Dispositional Versus Episode-Specific Assessment of Children's Coping with Pain

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Objective To evaluate the relation between dispositional and episode-specific pain coping measures, the variability of episode-specific pain coping over time, and the utility of dispositional versus episode-specific measures of pain coping in predicting outcomes in pediatric patients with chronic abdominal pain (CAP). **Method** Participants ($N = 116$) completed a clinic interview, a week of daily diary interviews, and 3-month follow-up questionnaires. Daily coping reports were averaged and compared to dispositional coping reports. Coping reports were used to predict depressive symptoms, somatic symptoms, and functional disability at follow-up. **Results** Dispositional pain coping measures significantly correlated with averaged episode-specific measures. Passive coping predicted higher levels of all outcome variables. The averaged episode-specific passive coping measure was a stronger predictor than a dispositional measure. Measures of active and accommodative coping were not significant predictors. **Conclusions** Assessment of coping with specific pain episodes may enhance understanding of pain coping.

Key words chronic and recurrent pain; coping; gastroenterology; pain.

Introduction

The manner in which a person copes with stress has been measured at both the dispositional level, conceptualized as a relatively stable personal trait, and at the episode-specific level, conceptualized as a transient context-dependent behavior (Ptacek, Smith, Espe, & Raffety, 1994; Schwartz, Marco, Neale, Shiffman, & Stone, 1999; Skinner, Edge, Altman, & Sherwood, 2003; Stone et al., 1998). Measures of dispositional coping ask people to report how they ''usually'' cope. However, the extent to which people's responses reflect the average of their behavior across multiple coping episodes is unknown.

A few studies have compared dispositional and episode-specific measures of coping. In a study of adults' coping with a variety of life stressors, Schwartz and colleagues found that coping styles as measured by self-report dispositional measures versus momentary assessments did not share a large portion of variance (Schwartz et al., 1999). Thus, what is assessed as coping at the dispositional level may differ from what is assessed as coping at the episode-specific level. One explanation for these differences is that coping, even with one specific type of stressor, occurs across various contexts or settings, and these can impact how one copes. For instance, individuals may cope differently in the presence or absence of other people (Berg, Meegan, & Deviney, 1998).

Overall, the adult literature suggests that reports of coping measured in the context and at the time it occurs differs from coping measured either retrospectively or at a dispositional level (Ptacek et al., 1994; Stone, Schwartz, & Marco, 1998; Schwartz et al., 1999). Although dispositional coping measures may be useful for some purposes, the empirical literature suggests they do not capture an ''average'' of what people actually do. For example, a study of gender differences in trait and situational coping in adult men and women with marital or work stress found more

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gender differences in coping assessed as a trait than coping assessed by momentary reports (Porter et al., 2000). They interpreted this finding as evidence that people may rely on gender-related heuristics more when reporting trait coping than when reporting situational momentary coping; in other words, assessment of trait coping may elicit reports of what people think they should do rather than what they actually do. Self-serving biases, such as attributing more credit for success to oneself than to the situation, also may be more marked with dispositional or retrospective assessments than with momentary assessments (Burger & Huntzinger, 1985). Finally, Ptacek et al. (1994) found limited correspondence between college students' coping with a specific stressor when coping was assessed with a daily report compared to when it was recalled retrospectively. This illustrates that differences in the recall period may contribute to differences between dispositional and episode-specific measures of coping. Given that the literature suggests these various methods of measuring coping differ in what they capture, it is important to examine their comparative utility in predicting various outcomes.

