.36
Step 2	0.10	0.09	4.14*		
Intercept				54.41	
Parental Directiveness				-0.50	0.50*
Cancer Survivorship				0.97	-0.05
DP x Survivorship				-1.19	-0.48*

\*  $p < 0.05$

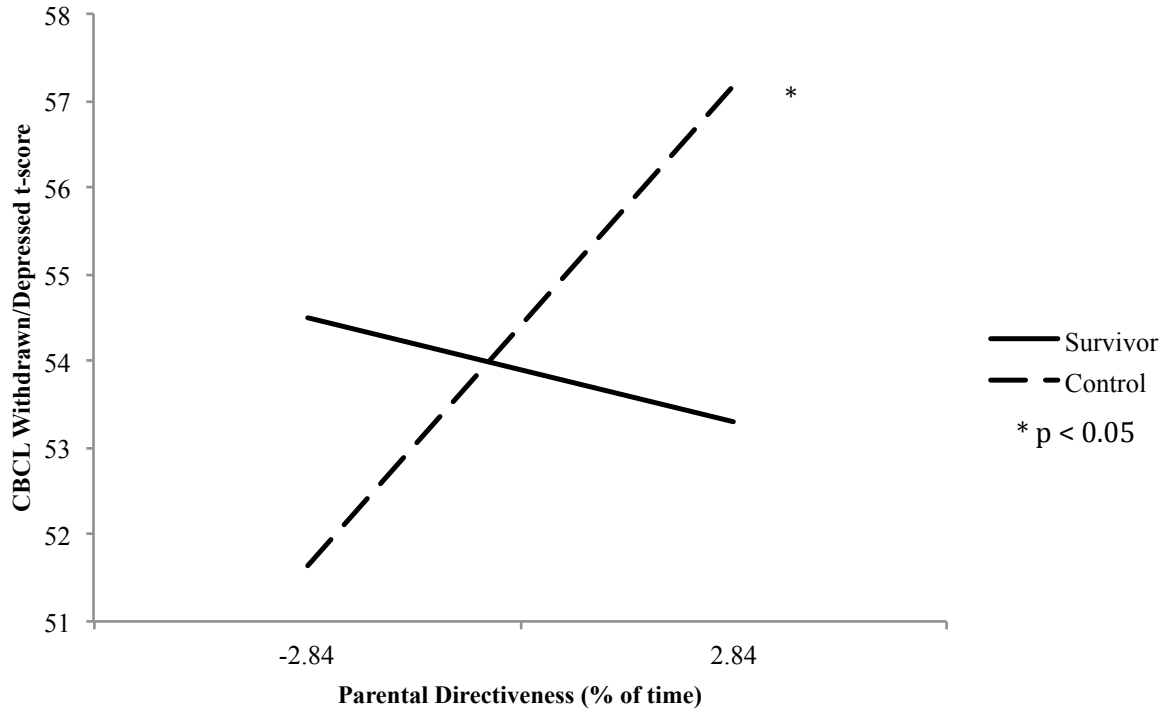


Figure 1. Significant interaction of mothers' use of parental directiveness and cancer survivorship in predicting children's withdrawn/depressed t-score.