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Original Research Article

Emotion Socialization in the Context of Childhood Cancer: Perceptions of Parental Support Promotes Posttraumatic Growth

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Abstract

Objective Examined youth's perceptions of parental reactions to youth's cancer and non-cancer event-related distress and the link between perceptions of parental reactions and youth posttraumatic growth (PTG). **Method** Participants included 201 youth (8–21 years) with a history of cancer. Participants self-identified their most stressful life event, which were characterized as cancer or non-cancer related, and then completed measures in reference to this event assessing (1) their perceptions of parent reactions to event-related distress and (2) PTG. **Results** Youth who identified a cancer-related event perceived their parents as reacting with more support and reassurance/distraction than those who identified a non-cancer event. Perceptions of parental support, reassurance/distraction, and magnification of youth distress were associated with more PTG, with event type (cancer vs. non-cancer) indirectly predicting PTG through perceptions of parental support. **Conclusion** Youth perceive their parents as reacting differently to cancer versus non-cancer distress, which is in turn predictive of their perceptions of growth. Findings suggest that parental support and reassurance/distraction are possible mechanisms facilitating resilience and growth in children with cancer.

Key words: cancer; emotion contingent reactions; emotion socialization; parenting; posttraumatic growth.

Despite treatment and illness-related stressors, children with cancer are generally resilient, displaying levels of posttraumatic stress (PTSS), anxiety, and depressive symptoms that are comparable with their healthy peers (Gerhardt et al., 2007; Howard Sharp, Rowe, Russell, Long, & Phipps, 2015). Children with cancer also frequently report a sense of positive change or perceived growth as a result of the cancer experience (Barakat, Alderfer, & Kazak, 2006; Currier, Hermes, & Phipps, 2009), also referred to as posttraumatic growth (PTG), with higher levels of growth endorsed by cancer patients as compared with their healthy peers (Phipps et al., 2014; Zebrack et al., 2012). However, little is known about factors that promote growth in youth with a cancer history, with even less known about the role of parents in promoting such growth. Identifying parenting behaviors that promote growth in this population could provide insight into how best to facilitate resilience and growth in youth who are at-risk for adjustment problems.

Youth's endorsement of PTG varies according to whether they are discussing their cancer experience or another stressful event. When referring to a cancer event, children are more likely to evidence a pattern of resilience and positive growth compared with children with a cancer history reporting on a non-cancer event (Phipps et al., 2014; Tillery, Howard Sharp, Okado, Long, & Phipps, 2016). In contrast, when referencing a non-cancer event, children with cancer endorse similar levels of PTG as typically developing children (Phipps et al., 2014). This research seems to suggest a uniqueness to the experience of cancer that appears to foster positive changes. However, the factors that make the childhood cancer experience unique have not been fully elucidated.

Childhood cancer is often characterized as a "family disease" with much attention paid to both youth and parent adjustment (Barakat et al., 2006). Thus, it is not surprising that young adults identified family support as a positive, integral aspect of the cancer experience (Phillips & Jones, 2014), with parents identified as providing the most prominent source of support (Trask et al., 2003). Furthermore, a supportive parent–child relationship is linked to improved psychosocial outcomes (Orbuch, Parry, Chesler, Fritz, & Repetto, 2005). Although parenting appears to be central to youth's adjustment to cancer, much of the literature has broadly focused on general family functioning (Alderfer, Navsaria, & Kazak, 2009), parenting stress (Wolfe-Christensen et al., 2010), and parental overprotection (Colletti et al., 2008), with specific parenting behaviors (e.g., support, coping assistance, and criticism/harshness) receiving relatively little attention. In this limited literature, maternal supportive, empathic statements were linked with lower adolescent PTSS following a diagnosis of cancer (Murphy et al., 2015), suggesting that parents' supportive reactions may facilitate resilience. Thus, our understanding of how specific parenting behaviors influence children's adjustment to cancer remains limited, with even less known about how parenting behaviors relate to psychological growth.

