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## Background

**Chronic and recurrent pain** is a common health problem among children and adolescents. Although certain children and adolescents can successfully manage their pain, many others experience significant restrictions in their daily (school, social, physical, and emotional) functioning due to this pain.

Previous research has mainly focused on **risk factors** for adverse outcomes in children/adolescents (i.e. disability and depression). The **(Interpersonal) Fear Avoidance Model**<sup>1</sup> has increased our knowledge of these risk factors by highlighting the important role that (children's and parents') catastrophizing thoughts and fears, as well as parents' overprotective behaviours play in children's pain-related outcomes.

However, several questions remain: **(1)** When and why do children continue to behave in ways that do not result in desired outcomes? **(2)** What are the psychological processes that determine why some children continue to function well despite the presence of pain? **(3)** What role does the (social) context play in these processes?

In this project, we will draw on a modern **functional** approach, **Relational Frame Theory**<sup>2</sup>, and the IFAM to address these questions. In short, RFT is a theory within the tradition of Contextual Behavioral Science, which considers behaviour and cognitions as 'acts-in-context'. RFT emphasizes the role of language, and specifically, how **verbal (derived) rules** guide our behavior. RFT is also related to a third-wave therapy (ACT), which focuses on positive, **resilience** factors. In this project we will investigate the role of pain **acceptance (resilience)** and pain **avoidance rules (risk)**.



## EXPERIMENT 1 Implicit Pain-Related Rules

**Participants:** N= 80-100 adolescents (age: 11-17)

**Design:** validation of IRAP/RRT measuring pain avoidance and acceptance.



**Phase 1: animal fear**  
**Phase 2: acute pain**  
**Phase 3: chronic pain**



## EXPERIMENT 2 Cold Pressor Task

**Participants:** N= 120 schoolchildren (age: 11-17) + parent

**Design:**  
**Pain rule manipulation:** provider (parent vs. experimenter) X content (avoidance vs. acceptance)



**Outcome:** CPT + RIR performance & self-reports

## Aims & Objectives



Identify key **antecedents and consequences** of children's/adolescents' pain-related behaviours.

Investigate the impact of **pain acceptance and avoidance rules** on pain-related behaviour and functioning.

Examine how pain-related rule-following can be influenced in order to promote **resilience and recovery** (through contextual changes)



## DIARY STUDY



**Participants:** N= 100 children/adolescents with chronic pain (age: 11-17) + one parent.

**Design:** adolescents will report **3x/day** + parent **1x/day** on adolescent and parent variables. Adolescent will wear a physical activity monitoring device.

d1

d2

d14

14 days

## PROSPECTIVE STUDY

**Participants:** N= 120 children/adolescents with idiopathic scoliosis (age: 11-15) + one parent.

**Design:** adolescents and parents will report on functioning/recovery variables at **T0-T4**. Biomedical and physical activity variables will be included.

T0

T1

T2

T3

T4

3w 6w 6m 1y



## EXPERIMENT 3 Heat Pain Task



**Participants:** N= 100 schoolchildren (age: 11-17) + parent

**Design:**  
**Context manipulation:**  
 1. Cognitive Defusion  
 2. Task Motivation  
 3. Defusion + Motivation



**Outcome:** HPT + RIR performance & self-reports

## References

- Goubert L., & Simons L.E. (2013) Cognitive styles and processes in paediatric pain. In: McGrath et al., (eds) *Oxford Textbook of Pediatric Pain*, Oxford: Oxford University Press.
- Hayes S. C., Barnes-Holmes D., & Roche, B. (eds) (2001). *Relational Frame Theory: A Post-Skinnerian account of human language and cognition*. New York: Plenum Press.