Only two studies to date have examined both dispositional and episode-specific coping with pain. In a study of adults with temporomandibular dysfunction, Litt and colleagues used both dispositional and episode-specific measures of coping and found that, compared to dispositional measures of pain coping, a measure of several episode-specific instances of pain coping was a stronger predictor of pain ratings reported several hours later (Litt, Shafer, & Napolitano, 2004). This study supported the importance of assessing information regarding specific pain episodes in understanding pain coping. In a daily diary study of women with chronic back pain, Grant and colleagues (Grant, Long, & Williams, 2002) found evidence of a strong trait component to episode-specific coping with pain. Women with chronic back pain differed more from each other over the course of a 30-day diary study than they did from themselves day to day. However, Grant and colleagues hypothesized that the reliable individual differences may have been due in part to the fact that all coping episodes referred to a similar stressor (i.e., back pain) and thus similarities in coping episodes may have resulted in an overestimate of dispositional appraisal and coping. Grant and colleagues did not examine which types of coping were most consistent over time when comparing measures, nor did they examine long-term health outcomes (Grant et al., 2002). Finally, no published studies have examined the consistency of trait and situational measures of coping with pain in pediatric populations.

The purpose of this study was to evaluate the relation between dispositional and episode-specific measures of pain coping strategies, the variability of episode-specific pain coping strategies over time, and the relative utility of dispositional versus averaged episode-specific measures of pain coping in predicting outcomes in pediatric patients with chronic abdominal pain (CAP). CAP is a common complaint typically associated with functional gastrointestinal disorders such as irritable bowel syndrome, functional dyspepsia, or functional abdominal pain (McGrath, 1990; Starfield et al., 1980; Walker, Garber, Smith, Van Slyke, & Claar, 2001). In an earlier study, Walker and colleagues identified three broad types of coping with pain in children with CAP: active, passive, and accommodative coping (Walker, Smith, Garber, & Van Slyke, 1997). Active coping entails efforts to alleviate or eliminate pain and may involve activities such as seeking social support, problem solving, or doing something that makes one feel better. Passive coping strategies are characterized by giving up hope of alleviating pain and may involve going off by oneself, thinking about the worst that could happen, or stopping one's activities. Accommodative coping involves changing how one interprets or interacts with pain emotionally and may entail encouraging oneself, ignoring the pain, or thinking about something else in order to distract oneself from the pain.

The first aim of this study was to examine the relation of dispositional measures of active, passive, and accommodative pain coping to measures of these types of coping that averaged children's responses to specific episodes of pain reported during a week of daily interviews. We hypothesized that the relation between dispositional and averaged episode-specific measures of coping would be significant, reflecting a trait component of coping, but the magnitude of the relation would vary across the three types of coping strategies because of differences in the extent to which these coping strategies have been hypothesized to be context-dependent (Smith & Kirby, in press; Smith, Wallston, & Dwyer, 2003; Walker, Smith, Garber, & Claar, 2005). Although we are aware of few data that have examined the context-specificity of various coping strategies directly, active coping strategies typically entail engaging in specific activities (e.g., trying to *do* something to make the problem go away) and drawing on interpersonal resources (e.g., talking to someone to get advice) that are often context-specific and thus, likely vary across situations. In contrast, passive and accommodative coping strategies more often entail cognitions that can be fairly readily applied across a broad range of circumstances, (e.g., telling yourself that's just the way it goes or thinking to yourself that it's never going to stop) and thus, theoretically, have a greater potential than active coping to demonstrate a strong trait component. Therefore, we expected

that the correlation between dispositional and averaged episode-specific measures of active coping would be lower than the correlations between dispositional and averaged episode-specific measures of passive and accommodative coping. Similarly, we expected that, within persons, the variability of the averaged episode-specific measure would be greater for active coping than for passive or accommodative coping.

The second aim of the study was to examine the relative utility of dispositional and averaged episode-specific measures of coping in predicting changes in health outcome variables 3 months following patients' initial evaluation at the clinic. We hypothesized that averaged episode-specific measures of coping would be more predictive of changes in health outcomes (functional disability, somatic and depressive symptoms) 3 months following the initial visit than dispositional measures of coping. Moreover, based on previous reports that active coping is a weak predictor of outcomes (Smith et al., 2003; Walker et al., 2005), we expected that measures of accommodative and passive coping would be more predictive of changes in outcomes than measures of active coping.

