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Parent Pain Catastrophizing Predicts Child Depressive Symptoms in Youth with Sickle Cell Disease

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Abstract

Background—Youth with sickle cell disease (SCD) are at risk for recurrent pain and depressive symptoms, both of which contribute to poorer health outcomes. Furthermore, youth and family coping with child pain, including pain catastrophizing, is known to be associated with poorer psychosocial adjustment and greater functional disability among youth with SCD. In particular, child catastrophizing about pain and parent catastrophizing about their child's pain have been linked to increased pain and depressive symptoms in youth with chronic pain conditions. Despite this, the impact of child and parent pain catastrophizing on depressive symptoms remains unexplored in pediatric SCD.

Procedure—The current study evaluated the predictive value of child and parent pain catastrophizing on child depressive symptoms in a sample of 100 youth with SCD. Differences in child and parent pain catastrophizing across youth with and without clinically-elevated depressive symptoms were also examined.

Results—Pain frequency and parent and child pain catastrophizing accounted for 35.9% of variance in child depressive symptoms, with only pain frequency and parent pain catastrophizing emerging as unique predictors of clinically-elevated depressive symptoms. Additionally, parents of youth with clinically-elevated depressive symptoms showed increased helplessness relative to parents of youth with minimal to mild depressive symptoms.

Conclusions—Findings support the value of depression screening and interventions to promote parent self-efficacy in managing childhood SCD pain.

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Conflict of Interest Statement

The authors have no conflicts of interest to disclose.

Keywords

pediatric hematology; sickle cell disease; pain; depression; pain catastrophizing

Introduction

Pediatric sickle cell disease (SCD) is a hematologic disorder in which pain presents as the cardinal symptom, and is associated with impaired health-related quality of life (HRQOL) and greater depressive symptoms.[1,2] Overall, children with SCD exhibit poorer psychosocial functioning than healthy controls, with approximately 26% demonstrating clinically-elevated depressive symptoms.[3] Among youth with SCD, negative mood and depressive symptoms have been closely linked to poorer HRQOL,[4,5] decreased school and social engagement, and increased risk for pain exacerbation, disease complications, and healthcare utilization.[6,7] Consistent with other pediatric pain conditions, youth with SCD who experience more frequent pain exhibit greater depressive symptoms, pain interference with daily activities, and functional impairment across domains.[1,8,9,10,11] Given this link between child pain frequency and depressive symptoms, it remains important to clarify how these factors may interact and contribute to poorer health and functioning in youth with SCD.

Consistent with a risk-resilience-adaptation model,[12] negative thinking helps explain the relationship between child pain intensity and depressive symptoms in SCD.[8] Existing literature highlights the powerful role of cognitive pain processing on the overall pain experience.[13] Among children with a variety of chronic painful conditions, pain catastrophizing (i.e., negative or exaggerated thinking about pain) is a key predictor of pain chronicity and functional disability.[14,15] Moreover, pain catastrophizing has been associated with enhanced pain perception and intensity,[15,16,17] greater functional impairment,[15,16,17,20] increased healthcare utilization,[18] and heightened reports of emotional distress[18,19] and depressive symptoms[8,17,20] among youth with chronic pain including SCD. In particular, youth with frequent or chronic SCD pain report higher levels of pain catastrophizing, depressive symptoms, and functional impairment than patients without recurrent pain.[1] Although it is clear that pain frequency is one factor that contributes to pain catastrophizing and depression in pediatric SCD, parents' mental health and coping with their child's disease can also exacerbate child SCD pain and emotional problems.[2,13,18]

Parent catastrophizing about their child's pain has been associated with passive coping among youth,[27] increased child-reported pain and catastrophic thinking,[28] functional limitations,[2,27,29] school avoidance,[30] and depressive symptoms.[29] Consistent with findings from other pediatric pain populations,[29] emerging evidence also suggests that this complex interaction between parent and child pain catastrophizing is an important predictor of child functioning with recurrent SCD pain.[2] Among youth with recurrent SCD pain, higher levels of parent catastrophizing and incongruence between child and parent pain catastrophizing have been linked to poorer functional outcomes.[2] Although this link between pain catastrophizing and functional limitations has been widely supported,[2,20,27,29] no research to date has explored the impact of parent and child pain catastrophizing on child depressive symptoms in pediatric SCD.

