

Commentary

Dissociative symptoms in youth with chronic pain: Worthy of future investigation?

Sarah Nelson, Maureen Burns and Karen Kaczynski

Dissociation is defined by the American Psychiatric Association (APA, 2003) as a “disruption of and/or discontinuity in the normal integration of consciousness, memory, identity, emotion, perception, body representation, motor control, and behavior.” Dissociation is often categorized as a maladaptive coping strategy (Brown et al., 2005; Waters, 2016) that may or may not be observed in individuals with a history of adverse childhood experiences (ACEs; e.g. abuse/neglect) or significant stress (APA, 2013). Dissociative symptoms generally occur at a low rate in youth and adult populations (Loewenstein, 2018). For example, evidence suggests that as few as 4.9% of youth report diagnostically relevant dissociation (Martínez-Taboas et al., 2006) and up to 14.9% of individuals with posttraumatic stress disorder report any level of dissociative symptoms (Stein et al., 2013). The presence of dissociation in combination with stressful or traumatic experiences is a poor prognostic indicator for long-term mental health outcomes (Waters, 2016).

Research in adults indicates that individuals with somatization disorders report higher rates of dissociation when compared to patients with other medical conditions (Brown et al., 2005). Research also indicates that women with chronic pelvic pain and a history of abuse concomitantly report high rates of dissociation and somatization (Badura et al., 1997). However, dissociation has never before been examined in youth with chronic pain, despite the high levels of somatization in addition to stress and

ACEs reported in these populations (Logan et al., 2013; Lavigne et al., 2014; Nelson et al., 2018; Nelson et al., 2021). This is notable as many coping strategies employed in the context of ACEs or stress such as behavioral avoidance, catastrophizing, or worry (Brown et al., 2005; Gipple et al., 2006; Lemos-Miller & Kearney, 2006) can overlap with common pain coping strategies. It may be that children and adolescents with chronic pain also engage in dissociation to manage or cope with their stress and pain, but this remains unclear.

Anecdotally, observations across clinicians at a large tertiary chronic pain clinic have yielded reports of patients describing methods of coping with pain including “blacking out” or “staring into space”. Reports have also indicated that when patients have pain in school, friends have told them that they “do not really seem to be there” or they did or said things that they later cannot remember. Whether this phenomenon represents dissociation in response to chronic pain, and/or in the context of stress or trauma exposure, remains unclear given the minimal validity of anecdotal reports. Accordingly, aims of this commentary include briefly presenting preliminary data on dissociative symptoms in a pediatric pain sample and recommending avenues for future investigation.

Initial exploration

To preliminarily examine this, 28 pediatric chronic pain participants between the ages of 11 and 17 years ($M = 14.48$, $SD = 1.85$; 92.9% white/

Caucasian; 82.1% non-Hispanic/Latino) enrolled in a larger IRB approved investigation (IRB-P00027928) were included. Participants were eligible if they had a chronic pain condition (pain lasting three months or longer; King et al., 2011; Raja et al., 2020) unrelated to an underlying medical issue (e.g. arthritis) and were scheduled to undergo a multidisciplinary pain clinic evaluation. Participants were administered the Brief Dissociative Experiences Scale (DES-B) – modified (Dalenberg & Carlson, 2010a,b), which is a

measure that has previously shown strong psychometric properties in other pediatric populations but has never before been utilized in pain samples. It consists of 8 items rated on a Likert rating scale (0 = *Not at all* to 4 = *More than once a day*) that are based on DSM-5 criteria for dissociation (APA, 2013). Items are summed for a total raw score (0-32) and an average total score is calculated by dividing the total raw score by the number of items. See Table 1 for a list of items in the measure, frequency of responding by item, and

Table 1
Frequency of responding to dissociative symptoms (in the past 7 days) by item on the Brief Dissociative Experiences Scale (DES-B)

Item	Response option: n (%)				
	Not at all (0)	Once or twice (1)	Almost every day (2)	About once a day (3)	More than once a day (4)
1. I find myself staring into space and thinking of nothing	11 (39.3)	6 (21.4)	2 (7.1)	3 (10.7)	6 (21.4)
2. People, objects, or the world around me seem strange or unreal	21 (75.0)	5 (17.9)	2 (7.1)	0 (0)	0 (0)
3. I find that I did things that I do not remember doing	15 (53.6)	9 (32.1)	2 (7.1)	1 (3.6)	1 (3.6)
4. When I am alone, I talk out loud to myself	17 (60.7)	7 (25.0)	2 (7.1)	1 (3.6)	1 (3.6)
5. I feel as though I were looking at the world through a fog so that people and things seem far away or unclear	20 (71.4)	5 (17.9)	1 (3.6)	0 (0)	2 (7.1)
6. I am able to ignore pain	8 (28.6)	11 (39.3)	1 (3.6)	1 (3.6)	7 (25.0)
7. I act so differently from one situation to another that it is almost as if I were two different people	13 (46.4)	13 (46.4)	1 (3.6)	0 (0)	1 (3.6)
8. I can do things very easily that would usually be hard for me	18 (64.3)	8 (28.6)	1 (3.6)	0 (0)	1 (3.6)

Note: The average total score reduces the overall score to a 5-point scale with scores indicating the following level of dissociative symptoms: 0 = *none*; 1 = *mild*; 2 = *moderate*; 3 = *severe*; 4 = *extreme*.

interpretation guidelines. In addition to the DES-B, participants were also administered measures frequently used in pediatric populations, including the Childhood Trust Events Survey (CTES; Cincinnati Children's Hospital Medical Center) that examines exposure to ACEs, and measures of physical functioning (Functional Disability Inventory: FDI; Kashikar-Zuck et al., 2011), sleep (Patient-reported Outcomes Measurement Information System: PROMIS; Cella et al., 2007), pain intensity (0-10 visual analog scale), and psychosocial functioning (PROMIS anxiety, depression, psychological stress; Cella et al., 2007; Nelson et al., 2021).