Parents influence youth's emotional functioning through emotion socialization behaviors such as emotion contingent reactions, which refers to the ways that parents react to their child's expression of emotion (Denham, Bassett, & Wyatt, 2007; Eisenberg, Cumberland, & Spinrad, 1998). Supportive emotion contingent reactions (i.e., support, reassurance/distraction) are those that encourage a child's appropriate expression of emotion and assist children in learning to regulate emotions (Eisenberg et al., 1998; O'Neal & Magai, 2005). In contrast, nonsupportive reactions (i.e., discouragement, magnification, neglect) discourage any expression of emotion and hinder emotion development by decreasing opportunities for learning emotion regulation strategies (Eisenberg et al., 1998; O'Neal & Magai, 2005). Given that these reactions influence youth's emotional functioning by shaping their emotion regulation and expression (Denham et al., 2007), parents' emotion contingent reactions may be one mechanism through which parents influence youth's adjustment by shaping their experience of cancer-related emotions. This may be particularly relevant for children with cancer who likely spend increased time with their parents. *Thus, parental emotion socialization behaviors may be key to understanding PTG that develops in relation to the cancer experience*.

Although emotion contingent reactions have primarily been studied within normative contexts, stressful or traumatic life events are hypothesized to tax parents' resources (social and financial), rendering them less capable of engaging in optimal emotion socialization (Shaffer et al., 2012). Specifically, parents experiencing a stressor have been found to display more nonsupportive reactions, fewer supportive reactions, and less emotional availability (Ellis, Alisic, Reiss, Dishion, & Fisher, 2014; Katz & Windecker-Nelson, 2006; Shaffer et al., 2012; Sturge-Apple, Davies, & Cummings, 2006). Moreover, experiencing high stress has also been found to accentuate the effect of emotion contingent reactions (Abaied & Rudolph, 2010), such that youth are more strongly influenced by such reactions under conditions of stress. Given that many parents display elevated distress following their child's cancer diagnosis (Pai et al., 2007), it may be that parents of children with cancer are less able to respond supportively to their child's cancer-related distress. Alternatively, given that youth describe family support as an integral aspect of the cancer experience (Phillips & Jones, 2014), perhaps pediatric cancer is instead experienced as a shared stressor that is faced together as a family.

Parents' reactions to youths' distress, have not yet been studied in relation to the development of PTG. However, parent's positive reframing coping advice after youth have been exposed to trauma has been positively associated with youth's PTG (Kilmer & Gil-Rivas, 2010). This suggests that parents' supportive reactions to the cancer experience may be a process facilitating growth for children with cancer. Given the prevalence of PTG in youth with cancer and the importance of parental reactions in helping children to manage emotions, we sought to further explore PTG in the context of youth's perceptions of their parent's reactions to distress related to a stressful event.

Youth-report was examined given that (a) youth perceptions are expected to more closely relate to how youth experience their parents' involvement during distress, (b) youth's report is less likely to be

influenced by social desirability (Sanders, Zeman, Poon, & Miller, 2015), and (c) parent-report measures may not accurately assess how parents are responding (Fivush, 1998). Though all youth had a history of cancer, they were allowed to spontaneously identify what they considered their most stressful or traumatic event, with all measures completed in reference to this event. In light of prior findings that youth with cancer demonstrate greater growth when referencing a cancer event (Phipps et al., 2014; Tillery et al., 2016) and that supportive parent–child relationships are associated with improved psychosocial outcomes (Orbuch et al., 2005), we hypothesized that youth who discussed cancer-related events would perceive more parental supportive reactions. We then examined the relation between youth's perception of parental reactions and youth PTG, as well as the possibility that perceptions of parental reactions were a possible mechanism mediating the association between type of event (cancer vs. non-cancer) and PTG. Specifically, it was hypothesized that (1) perceived supportive reactions would be associated with increased PTG and (2) the effect of event type on PTG would be mediated by perception of supportive reactions. In other words, it was expected that youth reporting about their cancer experience would endorse more PTG indirectly through their increased perception of parent support of their distress.

