Persistent Pain in a Community-Based Sample of Children and Adolescents

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Pediatric Persistent Pain

- Persistent and recurrent pain is highly prevalent among children and adolescents
  - Community samples in Europe show 25-30% of children report experiencing pain lasting for 3 months or longer
  - One half to two thirds still report pain between one and two years later (Perquin, et al., 2000; Perquin, et al., 2003; Roth-Isigkeit, Thyen, Stoven, Schwarzenberger, & Schmucker, 2005)

Persistent pain in children and adolescents

- Persistent pain is associated with:
  - Lower self-reported quality of life (Hunfeld, et al., 2001)
  - Functional disability (Gauntlett-Gilbert & Eccleston, 2007; Konijnenberg, et al., 2005)
  - High emotional distress including symptoms of depression and anxiety (Eccleston, Crombez, Scotford, Clinch, & Connell, 2004)
  - Increased school absenteeism (Roth-Isigkeit, et al., 2005)
  - Poor self-rated health (van Dijk, et al., 2008)

Anxiety-Related Constructs Important to the Experience of Pain

- Anxiety Sensitivity
- Pain-Related Anxiety (Fear of Pain)
- Pain Catastrophizing

Anxiety Sensitivity

- A fear of anxiety-related sensations stemming from a belief that such anxious feelings can lead to harmful emotional, social and physical consequences in and of themselves (Reiss, 1987)
  - Physical consequences
    - "Funny feelings in my body scare me"
  - Psychological/emotional consequences
    - "It scares me when I feel nervous"
  - Social consequences
    - "Other people notice when I feel shaky"

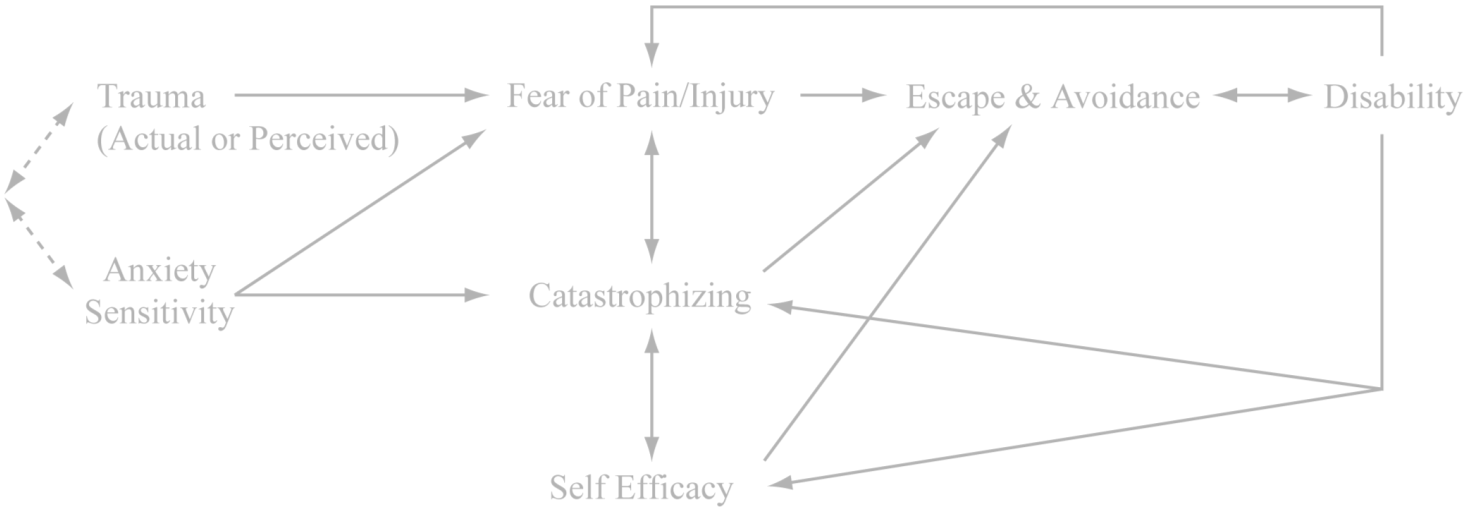
Pain-Related Anxiety (Fear of Pain)

