

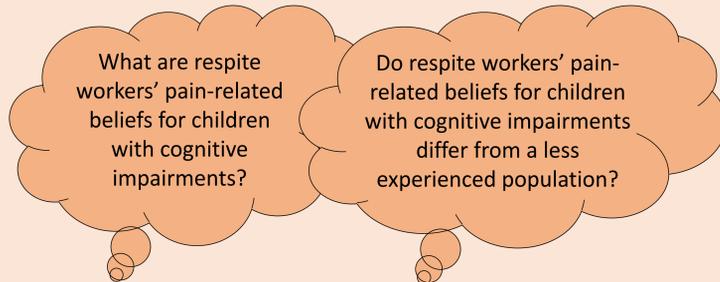
# RESPIRE WORKERS' OPINIONS ON PAIN IN CHILDREN WITH COGNITIVE IMPAIRMENTS: SENSATION, REACTION, AND COMMUNICATION

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## Introduction:

- Children with cognitive impairments are often unable to provide reliable self-reports (Stallard et al., 2001). Thus, caregivers must make pain assessment and management decisions (Breau et al., 2003)
- Pain expression in children with cognitive impairments can sometimes be different than in children who are 'typically developing' (Dubois et al., 2010). This can make pain assessment more difficult for caregivers, particularly for those who do not know the child well (Bottos & Chambers, 2006; Stallard et al., 2001)
- It is important to learn about beliefs of individuals supporting children with cognitive impairments, as they could impact pain-related care decisions.
- Limited research has focused on secondary caregivers, and none has directly examined respite workers. These caregivers often provide care for children with cognitive impairments (Shelton & Witt, 2011)

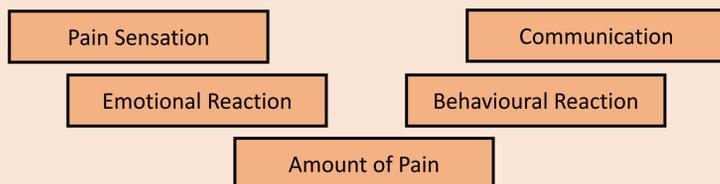


## Objective:

To compare pain-related beliefs in respite workers working directly with children with cognitive impairments (CI) to a sample of students with minimal experience with children with CI.

## Methods/Procedure:

- 30 minute online survey (part of a larger study)
- Pain Opinion Questionnaire* (Breau et al., 2003)
  - Measures beliefs about pain experience in children with CI versus 'typically' developing children
  - Asked to estimate what % of children with CI would experience each of five pain facets the 'same as', 'less than' and 'more' than those without CI. Only the 'less than' category was examined.



## Sample Question:

**Pain Sensation; Mild CI:**  
 \_\_\_% have the same ability to sense pain as children without cognitive impairment  
 \_\_\_% are less sensitive to pain than children without cognitive impairment  
 \_\_\_% are more sensitive to pain than children without cognitive impairment



Participants: (Note: not all participants answered all demographic questions)	Students (N = 217)	Respite Workers (N = 56)
<b>Age (years)</b>	• Range: 19 - 31 • M = 19.63	• Range: 18 - 67 • M = 33.37
<b>Sex</b>	• 175 F (81%)	• 46 F (77.4%)
<b>Ethnicity</b>	• European-Canadian/White	• 48 (85.7%)
<b>Interaction with CI/NV</b>	• Never/Rarely • Occasionally/Often/Very Often	• 2 (3.6%) • 54 (96.4%)

Table 1. Selected participant demographics by group; CI/NV = children with cognitive impairments who are nonverbal.

**Results:** Analyses included five mixed ANOVAs; one for each pain facet (between subjects: participant group; within subjects: level of cognitive impairment); \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$

### Behavioural Reaction:

→ Participants believed that a higher percentage of children with severe CI showed less behavioural reaction to pain: mild/severe,  $t(260) = -2.42$ ,  $p = .02$ , and moderate/severe,  $t(260) = -2.12$ ,  $p = .04$ .

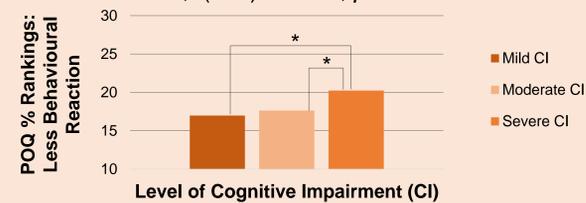


Figure 1. Main effect: level of cognitive impairment on behavioural reaction,  $F(1.92, 494.02) = 3.66$ ,  $p = .03$ . No main effect of group or interaction effect was found.