Method

Procedure

Data for the present study were part of a larger longitudinal study examining growth, stress, and adjustment responses in youth with a history of cancer. Patients were recruited from outpatient clinics at a children's oncology hospital. At baseline, eligibility criteria included (a) a primary diagnosis of malignancy; (b) at least 1 month from diagnosis; (c) able to read and speak English; and (d) no significant cognitive or sensory deficits that would impede completion of measures. Patients were recruited in four strata based on time from diagnosis: 1–6 months; 6–24 months; 2–5 years; > 5 years. Of those approached, 72% of families agreed to participate. Patients who agreed to participate at baseline did not differ from those who declined with regard to age, gender, race/ethnicity, or diagnostic category.

Data for this project were collected at time point three of the larger study, approximately 36 months after initial recruitment. With regard to attrition, 20 youth were lost to death (7.8%), 6 families (2.3%) were lost to follow-up, and 6 families declined to participate at time point three (2.3%), yielding an overall attrition rate of 12.5%. Patients completed the emotion socialization measure in reference to the caregiver (primarily mothers) who participated in the study with them. Patients who resided with alternative caregivers (e.g., grandparent, step-parent, aunt, uncle; 3.8%) were excluded from analyses.

This study was approved by the institutional review board and informed consent/assent was obtained, with written consent from parents and youth > 18 years, and assent from youth < 18 years. Questionnaires were completed during a regularly scheduled hospital visit. Participants were provided with a small monetary compensation for their time ($25 each parent and child).

Participants

Participants were 201 patients with cancer, ages 8–21 years. Youth were an average of 15.2 years of age and 7.1 years from diagnosis. The majority of youth were diagnosed with leukemia (33.3%) or a solid tumor (40.8%) and off-treatment at this time point (97.0%). Demographic and diagnostic information for participants is presented in Table I separately for those who self-identified a cancer versus a non-cancer most stressful life event. Between group analyses (Table I), comparing characteristics of youth who self-identified a cancer versus non-cancer most stressful life event, revealed significant differences in years since diagnosis and cancer treatment severity (using the Intensity of Treatment Rating Scale 2.0; Werba et al., 2007). Youth with longer elapsed time since diagnosis and with "moderate" treatment severity were more likely to identify a non-cancer event, with youth who experienced more intense treatment more likely to identify a cancer-related event. There were no significant differences in patient age, gender, race, socioeconomic status, cancer type, relapse, or parent participant (mother vs. father).

Measures

For both measures, participants were asked to respond in reference to their most stressful or traumatic life event. Participants were instructed to think about their entire life and identify one event from any point in their life that they perceived as most stressful or traumatic. Participants were not oriented to cancer in anyway, but rather allowed to spontaneously choose their own event. Events were identified in the form of a short, written description, ranging from one word to several sentences. Research assistants coded whether each event was a cancer-related or non-cancer-related event during the study visit. Chosen events were evenly split between cancer-related (n = 100, 49.8%) and non-cancer related (n = 101, 50.2%) events. Some of these were traumatic in nature and potentially would meet DSM-5 criteria (e.g., sexual assault, natural disaster, car accident); others were more normative (e.g., parental divorce, performing poorly on a test at

Table I. *Demographic Information for All Children*

Variable	Percent/*M* (*SD*)		Comparisons
	Cancer event ($n = 100$)	Non-cancer event ($n = 101$)	
Age (years)			$t(199) = -0.38$, $p = .70$
Mean (*SD*)	15.32 (3.18)	15.14 (3.50)	
Range	8–21	8–21	
Gender			$\chi^2(1) < 0.01$, $p = .94$
Male	50.0	50.5	
Race			$\chi^2(1) = 0.28$, $p = .59$[a]
Caucasian	74.0	77.2	
African American	19.0	21.8	
Hispanic	3.0	0	
Asian	1.0	1.0	
Multiple race	2.0	0	
SES[b]			$\chi^2(4) = 8.69$, $p = .07$
Group I	19.0	6.9	
Group II	17.0	15.8	
Group III	25.0	36.6	
Group IV	24.0	28.7	
Group V	15.0	11.9	
Parent child reporting on			$\chi^2(1) = 0.67$, $p = .41$
Mother (vs. father)	87.0	82.2	
Diagnostic category			$\chi^2(4) = 4.88$, $p = .30$
Acute lymphoblastic leukemia	21.0	33.7	
Acute myeloid leukemia	7.0	5.0	
Hodgkin's and non-Hodgkin's lymphoma	13.0	13.9	
Solid tumor	44.0	37.6	
Brain tumor	15.0	9.9	
Years since diagnosis at Time 3			$t(199) = 4.11$, $p < .001$
Mean (*SD*)	5.91 (3.26)	8.27 (4.72)	
Range	2.90–17.78	2.85–19.92	
Intensity rating of treatment[c]			$\chi^2(3) = 9.60$, $p = .02$
Least intensive	3.3	6.2	
Moderately intensive	30.4	49.5	
Very intensive	34.8	20.6	
Most intensive	31.5	23.7	
On-treatment	4.0	2.0	–
Relapsed	18.0	13.9	$\chi2(1) = 0.64$, $p = .42$