Method

Sample

The sample comprised consecutive new patients who had been referred to a pediatric gastroenterology clinic for evaluation of abdominal pain. Eligibility criteria included: (a) 8–15 years of age, (b) three or more episodes of abdominal pain severe enough to interrupt activities, (c) pain episodes occurred over a period of at least 3 months, and (d) medical evaluation by referring provider yielded no evidence of organic disease at the time of the initial visit. Patients with a chronic health condition or disability that precluded completion of the study protocol, or would have influenced measures of health status were excluded. Of the 229 patient families contacted, 57 (26%) did not meet eligibility criteria and 18 (8%) declined, leaving 154 participants. Of these 154 patients, only those reporting at least two diary days with an abdominal pain episode were eligible for the present study leaving a total sample of 116 patients. The sample was predominantly Caucasian (93%) and female (64%), with a mean age of 10.82 years ($SD = 2.10$). Follow-up data were missing for 10 patients, leaving a sample of 106 for analyses involving follow-up data.

Procedure

Parents of children scheduled for a clinic visit to evaluate abdominal pain were identified by clinic staff and contacted several days prior to their visit. Those expressing interest in the study were screened to determine eligibility and asked to arrive early if they wanted to participate. Informed consent was obtained at the clinic by research staff. Interviews took place prior to the medical evaluation. An interviewer read the child the questionnaire items in a private room and the child selected answers on a response sheet. Approximately two weeks later, research staff contacted the family via telephone in the evening on five consecutive school days, and administered the Daily Diary Interview to the child (DDI; Walker et al., 2001). In a few cases, not all school days were consecutive because scheduled family activities took precedence over the interview. However, nearly all children (95%) completed the interview within a 2-week period. Three months after the clinic visit, research staff conducted a follow-up phone interview consisting of measures of somatic symptoms, depressive symptoms, and functional disability. The clinic interview and daily interviews took 30–45 min to complete and the follow-up interview took 20 min. Children received $10 dollars for each assessment. The study was approved by Vanderbilt's Institutional Review Board.

Measures

Pain Response Inventory

The Pain Response Inventory (PRI; Walker et al., 1997) was administered at the clinic visit to assess how children typically cope with abdominal pain. The PRI consists of 60 items rated on a 5-point Likert scale. PRI items assess children's typical (dispositional) response when they have a stomachache with the stem, ''When you have a bad stomach ache, how often do you:. . ..'' The PRI has three broad coping factors: active, passive, and accommodative, and mean scores are calculated and used in analyses. Each coping factor includes several subscales, each assigned to their respective factor on the basis of results of confirmatory factor analysis (Walker et al., 1997). Active coping is comprised of five subscales including problem-solving, seeking social support, rest, massage/guard, and condition-specific strategies. Passive coping is comprised of three subscales including behavioral disengagement, self-isolation, and catastrophizing. Finally, accommodative coping is comprised of four subscales including acceptance, self-encouragement, minimizing pain, and distracting or ignoring pain (Walker et al., 1997). Alpha reliabilities in this sample were .83 for active coping, .90 for passive coping, and .88 for accommodative coping.

Children's Somatization Inventory

The Children's Somatization Inventory (CSI; Garber, Walker, & Zeman, 1991; Walker, Garber, & Greene,

1991, 1994) was administered at the clinic visit and the 3-month follow-up. The CSI assesses the severity of non-specific somatic symptoms (e.g., headaches, dizziness) that often are reported by children with chronic abdominal pain (Walker et al., 1991). Children rate the extent to which they have experienced each symptom in the past 2 weeks using a 5-point scale ranging from 0 (''not at all'') to 4 (''a whole lot''). The items are summed to calculate a total score. The alpha reliability in this sample was .89 for both the clinic baseline and 3-month follow-up administrations.

Functional Disability Inventory

The Functional Disability Inventory (FDI; Walker & Greene, 1991, Claar & Walker, 2006) was administered at the clinic visit and the 3-month follow-up. The FDI is a self-report measure that assesses children's difficulty in physical and psychosocial functioning due to their physical health during the past 2 weeks. A total sum score is calculated and used in analyses. In this study, the FDI had high internal consistency at baseline ($\alpha = .90$) and acceptable internal consistency at the 3-month follow-up ($\alpha = .70$).

