

# Music learning and collective practice: an innovative intervention to mitigate the consequences of adverse childhood experiences

## **Presenters:**

Alexandra Matte-Landry, Assistant professor, Université Laval, Quebec, Canada

Delphine Collin-Vézina, Full professor, McGill University, Montreal, Canada

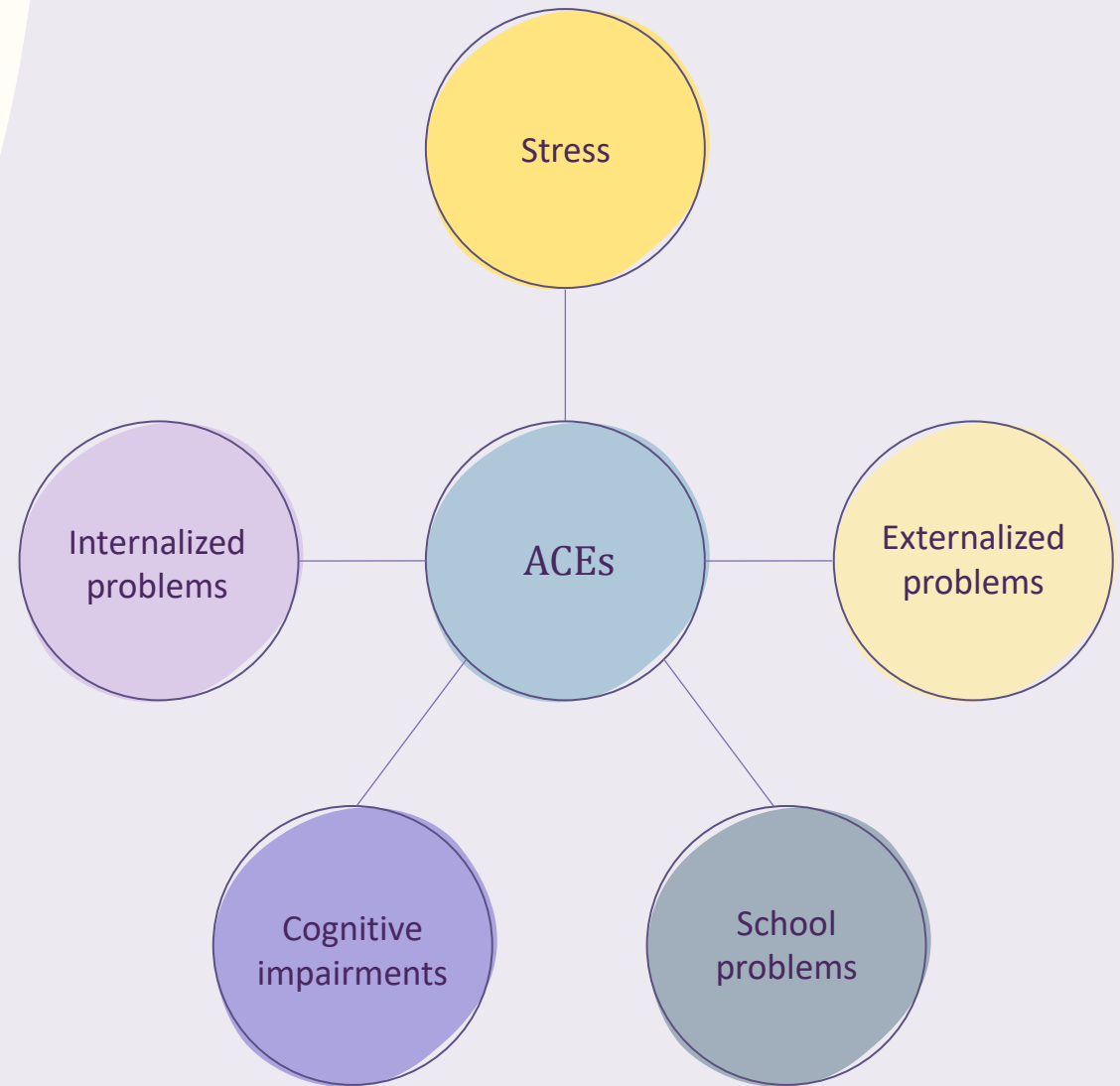
## **Authors:**

Alexandra Matte-Landry, Mélodie Thibault, Camille Bourgelas, Delphine Collin-Vézina  
& Isabelle Ouellet-Morin

ISPCAN Congress, 18-21 August 2024, Uppsala, Sweden

# Background

## The impact of ACEs



# Background

## Effects of music learning and practice

- Stress
- Socio-emotional skills
- Executive functions (EFs)
- School achievement
- Language skills
- Limitations and gaps in knowledge
  1. Effects of music learning and practice on multiple aspects of development
  2. 'At-risk' samples or children exposed to ACEs
  3. Mixed results



## Objective

To assess the evolution of socio-emotional skills, executive functions and stress in children exposed to ACEs who are participating in musical activities at an interdisciplinary specialized social pediatrics community centre.