Note. *SES* = socioeconomic status.
[a]Race compared as dichotomous, majority, and minority.
[b]SES groups are ordered highest to lowest, with Group I reflecting higher SES strata and Group V indicating lower SES strata (Barratt, 2006).
[c]Calculated according to Werba et al., 2007.

school). Both measures were completed in reference to this same event.

Parental Reactions

The child report version of the "Emotions as a Child Scales-II" (Magai & O'Neal, 1997) was modified to assess youth's perception of how their parent typically reacted to the distress they experienced as a result of their most stressful life event. Youth were instructed to rate how frequently their participating caregiver reacted in each of the 15 ways using a 5-point Likert scale (1 = *Never* to 5 = *Very Often*). A confirmatory factor analysis partially confirmed the original factor structure and supported the presence of four factors (excluding a separate Neglect subscale, Magai & O'Neal, 1997), χ^2 [71, $N = 201$] = 145.54; $p < .001$; Confirmatory Fit Index = 0.93; Root Mean Square Error of Approximation = 0.07, 95% Confidence Interval [0.05, 0.09]; Standardized Root Mean Square Residual (SRMR) = 0.07: *Support* (youth's perception that their parent assisted them or validated their expression of distress, e.g., "When I was upset by the event, my parent comforted me"; $\alpha = .85$); *Reassurance/Distraction* (youth's perception that their parent diminished their distress with distraction or reassurance, e.g., "When I was upset by the event, my parent told me not to worry"; $\alpha = .65$); *Discouragement* (youth's perception that their parent discouraged their expression of distress, e.g., "When I was upset by the event, my parent

Table II. *Means, Standard Deviations, and MANCOVA/ANCOVAs Comparing Cancer Versus Non-Cancer Events Across All Variables*

Effect	*M* (*SD*)			
	Cancer event $n = 100$	Non-cancer event $n = 101$	F	η
MANCOVA between-subject effects				
1. Support	4.05 (0.80)	3.47 (1.19)	16.27***	.08
2. Reassurance/distraction	3.37 (0.87)	2.59 (0.93)	26.60***	.13
3. Magnification	2.56 (1.20)	2.39 (1.21)	0.66	<.01
4. Discouragement	1.22 (0.44)	1.33 (0.66)	3.60	.02
ANCOVA between-subject effects				
5. PTG	34.77 (10.10)	25.47 (9.79)	37.53***	.17

Note. *PTG* = posttraumatic growth. Cancer treatment intensity rating and years since diagnosis were included as covariates in all analyses. $N = 201$.
***$p < .001$.

let me know he/she did not approve of my being upset"; $\alpha = .60$); and *Magnification* (youth's perception that their parent expressed similar, possibly more intense distress, e.g., "When I was upset by the event, my parent got upset too"; $\alpha = .81$).

Posttraumatic Growth

The Benefit Finding subscale of the "Benefit/Burden Scale for Children" (Currier, Hermes, & Phipps, 2009) was used to assess PTG. This subscale consists of 10 items regarding children's perceptions of personal growth obtained from most stressful life event. Items are rated on a 5-point Likert scale (1 = *Not at all* to 5 = *Very Much*). The Benefit Finding subscale has demonstrated strong reliability ($\alpha = .85$) and validity across ages 8–18 years (Currier et al., 2009), with a Cronbach's alpha of .90 in the current study.