Even among families without chronic health conditions, children of parents with depression or anxiety are at increased risk for internalizing symptoms, including elevated rates of depression.[21,22,23,24] In addition to underlying genetics that may predispose children to develop depression, parents' expressed negative affect and behavior along with adverse environmental events and parent-child interactions can further contribute to child risk for clinical depression.[25] Although child pain may partially contribute to depressive symptoms in youth with SCD, underlying family characteristics, such as parent anxiety or coping with child pain, may also increase youth's risk and susceptibility to clinically-elevated depressive symptoms. Given the common comorbid presentation of pediatric SCD, chronic pain, and depressed mood,[1,9] it remains important to clarify the extent to which child and parent patterns of catastrophic thinking may differentially contribute to depressive symptoms.

The current study evaluated the predictive value of child and parent pain catastrophizing on depressive symptoms in youth with SCD. The primary aim of the study examined the impact of child and parent pain catastrophizing on child depressive symptoms. Given the effect of modifiable, cognitive and behavioral processes on depressive symptomatology, it was hypothesized that both child and parent pain catastrophizing would significantly predict youth depressive symptoms.[1,8,17,20,29] Additionally, it was expected that children with clinically-elevated depressive symptoms and their parents would report higher levels of pain catastrophizing than youth without clinically-elevated depressive symptoms and their parents.[1,2,8,13,17,20,29]

Methods

Recruitment

A convenience sample of 100 youth with SCD (aged 8 to 18 years) and their parents was recruited from an urban pediatric medical center during comprehensive sickle cell clinic visits. Participants were recruited across 3 campus locations of a southeastern children's hospital between March 2014 and March 2015. Youth with a confirmed medical diagnosis of SCD were eligible for the study; however, non-English speaking families and/or youth or parents with significant, cognitive or developmental disabilities (e.g., overt stroke history, severe cognitive impairment) based on documentation in the medical chart or by parent or physician report were excluded from participation. Recruitment targeted youth with SCD who had experienced any disease-related pain over the past 30 days. Furthermore, a subset of pain-free patients with SCD (i.e., reporting no disease-related pain over the past 30 days) was also recruited in order to capture the full range of pain frequency.

Study coordinators reviewed clinic appointment lists and collaborated with the hematologists and/or nurse practitioners to identify potentially eligible patients. If patients and families expressed interest once introduced to the study, coordinators further assessed patient eligibility and explained the study in greater detail for enrollment. Youth and parents completed paper surveys or electronic questionnaires, based on their reported preference. All study procedures received official institutional review board (IRB) approval. Participants were compensated for participation.

Measures

Children's Depression Inventory-2 (CDI-2; Self-Report)[31]—The CDI-2 is a well-established, 24-item self-report measure of youth depressive symptoms. Consistent with CDI-2 guidelines,[5] a cutoff score of 14 or greater on the CDI-2 indicates clinically-elevated depressive symptoms (score range: 0–52), with scores ranging in severity from none/minimal (<10), mild (10–19), moderate (20–28), or severe (>28). The CDI-2 has strong psychometric properties and is frequently used in pediatric disease populations, including youth with SCD and chronic pain.[8,19] Internal reliability for the current sample was 0.85.

Pain Catastrophizing Scale, Child-Report (PCS-C), Parent Report (PCS-P)[17,28]—The PCS is a 13-item, Likert-scale questionnaire that measures child and parent beliefs and perceptions of child pain (e.g., "*When I am in pain, there is nothing I can do to stop the pain*" or "*When I am in pain, I worry all the time about whether the pain will end*"). Items are rated on a 5-point Likert scale (0 = not at all to 4 = extremely) and grouped into the three subscales, including Rumination (4 items; range: 0–16), Magnification (3 items; range: 0–12), and Helplessness (6 items; range: 0–24). Items are summed to obtain the subscale and total score values, with higher scores indicating greater levels of pain catastrophizing (total range: 0–52). The PCS-C and PCS-P have been used frequently in pediatric chronic pain research and well validated in samples of youth with chronic pain and their parents.[17,20,28] Internal reliabilities for the current sample were .92 for the PCS-C and .90 for the PCS-P.

