# An intersectional-biopsychosocialdevelopmental model for understanding the contributions of sex and gender to pediatric pain

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# Introduction

Pain in childhood is a common, debilitating, and costly public health problem. After mid-/late-adolescence, there is a clear female predominance in chronic pain. This has has been driven by a hypothesis that sex hormones are primary contributors to this emergence of male-female differences in pain.

# Methods

The literature on the biopsychosocial mechanisms implicated in sex and gender differences in pediatric pain was reviewed, situated within a developmental context, considering the role of intersecting identities.

### Results

We propose a conceptual model (Figure 1) that argues that an understanding of the factors that contribute to sex and gender differences in the pediatric pain experience should start as early as conception and incorporate a biopsychosocial perspective.

# **Implications & Recommendations**

- Understanding how early factors influence sex differences in the pain experience may offer the opportunity to develop more personalized approaches to the prevention and management of pain.
- Considering both biology and psychosocial factors as interacting the context of diverse social positions is critical to understanding how to provide equitable, inclusive care for all children.



*Figure* 1. A conceptual model that attempts to capture the numerous areas that contribute to the pain experience over the course of development, where the factor associated with pain is observed more in a specific sex or gender or may exert a different influence based on the individual's sex or gender. The shading of the bars roughly represents the time period in which the factor would exert its influence. Overlapping circles in the background reflect intersecting identities that may shape the expression or experience of the primary factors.

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Gendered expectations of and interactions with society

Emergence of psychiatric disorders

Exposure to ACEs, including preterm birth and early pain experiences



Physiologic changes with puberty

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