Statistical Analysis

Data were analyzed using multivariate analysis of covariance (MANCOVA) and analysis of covariance (ANCOVA) to examine whether youth perceptions of parent reactions and PTG significantly differed across cancer versus non-cancer stressful life events. Pearson correlations were calculated between perceptions of parent reactions and PTG. Lastly, a parallel multiple mediator model was conducted to examine the direct and indirect effects of event type on youth's PTG through perceptions of parental reactions to youth's event-related distress. Perceived parent reactions were included as mediators if they (1) significantly differed across event type and (2) were significantly associated with PTG. This model was evaluated using a PROCESS macro developed by Hayes (2013) for SPSS, which uses ordinary least squares path analysis, and 10,000 bias-corrected bootstrap confidence intervals (95%). Given group differences in the intensity of cancer treatment and time since diagnosis, these variables were included as covariates in all analyses.

Results

Preliminary Analyses

Means and standard deviations for all variables are presented separately in Table II for patients who reported regarding a cancer ($n = 100$, 49.8%) versus non-cancer ($n = 101$, 50.2%) stressful life event. Mean scores demonstrate that participants are perceiving their caregivers as primarily reacting with support. On average, youth are reporting low levels of discouragement and moderate levels of magnification reassurance/distraction. Mean scores of perceived support and magnification are comparable with prior research examining emotion socialization in a normative context (Buckholdt, Parra, Jobe-Shields, 2009, 2010). Of note, youth's report of the four parent reactions did not significantly differ when reporting about mothers versus fathers, $F(4, 193) = 1.87$, $p = .12$; Wilks' Lambda = .96; partial eta squared = .04.

Cancer Versus Non-Cancer Event Differences in Reactions and Adjustment

Parent Reactions

There was a significant overall effect of event type on perception of parent reactions, $F(4, 193) = 7.21$, $p < .001$; Wilks' Lambda = .86; partial eta squared = .14, with significant effects in predicting perceptions of support and reassurance/distraction (see Table II for between-subjects effects). Specifically, youth reporting about a cancer event perceived their parent as being more supportive and using more reassurance/distraction reactions than youth reporting about a non-cancer event. No significant differences in magnification or discouragement emerged. Years since diagnosis and intensity rating of treatment did not significantly predict perceptions of parents' reactions.

Growth

Participants who self-identified their cancer as their most stressful life event endorsed significantly higher

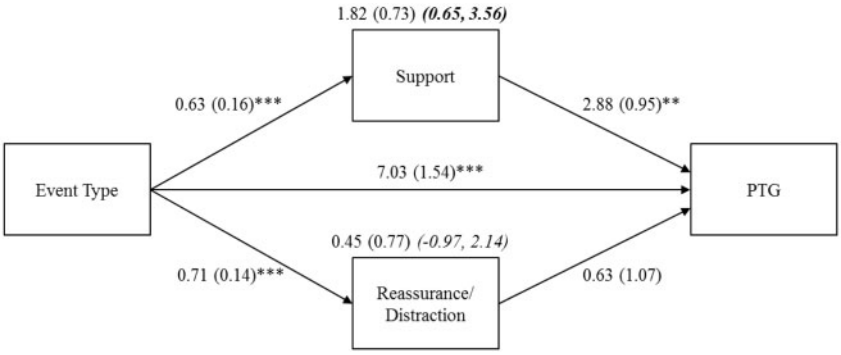

Figure 1. Path analysis model using a multiple mediator ordinary least squares regression analysis, predicting PTG from event type through its effect on perceptions of parents' reactions. Unstandardized coefficients and standard errors are presented, with indirect effects and their confidence intervals (italicized) presented above the respective mediators. Significant indirect effects are bolded. PTG = posttraumatic growth. Cancer treatment intensity rating and years since diagnosis were included as covariates. $^{**}p < .01$, $^{***}p < .001$.

PTG (see Table II). Years since diagnosis and intensity rating of treatment did not significantly predict PTG.