Children's Depression Inventory

The Children's Depression Inventory (CDI; Kovacs, 1981; Kovacs & Beck, 1977) was administered at the clinic visit and the 3-month follow-up. The CDI assesses children's depressive symptoms. The CDI is a self-report measure with 27 items assessing depressive symptoms. Each symptom is rated on a 3-point scale. The items are summed to calculate a total score. In the present study, the CDI had an alpha reliability of .85 at baseline and .84 at 3-month follow-up administration.

Abdominal Pain Index

Participants completed the Abdominal Pain Index (API, Walker et al., 1997). The API assesses the frequency, duration, and intensity of abdominal pain episodes experienced in the previous 2 weeks. Descriptive statistics for the one-item measure of pain intensity over the past 2 weeks (Likert scale of 0–10) are included in Table I.

The Daily Diary Interview

The Daily Diary Interview (DDI; Walker et al., 2001) was used to assess episode-specific coping with abdominal pain that occurred on the 5 days of telephone interviews following the clinic visit. The DDI discriminates between well children and pain patients and yields reliable measures of episode-specific pain coping behavior (Walker et al., 2001). Each day, structured questions are asked to children about their abdominal pain and other symptoms. In addition, each day children are asked detailed questions about how they coped with the worst pain episode that day. Items used to assess each type of coping with the worst pain episode of the day were a subset of those representing the three major factors of the PRI (Walker et al., 1997). Active coping was assessed with three items: ''Try to figure out what to do about it;'' ''Ask someone for help,'' and ''Talk to someone who you thought would understand how you felt.'' Three items assessed passive coping: ''Think to yourself that there was nothing you could do, so you didn't even try;'' ''Go off by yourself;'' and ''Think to yourself that the situation was going to get worse.'' The following four items assessed accommodative coping: ''Try to accept it;'' ''Think of things to take your mind off the situation;'' ''Tell yourself that the situation was not that bad;'' and ''Tell yourself to keep going even though this was happening.'' Items were endorsed using a five-point scale ranging from ''not at all'' (0) to ''a whole lot'' (4).

Table I. *Descriptive Statistics of Each Baseline Measure*

	Mean	Standard Deviation	Minimum	Maximum
PRI Active Coping	2.20	0.55	0.78	3.77
PRI Passive Coping	1.05	0.75	0.07	3.13
PRI Accommodative Coping	1.82	0.72	0.47	3.95
CSI-sum score	25.14	14.90	3.00	81.00
FDI-sum score	11.80	9.70	0.00	47.00
CDI-sum score	9.42	6.83	0.00	30.02
Abdominal Pain Inventory-pain intensity	5.96	2.07	1.00	10.00
DDI Active Coping	1.09	0.69	0.00	3.19
DDI Passive Coping	0.58	0.53	0.00	2.21
DDI Accommodative Coping	1.59	0.75	0.00	3.86
Within Person Episode-Specific Active Coping variability (standard deviation)	0.49	0.30	0.00	1.89
Within Person Episode-Specific Passive Coping variability (standard deviation)	0.37	0.31	0.00	1.41
Within Person Episode-Specific Accommodative Coping variability (standard deviation)	0.40	0.27	0.00	1.24

For each episode of pain, items assessing each type of coping were averaged to yield episode-specific measures of active, passive, and accommodative coping. Next, the episode specific measures of each type of coping were averaged across days to yield averaged episode-specific measures of active, passive, accommodative coping. Alpha reliability was .74, .52, and .77 for averaged episode-specific measures of active, passive, and accommodative coping, respectively.

Within-Person Episode-Specific Variability

The Within-Person Episode-Specific Variability was created by computing the standard deviation of each participant's report of episode-specific coping on each day it was reported [$SD(X_1, X_2, X_3, X_4, X_5)$] in order to assess its stability over time. This was calculated separately for each type of coping—active, passive, and accommodative. The standard deviation was used as opposed to the variance because the standard deviation was more normally distributed.