- A fear of pain that encompasses somatic, cognitive, fearful, and escape or avoidance reactions to pain (McCracken, Zayfert, & Gross, 1992).
  - Cognitive
    - "When I feel pain, I think about it all the time"
  - Escape/avoidance
    - "I stop any activity when I start feeling pain"
  - Fear
    - "Feeling pain is very scary"
  - Physiological Anxiety
    - "When I feel pain, my heart beats faster"

Pain Catastrophizing

- The tendency to ruminate and worry about pain-related sensations (Sullivan, Bishop, & Pivik, 1995)
  - Rumination
    - "When I feel pain, I keep thinking about how much it hurts"
  - Magnification
    - "When I feel pain, it's awful and I feel it takes over me"
  - Helplessness
    - "When I feel pain, I feel like I can't go on like this much longer"

Diathesis-Stress Model of Chronic Pain and Disability (Turk, 2002)



Persistent pain in children and adolescents

- The objectives of the present study were to:
  - ascertain the prevalence and frequency of pain in a Canadian, community-based sample of children and adolescents;
  - explore gender and age differences in the prevalence of pain and pain-related psychological variables;
  - examine how children and adolescents who report having had experienced persistent pain differ from those who do not

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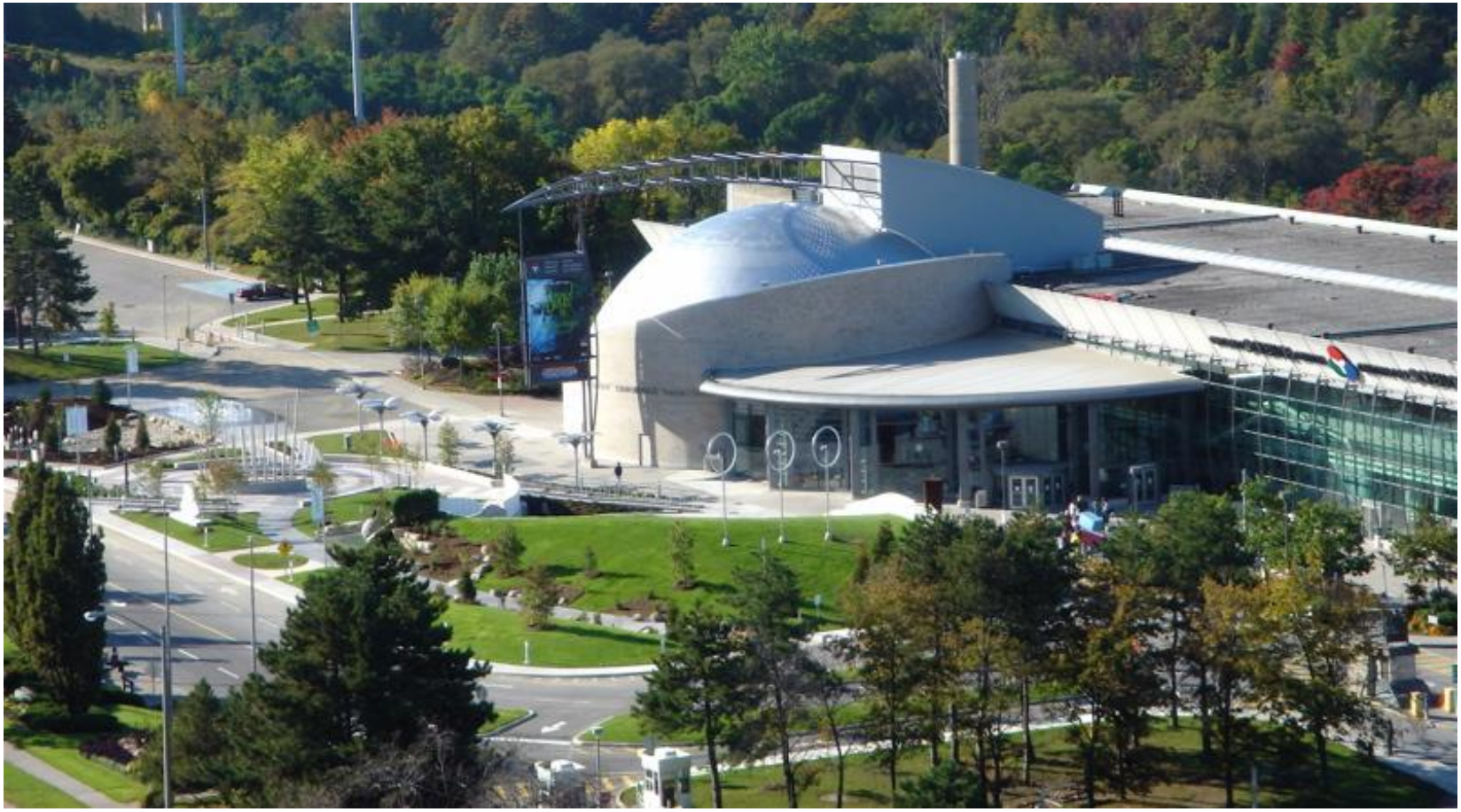