Relation Between Perceptions of Parent Reactions and Youth's Growth

Youth PTG was significantly correlated with perception of support ($r = .41$, $p < .001$), reassurance/distraction ($r = .37$, $p < .001$), and magnification ($r = .26$, $p < .001$), but not perceptions of discouragement ($r = .04$, $p = .57$). A mediation analysis was conducted using multiple mediators (support and reassurance/distraction) and ordinary least squares path analysis (Figure 1). The model significantly predicted PTG, $R^2 = .29$, $F(5, 195) = 15.06$, $p < .001$, with event type significantly predicting both support, $R^2 = .09$, $F(3, 197) = 5.85$, $p < .001$, and reassurance/distraction, $R^2 = .17$, $F(3, 197) = 12.39$, $p < .001$. Event type indirectly related to PTG through its effect on youth perceptions of parental support, as evidenced by a bias-corrected bootstrap confidence interval that was entirely above zero (0.69, 3.64). Event type also influenced PTG independent of its effect on perceived parental support, indicating a significant direct effect on PTG. Event type did not relate to PTG through its effect on perceptions of parental reassurance/distraction as evidenced by a confidence interval that included zero (−0.94, 2.08; see Figure 1 for all coefficients and indirect effects). Years since diagnosis and intensity rating of treatment did not significantly predict either reactions or PTG (all $p > .06$); thus, these variables and their respective paths are not shown in Figure 1.

Discussion

Youth with a history of cancer frequently exhibit patterns of resilience and growth (Phipps et al., 2014; Tillery et al., 2016), particularly when reporting about cancer-related adjustment. However, little is known about factors that promote PTG in this population. The present study examined youth perceptions of parental reactions to youth's distress in reference to cancer-related versus non-cancer-related events. These perceived reactions were in turn linked to youth's PTG resulting from the event. Event-type (cancer vs. non-cancer) indirectly influenced PTG through its effect on youth perceptions of parental support in reaction to youth's event-related distress. Findings extend prior research indicating that supportive families (Phillips & Jones, 2014) and positive family functioning (Alderfer et al., 2009) are associated with better youth adjustment by identifying specific emotion-related parenting behaviors—namely support, reassurance/distraction, and magnification—that appear to relate to youth's PTG.

Youth perceived primarily supportive parent reactions (support and reassurance/distraction), with low levels of perceived discouragement compared with prior research examining emotion contingent reactions in more normative contexts (Buckholdt et al., 2009, 2010). This supports the resilience of families experiencing childhood cancer by suggesting that caregivers are not displaying deficits in their emotion-related parenting behaviors. Youth identifying a cancer event also perceived more support and reassurance/distraction from their parents than youth experiencing a non-cancer event, suggesting that parents are reacting in an event-specific manner. These results run counter to prior findings suggesting that parents displayed high levels of nonsupportive reactions and low levels of supportive reactions in the context of stressful life events (Ellis et al., 2014; Katz & Windecker-Nelson, 2006; Shaffer et al., 2012; Sturge-Apple et al., 2006). In contrast with stressors that might isolate caregivers and decrease their emotional resources (e.g., intimate partner violence, marital

conflict), pediatric cancer may instead result in increased social and emotional support from outside sources and/or the banding together of parents and children to fight the disease as a team. As such, it may be a shared stressor that is experienced as a family, with parents perhaps perceiving their child's distress as their own or experiencing greater empathy for their child's distress. In this way, childhood cancer may be a qualitatively different type of stressor that does not tax caregivers' emotional resources in the same way as stressors that might be experienced by parents directly (e.g., intimate partner violence, marital conflict). It may also be that cancer-related distress elicits more support and reassurance/distraction because it is perceived as a more upsetting stressor. Alternatively, caregivers may not want to encourage the expression of distress in the context of some non-cancer events (e.g., distress about standardized testing at school) and may respond in alternate ways that may be perceived as less supportive.

Consistent with prior research, youth identifying a cancer-related event reported greater PTG than those discussing a non-cancer event. As predicted, more perceived support and reassurance/distraction were also significantly associated with PTG. Interestingly, only support emerged as mediating the link between event type and PTG, suggesting that although reassurance/distraction might relate to PTG, reassurance/distraction does not appear to be the mechanism explaining growth in children reporting about cancer. This is consistent with the perspective that growth emerges primarily from confronting and struggling with a problem rather than distracting oneself from it (Tedeschi & Calhoun, 2008). The present results appear to help explain the higher level of PTG for cancer-related versus non-cancer events (Phipps et al., 2014), as well as for those with versus without a cancer history (Zebrack et al., 2012). Cancer-related distress may be eliciting more of the type of caregiver reactions, particularly support, that in turn facilitate a child's ability to derive a perceived sense of benefit from stressful or traumatic life events. Perceptions of supportive parent reactions may facilitate youth's psychological growth by modeling or teaching coping strategies or by shaping youth's coping cognitions, such as when caregivers encourage children to positively reframe stressful or challenging experiences (Kilmer & Gil-Rivas, 2010). This in turn may promote the process of meaning making.