Pain Characteristics—Youth reported on their pain frequency (i.e., number of pain days within the past month), pain duration (i.e., how long they had experienced pain at this level of frequency), and average pain intensity over the past two weeks (i.e., using a numeric rating scale with "0" indicating no pain and "10" representing the worst possible pain). Informed by diagnostic guidelines for chronic SCD pain,[9] participants were classified into the following groups based on reported pain frequency and duration: (1) chronic pain (≥ 3 pain days per week in the past month, for ≥3 months), (2) episodic pain (< 3 pain days per week in the past month), or (3) no pain in the past month. See Sil et al. 2016 and Dampier et al. 2017 for additional details.[1, 9]

Demographic and Disease Characteristics—Demographic characteristics (e.g., gender, race/ethnicity, age) were collected via parent report on a demographics form, while disease/medical characteristics (e.g., SCD genotype) were obtained via retrospective chart review.

Statistical Analyses

All statistical analyses were performed using SPSS, Version 24. There was no missing data for the primary predictor or outcome variables. Descriptive statistics were used to determine whether the data met the underlying assumptions of the proposed analytic procedures (e.g., normality, multicollinearity) and describe demographic, psychosocial, and medical characteristics of the sample (i.e., child or parent age, gender, SCD type, family income). Additionally, Pearson's correlations and analysis of variance (ANOVAs) explored potential covariates of the primary outcome variable. Hierarchical linear regression explored the relative contribution of child and parent pain catastrophizing on child depressive symptoms

while controlling for pain frequency. The sample was divided into two groups–youth with clinically-elevated depressive symptoms (CDI-2 ≥ 14) and those without elevated depressive symptoms (CDI-2 < 14)–for analyses of covariance (ANCOVAs) to explore between group differences on parent and child pain catastrophizing while controlling for pain frequency. Follow-up multivariate analyses of covariance (MANCOVAs) were used to examine between-group differences across parent and child pain catastrophizing subscales (Rumination, Magnification, Helplessness) when adjusting for pain frequency.

Results

Sample Characteristics

The sample was generally representative of the pediatric sickle cell population.[32] Of youth and parents approached for enrollment, only 3 children were deemed ineligible due to significant cognitive impairment that would have interfered with survey completion and 7 declined to participate. Participants were primarily African-American (96%; $n = 94$) and female (60%; $n = 60$), and presented with the HbSS genotype (76%; $n = 76$) and mean age of 13.5 years ($SD = 2.7$); see Table 1 for further demographic and medical characteristics of the sample. Pearson's correlations and analyses of variance (ANOVAs) found no relationship between child depressive symptoms and demographic or disease characteristics (i.e., child or parent age, gender, SCD type, family income). Additionally, there were no differences in parent pain catastrophizing based on family reporter type (i.e., mother versus father, or other family rater). There were significant, positive relationships between child depressive symptoms, parent catastrophizing about pain, and child pain catastrophizing. See Table 2 for intercorrelations between primary outcome variables. While a significant, positive correlation emerged between child depressive symptoms and average pain intensity ($r = .435$, $p < .001$), this relationship was not significant after controlling for pain frequency ($r = .173$, $p = .087$). Therefore, pain frequency was maintained as the primary covariate.

Catastrophizing as Predictors of Child Depressive Symptoms

Hierarchical linear regression tested the relative contribution of child and parent pain catastrophizing on child depressive symptoms when adjusting for pain frequency. The overall model (i.e., pain frequency, child and parent pain catastrophizing) accounted for 35.9% of the variance in child depressive symptoms, $F(3, 96) = 17.94$, $p < .001$. After controlling for pain frequency ($R^2 = .252$), child and parent pain catastrophizing accounted for 10.7% of variance in child depressive symptoms, $F\Delta (2, 96) = 8.04$, $p < .01$. Only pain frequency ($\beta = .399$, $p < .001$) and parent pain catastrophizing ($\beta = .238$, $p < .05$) were unique predictors of depressive symptoms. See Table 3 for a full summary of hierarchical regression analyses.

Differences in Pain Catastrophizing across Child Depressive Groups

The sample was divided into groups of youth with clinically-elevated depressive symptoms (CDI-2 ≥ 14) and those without elevated depressive symptoms (CDI-2 < 14), revealing that 27% of youth reported clinically-elevated symptoms of depression. Of youth presenting with clinically-elevated depressed symptoms, pain was classified as either chronic (63%) or episodic (37%) in frequency. ANCOVA analyses adjusting for pain frequency revealed

significant between group differences in child pain catastrophizing, $F(1, 97) = 5.27$, $p < .05$, and parent catastrophizing about child's pain, $F(1, 97) = 5.71$, $p < .05$. More specifically, youth with clinically-elevated depressive symptoms ($M = 31.11$, $SD = 10.42$) and their parents ($M = 32.26$, $SD = 8.81$) reported higher levels of catastrophizing about child pain than youth with minimal to mild depressive symptoms ($M = 23.08$, $SD = 12.17$) and their parents ($M = 24.73$, $SD = 11.20$), respectively.