### Communication:

→ Participants believed that children with more severe CI were less able to communicate pain. Mild/moderate:  $t(262) = -4.56$ ,  $p < .001$ , mild/severe:  $t(260) = -8.92$ ,  $p < .001$ , moderate/severe:  $t(260) = -6.79$ ,  $p < .001$ .

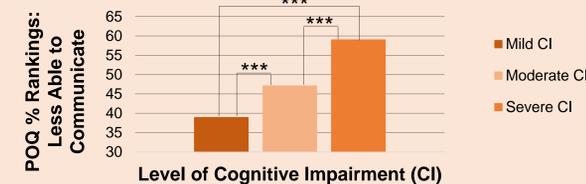


Figure 3. Main effect: level of cognitive impairment on communication,  $F(1.81, 467.07) = 28.77$ ,  $p < .001$ . No main effect of group or interaction effect was found.

### Sensation:

→ Respite workers believed that a higher percentage of children with severe cognitive impairments sense less pain than 'typically developing' children,  $t(262) = 2.63$ ,  $p = .009$

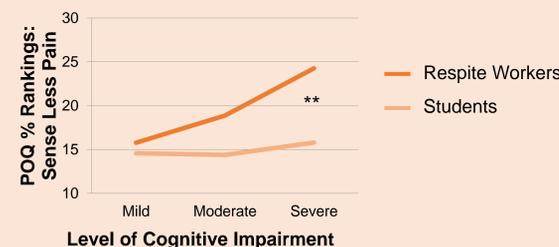


Figure 3. Interaction: level of cognitive impairment and participant group on pain sensation,  $F(1.61, 417.98) = 3.43$ ,  $p = .04$ .

### Emotional Reaction:

→ Respite workers believed that a higher percentage of children with moderate,  $t(263) = 2.08$ ,  $p = .04$ , and severe cognitive impairments,  $t(261) = 2.51$ ,  $p = .01$ , demonstrate lower emotional reaction to pain than 'typically developing' children.

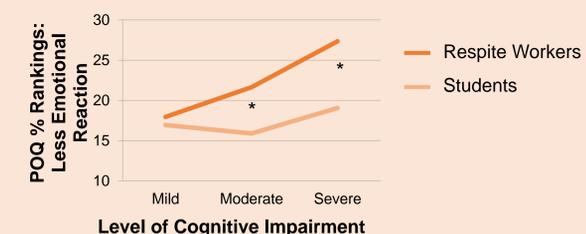


Figure 4. Interaction: level of cognitive impairment and participant group on emotional reaction,  $F(1.66, 429.20) = 3.55$ ,  $p = .04$ .

• No significant effects were found for the mixed ANOVA investigating POQ responses to 'amount of pain'.

## Discussion:

### Differences Between Level of Cognitive Impairment Only

- Compared to mild or moderate CI, participants believed a greater percentage of children with severe CI showed less behavioral reaction than typically developing children.
- Consistent with the above beliefs, participants believed that as level of CI severity increased, higher proportions of children were less able to communicate their pain

### Differences Between Groups and Level of Cognitive Impairment

- Compared to students, respite workers believe a larger percentage of children with severe CI sense less pain and a larger percentage of children with moderate and severe CI demonstrate lower emotional reactions to pain

### How accurate are these beliefs?

Contrary to reported beliefs, some research (e.g., Dubois et al., 2010) suggests that pain expression, rather than pain experience of children with CI may differ. Given the subjective nature of pain sensation and experience, however, it is challenging to tease apart.

### Why might respite workers hold some of these beliefs?

Increased experience with children with CI could lead to bias and false beliefs. Increased experience could potentially lead to incorrect beliefs if misinformation (e.g., that these children are insensitive to pain) is being provided from other caregivers (e.g., parents, professionals). A similar suggestion was also noted by Breau et al. (2003).

### Could some of these beliefs have negative implications? Positive implications (e.g., increased attentiveness)?

While participants believed that children's ability to sense pain decreased as CI became more severe, it was also suggested that children with CI demonstrated less behavioural and emotional reaction to pain, and became less able to communicate pain (in their own way). Future research might examine how these beliefs might interact with each other and influence pain assessment and management decisions.

### Additional Limitations/Future Directions

- Significant differences in mean age and sample size between groups may have influenced the results
- Reported ratings and responses may not translate to or impact actions; future research should investigate this

Pain - Related Beliefs



Pain Assessment and Management Decisions

- Can these pain facets be targeted in educational pain-training programs for respite workers?
  - Could educational pain-training programs improve understanding of pain in children with cognitive impairments?