These findings point to caregivers' supportive reactions to youth's distress as one avenue for promoting resilience and growth that could be applied in clinical practice. For example, parents could be taught how to increase support in response to their child's distress from stressful life events. This may be a more feasible target for intervention than broader constructs such as family cohesiveness or positive family functioning. Indeed, emotion coaching interventions have been developed in other contexts and found to be effective in improving children's emotional functioning and overall psychosocial functioning (Shortt, Eddy, Sheeber, & Davis, 2014). Similar emotion coaching interventions may be feasible and valuable for the pediatric oncology population.

The positive association between youth perceptions of parental magnification and PTG was surprising. Although magnification is typically viewed as a non-supportive or unhelpful emotional reaction (Denham et al., 2007; O'Neal & Magai, 2005), it may play a different role in this context. For example, it may be that magnification provides youth with the opportunity to focus on their experience in a way that facilitates meaning making, and in turn PTG. This may be particularly relevant in the context of childhood cancer, where magnification may instead be perceived as the parent joining with their child to cope with the stressor together as a family. Importantly, however, no differences emerged in perceived frequency of magnification as a function of whether it was in response to a cancer-related stressor. Further research is needed to clarify the complexities of magnification in this context.

Although youth self-identifying a cancer versus non-cancer event differed according to years since diagnosis and intensity of cancer treatment, these variables did not significantly relate to perceptions of parental reactions or growth. Moreover, perceived parental reactions to youth distress significantly related to youth PTG even when controlling for characteristics of the cancer experience. This suggests that characteristics of the cancer experience may influence how salient cancer is for youth despite not impacting youth's perception of parenting behaviors or self-reported growth following cancer. Furthermore, a significant relation between perceived parenting behavior and PTG when controlling for aspects of the cancer experience suggests that elevations in PTG in this population are more likely owing to variability in parents' emotion socialization behavior rather than qualities of the cancer experience (e.g., more/less treatment intensity).

The present findings should be interpreted within the context of some limitations, including the single-reporter, retrospective, cross-sectional, and correlational nature of the design. Specifically, this design limits our ability to make causal or directional inferences. Given that little is known about factors influencing the development of PTG in this population, it would be valuable to look longitudinally at this phenomenon to tease apart the direction of effects between perceived parent reactions and youth PTG. Given the retrospective nature of this study, it is also

difficult to identify when non-cancer-related events occurred relative to the cancer-related events and thus to rule out a recency effect. There may also be other ways that the youth identifying cancer and their families vary from those identifying a non-cancer event. For example, youth with reactive caregivers may both be more likely to receive support for expressed distress, and be more likely to perceive cancer as a stressful event as opposed to a challenge to be overcome. Future research should examine caregivers' reactions to both cancer and non-cancer events using a within-person design to better tease apart person versus event factors. These findings are also limited in that perceptions of only one parent were assessed, without accounting for how other caregivers are contributing to youth's coping. However, the inclusion of fathers, and the lack of differences found in perceived reactions from mothers versus fathers, is a strength of this study. Future research should expand on these findings by including all primary caregivers and examining youth's broader profiles of parental reactions.

In summary, our findings suggest that youth's perception of greater parental support in reaction to their cancer-related distress may account for their increased report of psychological growth. Youth appear to benefit when parents respond to expressed distress with supportive reactions, validating and acknowledging youth's emotions; assisting youth with managing their emotions; and providing coping advice, reassurance, and distraction. Families at risk may thus benefit from brief interventions that target parents' emotion coaching behaviors, such as through encouragement and modeling for caregivers' supportive ways of reacting to youth's distress.

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