See Table I for the mean and standard deviation values for each of the measures.

Results

Treatment of Data

Reports were averaged across the total number of days on which abdominal pain episodes were reported. For example, if a participant indicated pain episodes on each of 3 days, we summed scores on measures of coping for these three episodes and divided by three. If a participant reported pain episodes on all 5 days, we summed these reports of coping and divided by five. The mean number of days with a pain episode reported across the 5 days was 3.64 ($SD = 1.14$) with a mode of 5 days of pain episodes.

Outliers, defined as scores more than three standard deviations from the mean response for the sample, were winsorized (Dixon & Yuen, 1974). These scores were replaced with the value that was three standard deviations from the mean, in order to reduce the disproportionate influence of any one individual with outlying responses. The child report on the follow-up administration of the CDI had three outliers. No other scale had more than two outliers.

Statistical Analyses

Correlation analyses were used to assess the relation between dispositional and episode-specific measures of active, passive, and accommodative coping. Wilcoxon Signed Ranks tests, used because the distributions were somewhat skewed, were used to compare variability in the use of each type of coping. Hierarchical multiple regression analyses were used to compare the utility of dispositional and episode-specific measures of coping in predicting outcomes at follow-up, controlling for baseline levels of each outcome measure.

Relation between dispositional and averaged episode-specific measures of coping

Pearson correlations between dispositional and averaged episode-specific coping were significant for all three types of coping (active: $r = .24$, $p = .01$, 95% CI .06–.41; passive: $r = .45$, $p < .001$, 95% CI = .29–.59; accommodative: $r = .50$, $p < .001$, 95% CI .35–.63[1]). As predicted, the strength of the correlation between dispositional and averaged measures was weaker for active coping compared to passive coping ($Z = 1.80$, $p < .01$) and compared to accommodative coping ($Z = 2.29$, $p = .02$). Additionally, as seen in Table I, while active coping was the most frequently reported coping strategy in the dispositional measure, accommodative coping was the most commonly reported when measured by episode-specific report.

Variability in episode-specific measures of coping

Wilcoxon Signed Ranks tests examining Within-Person Episode-Specific Variability revealed that the mean standard deviation for active episode-specific coping (.49) was significantly greater than the mean standard deviations for passive episode-specific coping (.37) ($Z = -3.15$, $p = .002$) and for accommodative episode-specific coping (.40) ($Z = -2.23$, $p = .03$). In other words, individual participants varied significantly more in the extent to which they used active coping across their reported episodes compared to their use of passive and accommodative coping.

Predicting Outcomes

Hierarchical multiple regression analyses were conducted to compare the utility of dispositional and averaged episode-specific measures of coping in predicting changes in outcomes measured by the CSI, FDI, and CDI. The baseline score for each outcome variable was entered on the first step of each analysis, followed by a dispositional measure of coping (active, passive, or accommodative) on the second step. The averaged episode-specific measure of coping was entered on the third step. These analyses were

[1] Confidence intervals were calculated using the online calculator at http://glass.ed.asu.edu/stats/analysis/rci.html

then repeated with the averaged episode-specific measure of coping entered prior to the dispositional measure of coping for each of the three types of coping and for each outcome variable. The results of these analyses are presented in Table II where Step 2a includes the baseline measure of the outcome variable and the dispositional measure of coping and Step 2b includes the baseline measure of the outcome variable and the episode-specific measure of coping. Neither accommodative nor active coping, using either dispositional or episode-specific measures, predicted any of the assessed outcome variables; thus, only the results for passive coping follow.