In short, the most common severity level across pediatric pain participants was *mild* (46.4%) with over 14% endorsing *moderate* and one participant (3.6%) endorsing *severe* dissociative symptoms. No participants in the current sample endorsed *extreme* dissociative symptoms. Notably, across participants, dissociative symptom severity levels were not significantly associated with history of ACEs ($r = .283, p = .145$). The most endorsed individual item among these participants within the past 7 days was *I am able to ignore pain*, with 71.4% endorsing this occurring at least *once or twice* (in the past week). Other commonly endorsed items included *I find myself staring into space and thinking of nothing* (60.7% endorsed at least *once or twice*) and *I act so differently from one situation to another that it is almost as if I were two different people* (53.6% endorsed at least *once or twice*). The least commonly endorsed item was *People, objects, or the world around me seem strange or unreal* with 25% of participants endorsing at least *once or twice*. Across the other measures, participants endorsed moderate pain intensity ($M = 6, SD = 2.4$) and disability (FDI: $M = 23.5, SD = 12.8$). Sleep disturbance was clinically elevated ($M = 60.67, SD = 5.89$; Cella et al., 2007) with subthreshold anxiety ($M = 50.12, SD = 10.68$), depressive symptoms ($M = 52.40, SD = 10.90$), and psychological stress ($M = 57.29, SD = 9.26$). Results of Spearman's rho correlation analyses indicated that the presence of dissociative symptoms in the past 7 days (total raw score) was significantly associated with anxiety ($\rho = 0.620, p = .001$), and depressive ($\rho = 0.522, p = .007$) symptoms, and psychological stress ($\rho =$

$0.542, p = .003$), but not sleep, pain intensity, or functional disability (all p 's $> .05$).

Given the low rate of dissociative symptoms in the general population (Martínez-Taboas et al., 2006; Loewenstein, 2018), it is notable that a high number of pediatric pain participants in this group endorsed experiencing symptomatology at all in the past 7 days. Further, a significant association was found between dissociation and psychological stress but not ACEs, which indicates that in this population, engaging in dissociation may be a response to general psychological stress and not necessarily related to more severe stress (i.e. ACEs) exposure.

It makes sense and is not surprising that the most endorsed item on the dissociative symptom measure was *I am able to ignore pain*. This indicates that most respondents tried to ignore their pain over the past week. At times, this can be adaptive and not indicative of dissociation (i.e. when the ignoring is an active choice in distraction). However, this process may also be indicative of dissociative symptoms when considered in the context of patients who report blacking out (as described above) when in pain. Given that this item was not initially developed for use in chronic pain samples, further investigation into its validity in this population is warranted. Other common items were completely unrelated to pain and included *I find myself staring into space and thinking of nothing* (60.7%) and *I act so differently from one situation to another that it is almost as if I were two different people* (53.6%). Generally, it is possible that youth with chronic pain engage in dissociative symptoms when stressed and/or in pain, but more research is needed to confirm this phenomenon.

Implications or future research and practice

Research in non-pain populations suggests that the presence of dissociation may be a negative prognostic indicator of treatment success (Brown et al., 2005; Waters, 2016). Accordingly, assessing and fully understanding the presence of dissociative symptoms in this population may be important in optimizing long-term outcomes. In particular, studies are warranted that employ longitudinal study designs with larger samples. Confirming the psychometric properties of the DES-B for use in

research with pediatric pain samples should also take place. Relatedly, clinicians being aware of the potential for dissociative symptoms as opposed to more normative methods of coping (e.g. distraction) may better inform choice of psychosocial treatment, given the evidence that individuals with dissociative

symptoms show variable treatment response to different types of therapy (e.g. cognitive behavioral therapy, mindfulness; Bae et al., 2016; Waters, 2016; Ortiz & Sibinga, 2017). Future research is needed in these areas to better understand these potential connections.

Sarah Nelson, PhD

Division of Pain Medicine, Department of Anesthesiology, Critical Care and Pain Medicine, Boston Children's Hospital and Department of Psychiatry, Harvard Medical School, Boston, MA, USA

email: sarah.nelson@childrens.harvard.edu

Karen Kaczynski, PhD

Division of Pain Medicine, Department of Anesthesiology, Critical Care and Pain Medicine, Boston Children's Hospital and Department of Psychiatry, Harvard Medical School, Boston, MA, USA

Maureen Burns, BS

Division of Pain Medicine, Department of Anesthesiology, Critical Care and Pain Medicine, Boston Children's Hospital, Boston, MA, USA

Acknowledgments

Financial Support to Sarah Nelson: Boston Children's Hospital Office of Faculty Development (OFD) Career Development Grant and National Center for Complementary and Integrative Health - NCCIH 1K23AT010643-01A1.

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