Procedure

- After REB approval and informed consent/assent were obtained, 1,022 participants were recruited

Methods

Participants

- final sample consisted of 1,006 participants
- 54.2% were female
- mean age was 11.6 years (*SD* = 2.7 years)

Methods

Measures

- Pain History and Frequency Questions:
  - Have you ever had pain that lasted for three months or longer?
  - What type of pain was it?
  - On average, how often do you experience pain?
- Childhood Anxiety Sensitivity Index (CASI)
- Child Pain Anxiety Symptoms Scale (CPASS)
- Multidimensional Anxiety Scale for Children-10 (MASC-10)
- Pain Catastrophizing Scale – Children (PCS-C)

Results

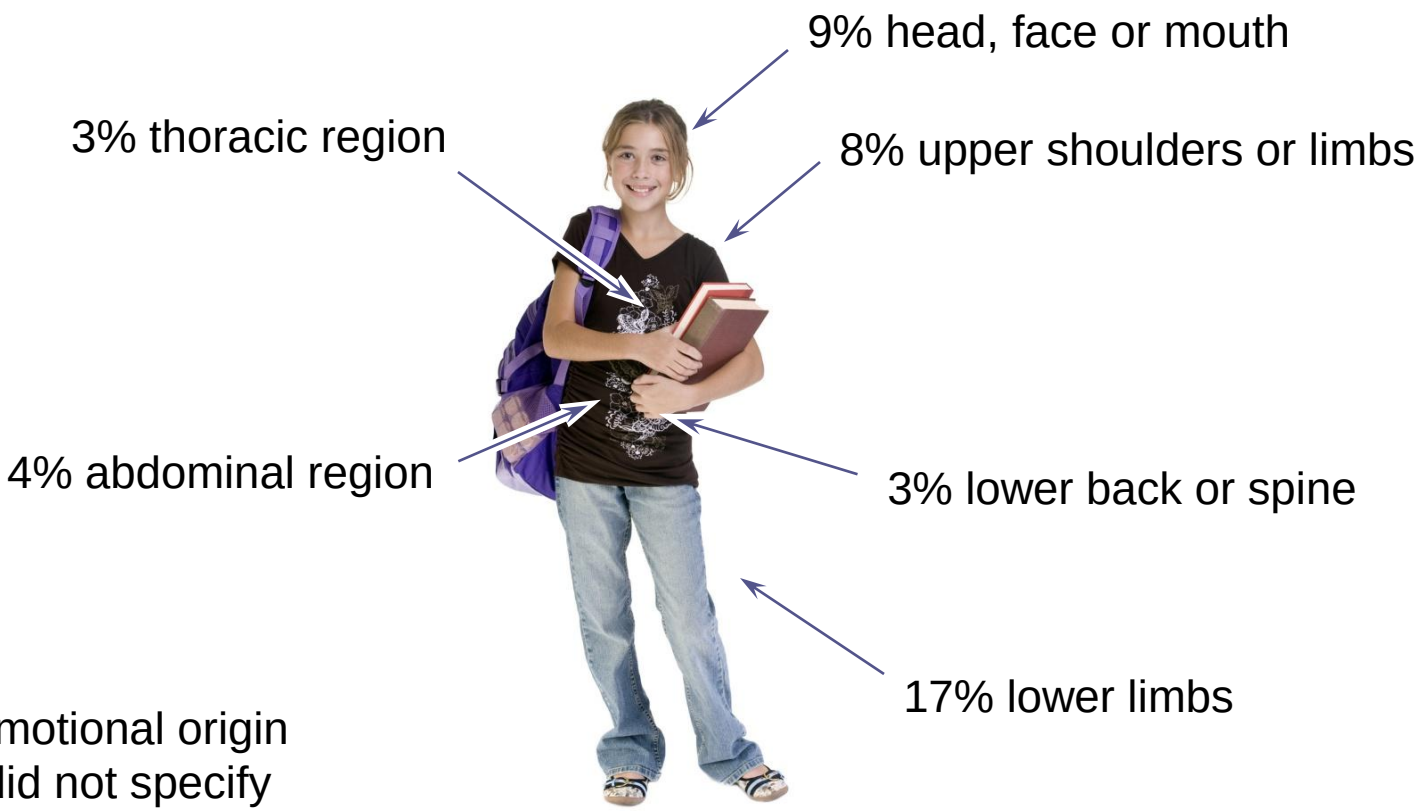
Pain Prevalence

- Approximately 26.6% (n = 268) of the sample reported having experienced pain that persisted for three months or longer

Results

Pain Frequency	n (%)
No pain	186 (18.5)
Less than once a month	293 (29.1)
Once or twice a month	277 (27.5)
Once or twice a week	191 (19.0)

Type/location of persistent pain



*17% emotional origin
*36% did not specify

Results

- Gender and Age Differences
  - Prevalence of Persistent Pain
    - Proportion of older boys (12-18 year-olds) reported having experienced persistent pain was greater compared to younger boys (x^2 (1, N = 1006) = 4.29, p = .05)

Results

- Gender and Age Differences
  - Overall Pain Frequency
    - Significant gender and age differences in average pain frequency were not found for either boys (χ^2 (4, 1, N = 1006) = 3.01, p = .56) or girls (χ^2 (4,1, N = 1006) = 4.48, p = .35)

Summary of Univariate ANOVAs

- CASI and PCS-C
  - Main effects
    - gender and pain history
  - Interactions
    - gender x pain history
- CPASS and MASC-10
  - Main effects
    - gender and pain history
  - Interactions
    - age x gender x pain history