Somatic symptoms

Controlling for baseline levels of somatic symptoms, dispositional passive coping significantly predicted somatic

Table II. *Multiple Regression Analysis Examining the Influence of Dispositional Versus Averaged Episode-Specific Passive coping on Follow-up Scores*

Predictor Variable	*B*	β Confidence Interval	*T*	R^2 change	R^2
Dependant variable: CSI					
Step 1: predictor variables				0.27***	0.27
Time 1 CSI	0.52	0.35 to 0.68	6.16***		
Step 2a: predictor variables				0.04*	0.31
Time 1 CSI	0.38	0.19 to 0.58	3.87***		
Dispositional passive coping	0.24	0.04 to 0.44	2.40*		
Step 2b: predictor variables				0.06**	0.32
Time 1 CSI	0.42	0.24 to 0.59	4.76***		
Episode-specific passive coping	0.26	0.08 to 0.43	2.94**		
Step 3: predictor variables				0.03*/0.01	0.34
Time 1 CSI	0.35	0.16 to 0.55	3.58***		
Dispositional passive coping	0.15	−0.06 to 0.36	1.44		
Episode-specific passive coping	0.21	0.02 to 0.40	2.20*		
Dependant variable: FDI					
Step 1: predictor variables				0.23***	0.23
Time 1 FDI	0.48	0.31 to 0.65	5.56***		
Step 2a: predictor variables:				0.03*	0.26
Time 1 FDI	0.35	0.15 to 0.56	3.43***		
Dispositional passive coping	0.22	0.02 to 0.43	2.15*		
Step 2b: Predictor variables:				0.04*	.27
Time 1 FDI	0.42	0.24 to 0.59	4.71***		
Episode-specific passive coping	0.22	0.04 to 0.39	2.48*		
Step 3: Predictor variables:				0.02 ^/0.01	0.28
Time 1 FDI	0.35	0.15 to 0.55	3.44***		
Dispositional passive coping	0.14	−0.09 to 0.36	1.23		
Episode-specific passive coping	0.17	−0.03 to 0.36	1.72 ^		
Dependant variable: CDI					
Step 1: predictor variables				0.49***	.49
Time 1 CDI	0.70	0.56 to 0.84	9.92***		
Step 2a: predictor variables				0.00	.49
Time 1 CDI	0.65	0.46 to 0.83	7.03***		
Dispositional passive coping	0.08	−0.10 to 0.27	0.89		
Step 2b: predictor variables				0.03*	.52
Time 1 CDI	0.65	0.51 to 0.79	9.12***		
Episode-specific passive coping	0.18	0.04 to 0.33	2.58*		
Step 3: predictor variables				0.03*/0.00	.52
Time 1 CDI	0.66	0.48 to 0.84	7.37***		
Dispositional passive coping	−0.03	−0.23 to 0.17	−0.27		
Episode-specific passive coping	0.19	0.03 to 0.35	2.41*		

[a]Dispositional coping is entered first in Step 2a and episode-specific coping is entered first in Step 2b. In Step 3, the R^2 change for Step 2a is listed first followed by the R^2 change for Step 2b after the dash.

^ $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.

symptoms at follow-up [$\beta = .24$,[2] $t(103) = 2.40$, $p = .018$, $\Delta R^2 = .04$]. Moreover, averaged episode-specific passive coping explained a small amount of significant additional variance in somatic symptom levels [$\beta = .21$, $t(102) = 2.20$, $p = .03$, $\Delta R^2 = .03$] beyond that explained by dispositional passive coping. In contrast, when averaged episode-specific passive coping was entered first in the regression equation it was a significant predictor of somatic symptoms [$\beta = .26$, $t(103) = 2.94$, $p = .004$, $\Delta R^2 = .06$], but the addition of dispositional passive coping on the next step did not explain significant additional variance in somatic symptoms [$\beta = .15$, $t(102) = 1.44$, $p = .15$, $\Delta R^2 = .01$].

Functional disability

Controlling for baseline disability levels, dispositional passive coping significantly predicted functional disability at follow-up [$\beta = .22$, $t(103) = 2.15$, $p = .03$, $\Delta R^2 = .03$). The additional contribution of averaged episode-specific passive coping to the prediction of functional disability did not significantly explain additional variance [$\beta = .17$, $t(102) = 1.72$, $p = .09$, $\Delta R^2 = .02$]. When averaged episode-specific passive coping was entered first in the regression equation it was a significant predictor of disability symptoms [$\beta = .22$, $t(103) = 2.48$, $p = .015$, $\Delta R^2 = .04$], but the addition of dispositional passive coping on the next step did not explain significant additional variance in disability [$\beta = .14$, $t(102) = 1.23$, $p = .22$, $\Delta R^2 = .01$].