MANCOVA analyses adjusting for pain frequency revealed significant between group differences across parent rumination, magnification, and helplessness subscales, $F(3, 95) = 2.90$, $p < .05$. Post-hoc analyses revealed that parents of youth with clinically-elevated depressive symptoms showed increased helplessness relative to parents of youth without elevated depressive symptoms, $F(1, 97) = 7.79$, $p < .01$. By contrast, no significant differences emerged on parent rumination or magnification subscales. There were no significant group differences across child rumination, magnification, or helplessness subscales, $F(3, 95) = 1.82$, $p = .148$; see Table 4 for a full summary of MANCOVA results.

Discussion

Consistent with extant literature,[3,5,6] the current findings suggest that there is an increased risk for clinically-elevated depressive symptoms among youth with SCD (27%), especially in those patients with recurrent or chronic pain, and among parents prone to catastrophizing about their child's pain. Interestingly, only parents' catastrophizing about their child's pain (not child's pain catastrophizing) significantly contributed to child's depressive symptoms. This highlights the relative importance of parents' pain catastrophizing in the context of child's coping and the influence of family factors and parenting behavior on youth psychological adjustment.[2,13,18, 33]

In line with the broader pediatric pain literature,[29,34] parental health, parenting beliefs and behaviors, as well as dynamics within the parent-child dyad are known to have a significant impact on child pain management. Furthermore, among youth with chronic pain and their parents alike, exhibiting negative or exaggerated thoughts about child pain (i.e., pain catastrophizing) has been linked to greater pain intensity, functional impairment, and depressive symptoms.[15,16,17,20] When parents catastrophize about their child's pain, they are modeling a negative style of thinking that may perpetuate catastrophic thinking among youth themselves.[34] By increasing child attention to pain and other negative stimuli through catastrophizing, parents may unintentionally contribute to their child's pain experience, emotional distress, and hopeless feelings; thereby, elevating the risk for depressive symptoms.

Parent pain catastrophizing is thought to produce downstream effects upon cognitive-behavioral patterns in both children and parents.[34] As such, parents of youth with recurrent and chronic pain appear to engage in increased anxious thinking about their ability to effectively manage their child's pain. In fact, both parent pain catastrophizing and protective parenting behaviors have been associated with greater levels of pain perception and increased functional impairment among youth with chronic pain.[28,29,36,37] This is in line with experimental studies of children's responses to laboratory-induced pain, which have

shown that parents' engagement in pain-promoting behaviors (e.g., attending to their child's pain) results in lower pain tolerance and increased pain intensity among healthy children.[35]

Moreover, parents of youth with clinically-elevated depressive symptoms displayed increased helplessness in relation to their child's pain. This pattern may reflect the unique challenges posed by parenting a child with complex health needs, including comorbid presentation of SCD, recurrent pain, and depressed mood. Within the context of a lifelong medical illness compounded by persistent pain and mood disturbance, these complex stressors are known to limit child functioning, quality of life, and health outcomes,[1,9] and can contribute to greater psychological distress among parents.[4,38,39] A combination of these stressors may result in altered patterns of thinking and behavioral responses in parents, including increased feelings of helplessness.[18,19, 34] Understandably, many parents may have faced multiple challenges with effectively managing their child's pain and emotional symptoms, and are likely to experience elevated parenting distress and limited perceived control over child pain. Training children and their parents in evidence-based strategies for behavioral pain management may serve to bolster parental self-efficacy in managing their child's pain and thus, support youth coping with illness, recurrent pain, and emotional distress.[34,40]