Figure 1. *Scores on CASI by Pain Group and Gender*

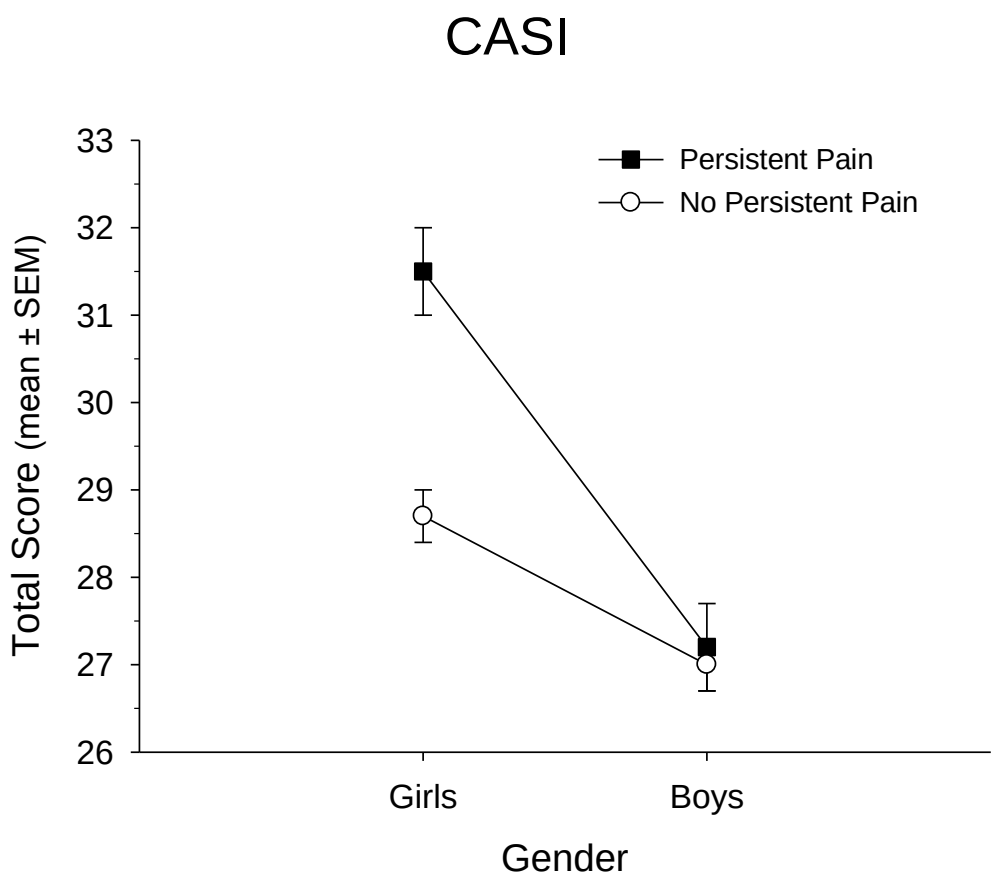


Figure 2. *Scores on PCS-C by Pain Group and Gender*

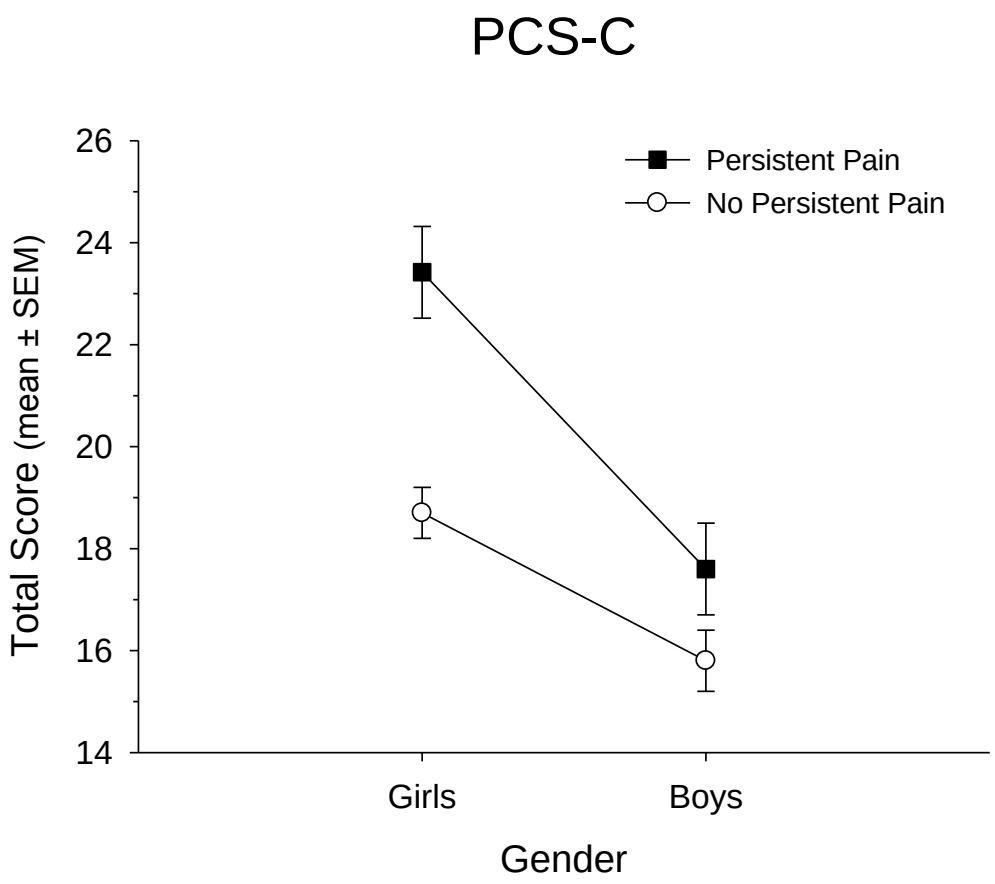


Figure 3. *Scores on CPASS by Age, Gender and Pain Group*