Depressive symptoms

Controlling for baseline depressive symptoms, dispositional passive coping did not significantly predict depressive symptom levels at follow-up [$\beta = .08$, $t(103) = .89$, $p = .38$, $\Delta R^2 < .01$]. However, controlling for both baseline levels of depressive symptoms and dispositional passive coping, averaged episode-specific passive coping predicted depressive symptoms at follow-up and significantly explained an additional three percent of the variance [$\beta = .19$, $t(102) = 2.4$, $p = .02$, $\Delta R^2 = .03$]. When the averaged episode-specific measure of passive coping was entered first in the regression equation it was a significant predictor of depressive symptoms [$\beta = .18$, $t(103) = 2.58$, $p = .01$, $\Delta R^2 = .03$], but the addition of dispositional passive coping on the next step did not explain significant additional variance in depressive symptoms [$\beta = -0.03$, $t(102) = -.27$, $p = .79$, $\Delta R^2 = .00$].

[2] All reported β weights are standardized regression coefficients.

Discussion

This study documented that dispositional measures of children's active, passive, and accommodative coping with pain significantly correlated with averaged episode-specific measures of coping derived from a week of daily interviews concerned with the children's coping with specific incidents of abdominal pain. This finding supports a stable component to children's coping with abdominal pain. However, the magnitude of the relation between dispositional and episode-specific measures of coping ranged from low for active coping (5.7% shared variance) to moderate for passive coping (20.2% shared variance) and accommodative coping (24.8% shared variance). The modest overlap between dispositional and episode-specific measures of pain coping suggests that they capture different aspects of children's perceptions of how they cope with pain.

The study also examined the stability of children's active, passive, and accommodative coping across specific episodes of abdominal pain that occurred during the week of diary interviews. Results indicated that the averaged measure of episode-specific active coping had significantly greater variability than the averaged measures of episode-specific accommodative and passive coping. Greater variability of active coping is consistent with speculation (Berg et al., 1998; Smith et al., 2003; Walker et al., 2005) that active coping is particularly dependent on the context because it entails more use of external resources, including other people, than accommodative or passive coping. In this vein, a study of coping with a variety of stressors found that problem-focused coping—an active strategy—was greatly influenced by contextual factors (Folkman, Lazarus, Gruen, & DeLongis, 1986). Alternatively, it may be that children are less reliable reporters of their active coping efforts compared to their passive or accommodative coping efforts. Future research should include information about the specific context associated with each pain coping episode, assess whether children use certain types of coping more often in certain contexts, and determine how often children want to use certain coping strategies but do not do so because of limitations imposed by the context of that episode.

Evaluation of the relation of pain coping to health outcomes is important for assessing the benefits of various types of strategies for coping with pain. The strength of passive coping in predicting negative health outcomes in pain patients has been consistently demonstrated in the literature (e.g., Grant et al., 2002; Litt et al., 2004; Walker et al., 1997, 2005). Passive coping entails disengaging from physical and social activities and could contribute to negative health outcomes by a process of

deconditioning and increased attention to pain. In this study, greater use of passive coping was associated with higher levels of somatic symptoms, functional disability, and depressive symptoms 3 months following the medical evaluation. Neither active nor accommodative coping predicted outcomes. Thus, our findings emphasize the clinical importance of assessing and intervening to reduce passive coping strategies but the results do not identify other coping strategies that should be increased to improve outcomes. Further research on what factors predict improvement in psychological and physical functioning in children with pain conditions is needed.