Importantly, parent education and training in behavioral pain management represents a foundational element of evidence-based, cognitive-behavioral therapy (CBT) for pediatric pain, which is known to reduce child pain perception and emotional distress, anxiety, and pain-induced behaviors.[40] A primary aspect of parent training guidelines are rooted in teaching parents to encourage participation in functional activities, even in the context of pain (e.g., school attendance), while shifting the family attentional focus away from the child's pain and towards their ability to cope and function with pain.[40] In light of research evidence supporting a trajectory in which functional improvements may precede pain control, parent training remains a critical component of chronic pain management for children and adolescents.[41] Additionally, improving upon the quality of parent-child communication of pain management needs and reducing the focus and attention on pain, has been shown to improve child pain management.[40,42] Additional behavioral treatments such as Acceptance and Commitment Therapy promote psychological acceptance that pain may continue to be a part of life when treating youth with SCD and their families. This framework is gaining efficacy and aims to increase youth's tolerance and acceptance of pain, while promoting application of pain management strategies in order to enhance engagement in valued activities and increase functioning.[43,44] It is important to highlight that SCD pain is often indicative of the underlying disease process that can persist regardless of treatment or chronic pain status; therefore, some evidence-based behavioral treatments for pain that are effective for other pain conditions may need to be tailored to meet the unique needs and pain phenotype of SCD to improve effectiveness.

It remains important to note that other caregiver and family factors, including parental anxiety, depression, and chronic pain, may contribute to this relation between parent pain catastrophizing and child depressive symptoms. Even among parents and children without chronic pain or other health conditions, parent emotional distress and depression represent an independent risk factor for adverse child outcomes, including poorer mental health

functioning and increased likelihood for youth depression.[22–26] Theoretical models explaining this link highlight the impact of genetic, neurobiological, and social-behavioral factors, including parental affect and behavior, parent-child interactions, and the family environment.[25] Within pediatric SCD, parent anxiety and ability to cope with their child's pain has been directly linked to youth emotional adjustment and pain management.[18,33] It is also important to consider the likeliness of parents' own experience of SCD and their increased risk for chronic pain, and clinical depression and anxiety,[9,45] which may further contribute to depressive symptoms or maladaptive coping behaviors for their children. Accordingly, further research is needed in order to clarify the mechanism by which parent pain catastrophizing and other predisposing caregiver characteristics might account for depressed mood in pediatric SCD.

The current findings must be understood in the context of study limitations, which included use of sampling procedures primarily targeting youth with recurrent or chronic SCD pain. Nevertheless, the sample was found to be generally consistent with the pediatric SCD population with regard to demographic and disease characteristics. Given the cross-sectional design of the study, causal attributions cannot be made. Longitudinal or experimental investigations of pain catastrophizing patterns and child depressive symptoms are needed to elucidate our understanding of the relation among these variables and how childhood depression in pediatric SCD may be perpetuated over time. Additionally, considering the behavioral scope of this study, limited medical data were explored across the analyses, beyond pain characteristics. Future research might examine the impact of disease-level factors, such as fatigue or healthcare utilization, on youth functioning and child depressive symptoms. Likewise, it remains to be seen whether other caregiver variables, including underlying anxiety or depressive symptoms, might better account for or strengthen this relationship between parent pain catastrophizing and child depressive symptoms. Furthermore, while an acceptable, standardized method of pain assessment was employed (i.e., retrospective, child-reported ratings), it remains important to note that such measurements are vulnerable to recall bias, including inflated reports of pain intensity,[46] and thus, continued efforts are needed to improve upon pain assessment methodology within the field.

Despite identified limitations, these results highlight the value of depressive symptom screening within pediatric SCD, a process that can be readily incorporated into medical clinic protocol as a standard of clinical care. Given that childhood depression has been identified as a prospective risk factor for chronic SCD pain,[9] integrating childhood depression screening into routine SCD care may serve to facilitate the early identification of patients with emerging chronic pain and ensure timely receipt of evidence-based treatment for chronic pain and depression.

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Abbreviations

ANCOVA	Analysis of covariance
ANOVA	Analysis of variance
CDI-2	Children's Depression Inventory-2
HRQOL	Health-related quality of life
IRB	Institutional review board
MANCOVA	Multivariate analysis of covariance
M	Mean
PCS	Pain Catastrophizing Scale
SD	Standard deviation
SCD	Sickle cell disease