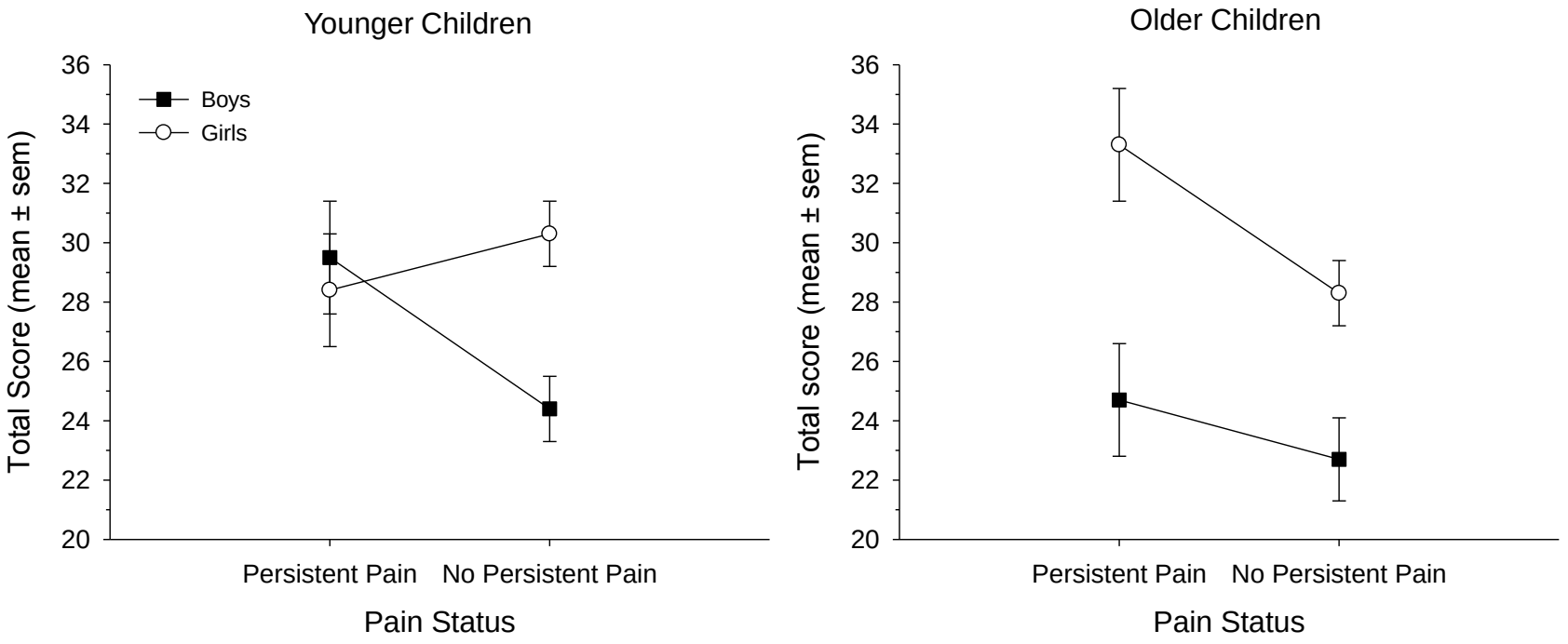
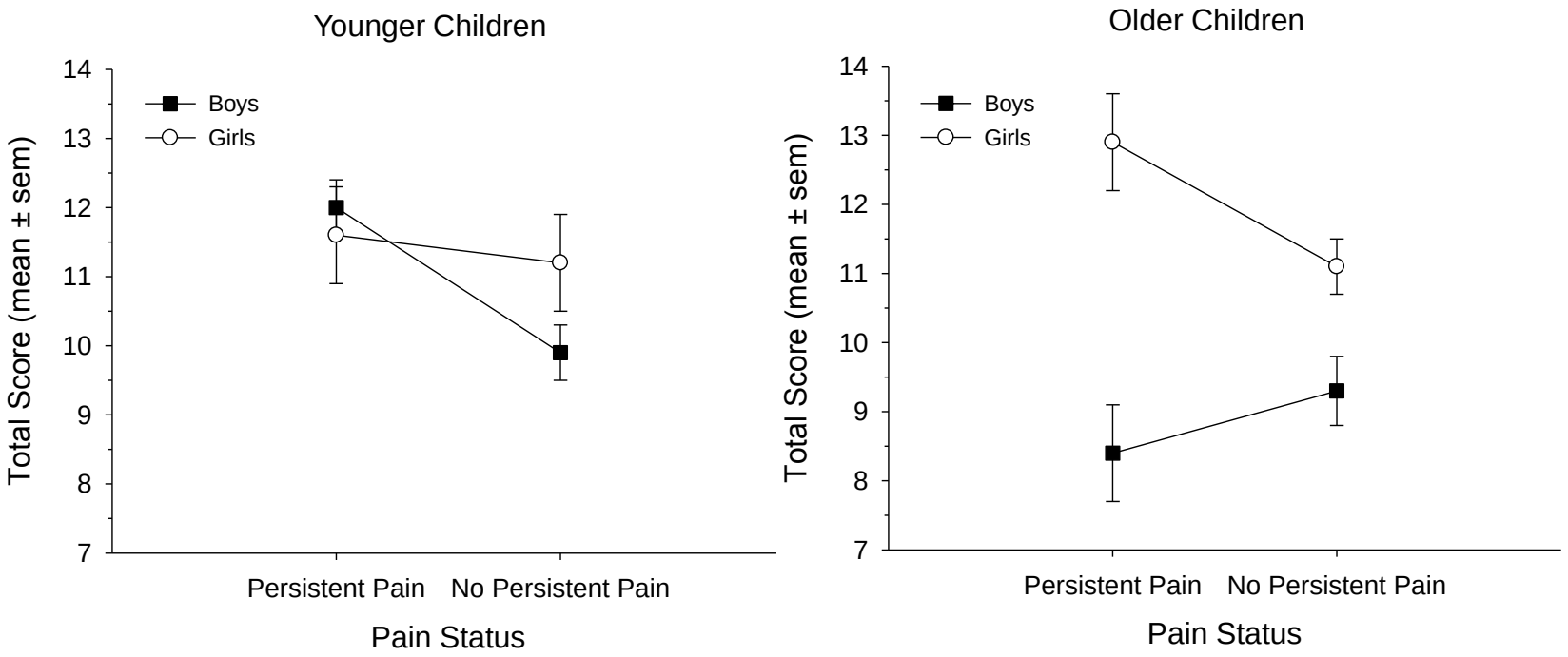


Figure 4. *Scores on MASC by Age, Gender and Pain Group*



Discussion

- Prevalence of persistent pain is consistent with previous research and comparable to estimates in adult populations
- Absence of gender difference in overall prevalence of persistent pain
- Boys and girls appear to differ considerably in terms of how age and pain history relate to their expression of pain-related psychological variables

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