Compared to a dispositional measure of passive coping, the averaged episode-specific measure of passive coping explained a greater proportion of the variance in regression models predicting these outcomes, particularly for somatic symptoms and depressive symptoms as both methods of assessment were relatively equivalent in predicting functional disability. Moreover, dispositional passive coping explained no unique variance beyond that explained by averaged episode-specific passive coping for any outcome variable. It is important to note that the episode-specific passive coping subscale was composed of only three items and consequently had a low alpha reliability ($\alpha = .52$) which is a limitation; however, the demonstrated predictive utility of this subscale, despite this limitation, speaks to the importance of even limited information about episode-specific passive coping. The importance of averaged episode-specific passive coping in this study parallels the finding by Litt et al. (2004) that episode-specific catastrophizing was a stronger predictor of pain than dispositional measures of coping and other types of episode-specific coping. Litt et al. did not examine long-term health outcomes but, using a lagged design, they demonstrated that catastrophizing was associated with subsequent pain. Catastrophizing is a component of passive coping and thus findings of both Litt et al. and this study are consistent in demonstrating that passive coping predicts poor outcomes for pain patients.

Although the averaged episode-specific measure of passive coping was more predictive of later health outcomes than the dispositional measure of passive coping, the magnitudes of the β weights were similar for averaged episode-specific and dispositional measures of passive coping. Thus, there is utility to dispositional measures of passive pain coping. Given the relative ease of obtaining dispositional measures compared to the cost, time, and labor of dairy studies or ecological momentary assessments, dispositional measures of pain coping may be the best choice for some studies. Researchers and clinicians will need to weigh the benefits of the somewhat greater predictive utility of episode-specific measures against their substantial cost and inconvenience.

Neither dispositional nor averaged episode-specific measures of active or accommodative coping significantly predicted health outcomes assessed 3 months following children's medical evaluation. Several previous studies also have reported poor predictive utility for measures of active coping (Smith et al., 2003; Walker et al., 2005). It is possible that the strong influence of context on active coping, suggested by our findings, helps to explain its poor predictive utility. Few other studies have examined the predictive utility of accommodative pain coping.

The present study focused on children's perceptions of their coping with pain. It was limited in that it did not include assessment of coping by an observer that could help to validate children's reports. Future research might include parent and teacher reports of children's coping with pain. Of course, only children themselves can report on their cognitive responses to pain. The assessment of both dispositional and episode-specific coping involved an interviewer and this format may have increased participants' tendency to respond in socially desirable ways. However, both measures were obtained through interviews and thus the level of social desirability is likely to be the same across methods, though past research has shown that self-serving biases may be present to a greater extent in dispositional reports (Burger & Huntzinger, 1985) which may contribute to the greater predictive utility of episode-specific coping reports.

Another limitation of this study is that dispositional coping was assessed in person at the clinic prior to the patient's medical evaluation, whereas episode-specific coping was assessed 2 weeks after the clinic visit via a phone interview. It is possible that reassurance or treatment that patients and their families received from the physician changed the manner in which children coped with subsequent pain. If the patients' coping styles changed, the averaged episode-specific reports of coping might more accurately represent their coping following the clinic visit and this would explain why the averaged episode-specific measure of passive coping was better than the dispositional measure of passive coping in predicting outcomes 3 months following the clinic visit. It will be important to measure dispositional coping after the clinic visit to rule out this competing hypothesis. Additionally the method of assessment, in person versus the phone, may contribute to differences between these two reports of coping. Episode-specific coping was assessed by only three items, whereas dispositional coping was assessed by 22, 15, and 16 items for each subscale. Thus, each subscale is not as broadly assessed by the episode-specific

measure and may contribute to differences between the two assessment methods.

This study demonstrates that while measures of dispositional pain coping style have utility, they may be poorer indicators of coping and have lower predictive utility than averaged episode-specific measures of pain coping. Measures of coping that consider the context of coping episodes appear to contribute predictive utility beyond dispositional measures of coping. Thus, clinical professionals working with children experiencing CAP may gain a better understanding of these children by assessing how they have coped with several specific pain episodes, rather than assessing how they typically cope with pain. For example, clinicians might ask children to describe their coping efforts for particular pain episodes at school and at home, as well as at different times of day. Inquiry about children's use of passive coping strategies during these specific episodes will be especially important, as passive coping appears to be a strong predictor of negative health outcomes in children with CAP.

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