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TABLE 1

Demographic and medical characteristics of youth with SCD

	Total (*N* = 100)	Clinically-Elevated Depression (*n* = 27)	Minimal/Mild Depression (*n* = 73)
		M (SD)	
Mean Age	13.5 (2.7)	13.5 (2.7)	13.6 (3.0)
Pain Intensity	4.15 (2.8)	5.48 (2.1)	3.65 (2.9)
		N (%)	
Gender			
Female	60 (60)	18 (67)	42 (58)
Male	40 (40)	9 (33)	31 (42)
Race/Ethnicity[a]			
African American	94 (96)	25 (93)	69 (97)
Multiracial	3 (3)	1 (3.7)	---
Hispanic	1 (1)	1 (3.7)	2 (3)
Annual Household Income[a]			
< $10,000	22 (24)	4 (17)	18 (26)
$10,000–20,000	17 (18)	4 (17)	13 (18)
$20,001–30,000	8 (8)	3 (13)	5 (7)
$30,001–50,000	22 (24)	6 (26)	16 (23)
$50,001–75,000	12 (13)	5 (22)	7 (10)
> $75,001	12 (13)	1 (5)	11 (16)
Parent/Guardian Rater Type			
Mother	85 (85)	25 (93)	60 (82)
Father	12 (12)	2 (7)	10 (14)
Other [b]	3 (3)	---	3 (4)
SCD Genotype			
HbSS	76 (76)	18 (67)	58 (79)
HbSC	16 (16)	5 (18)	11 (15)
Hb S/β-Thal	8 (8)	4 (15)	4 (6)
Pain Frequency			
No Pain	20 (20)	0 (0)	20 (27)
Episodic Pain	40 (40)	10 (37)	30 (41)
Chronic Pain	40 (40)	17 (63)	23 (32)

Note. M=Mean; SD=Standard deviation. Parentheses indicate percentages.

[a] Includes missing data, in which, caregivers preferred not to respond.

[b] Other family raters included child stepparent or grandparent.

TABLE 2

Means and Intercorrelations between primary outcome variables

	Pearson's r									
	Child						Parent			
Child-Reported	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
1. Pain Frequency	---	0.502**	0.251*	0.136	0.295**	0.192	0.257*	0.236*	0.235*	0.187
2. Depressive Symptoms		---	0.366**	0.167	0.419**	0.343**	0.409**	0.364**	0.382**	0.301*
3. Pain Catastrophizing			---	0.826**	0.935**	0.884**	0.411**	0.409**	0.351**	0.308*
4. Rumination				---	0.622**	0.635**	0.382**	0.386**	.305*	.317*
5. Helplessness					---	0.771**	0.356**	0.355**	0.314*	0.249*
6. Magnification						---	0.367**	0.358**	0.321*	0.269*
Parent-Reported										
7. Pain Catastrophizing							---	0.803**	0.926**	0.863**
8. Rumination								---	0.569**	0.562**
9. Helplessness									---	0.752**
10. Magnification										---
Mean (SD)	---	9.86 (6.90)	25.25 (12.21)	10.11 (4.02)	9.99 (6.33)	5.15 (3.36)	26.76 (11.09)	12.61 (3.92)	9.26 (5.75)	4.89 (3.03)

*$p < .05$

**$p < .001$

TABLE 3

Catastrophic thinking predicts child depressive symptoms in youth with SCD ($N = 100$)

Step/Predictor	B	SE	β	*p*	F	R^2	ΔR^2
Step 1					32.99***	0.252	0.252
Pain Frequency**	4.604	0.80	0.502	0.00			
Step 2					17.94**	0.359	0.107
Pain Frequency***	3.656	0.79	0.399	0.00			
Pain Catastrophizing-Parent*	0.148	0.06	0.238	0.01			
Pain Catastrophizing-Child	0.095	0.05	0.169	0.07			

Note. Results of hierarchical regression analyses, including standardized (β) and unstandardized (B) beta weights for predictor variables.

* $p < .05$

** $p < .01$

*** $p < .001$.

TABLE 4

Differences between child and parent report of child pain catastrophizing controlling for pain frequency

	Clinically-Elevated Depression (*n* = 27)	Minimal/Mild Depressive Symptoms (*n* = 73)		
Pain Catastrophizing	**M (SD)**	**M (SD)**	***F***	***P***
Child-Reported	---	---	1.82	0.148
Helplessness	13.07 (5.53)	8.85 (6.26)	4.81	0.031
Rumination	11.41 (3.72)	9.63 (4.05)	2.59	0.111
Magnification	6.63 (2.95)	4.60 (3.35)	4.94	0.029
Parent-Reported	---	---	2.90	0.039
Helplessness	12.37 (5.23)	8.11 (5.54)	7.79	0.006
Rumination	14.04 (2.39)	12.08 (4.25)	2.35	0.128
Magnification	5.85 (2.89)	4.53 (3.02)	1.93	0.168

Note. Results of multivariate analysis of covariance, including means (M), standard deviations (SD), *F* values, and *p* values.

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