- Preliminary results of an ongoing study

# The Garage à musique (GAM)

An interdisciplinary specialized social pediatrics community centre

- **Community social pediatrics**
  - Comprehensive approach to health that integrates medicine, law and the social sciences
  - Integrated and personalized care and services to children in difficult circumstances (e.g., ACEs)
- **Music activities: collective music practice**
  - Exploration of a musical instrument and being part of a group to help children and develop their full potential



# Methods - Design

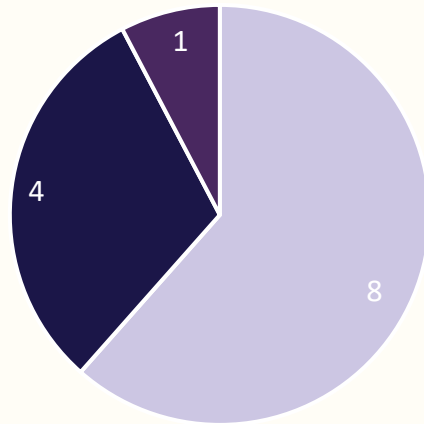


# Methods - Sample

## Experimental group (EG; n = 13)

Mean age = 8 years

Gender

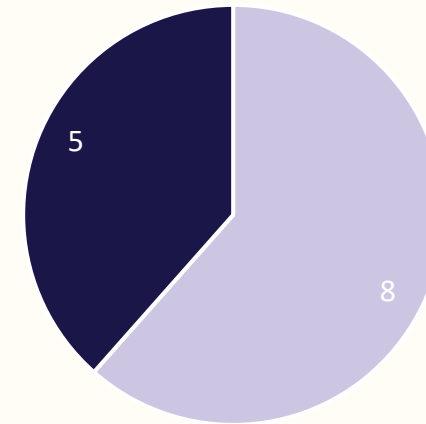


■ Female ■ Male ■ Other

## Comparison group (CG; n = 13)

Mean age = 10 years

Gender



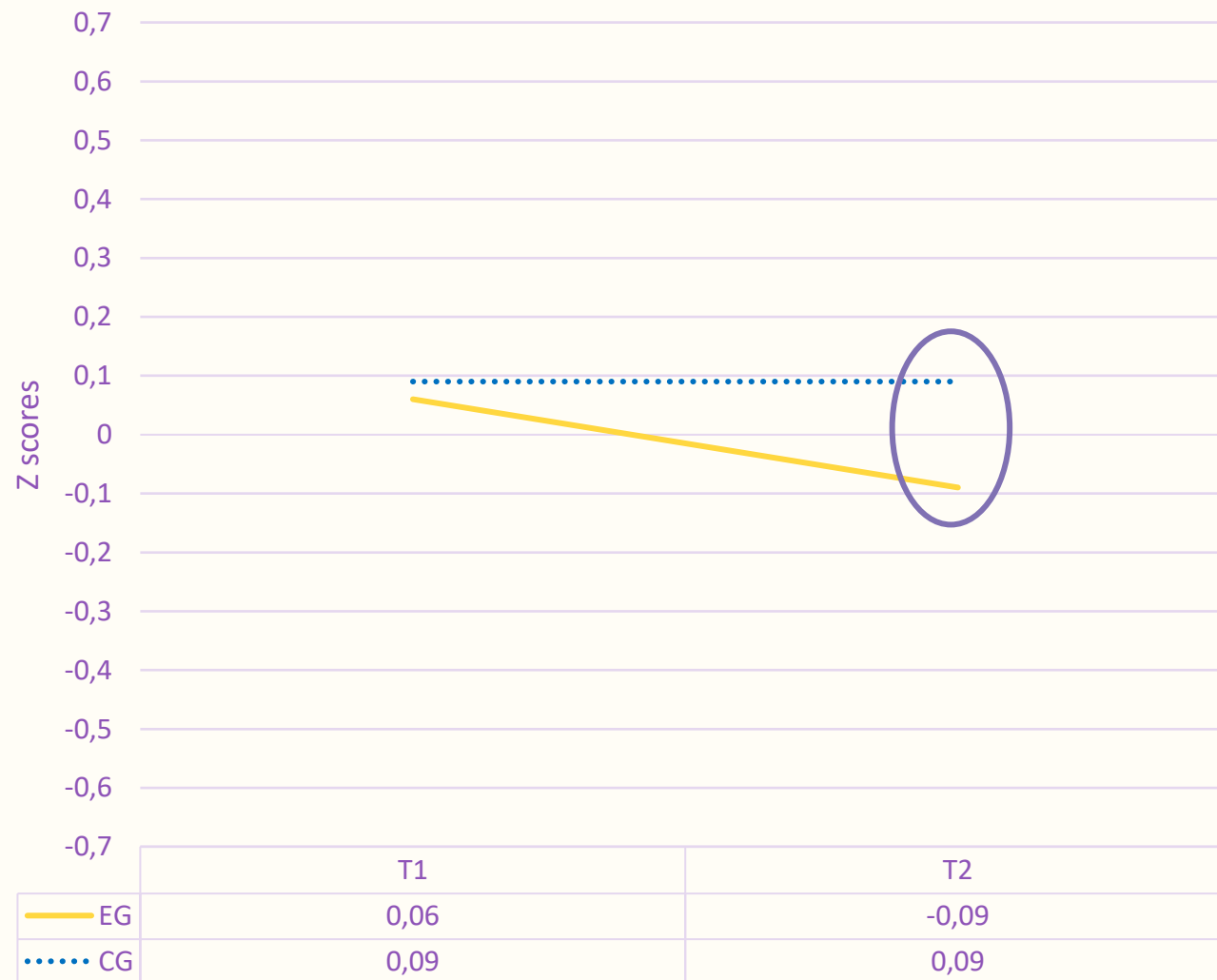
■ Female ■ Male

# Methods – Measures (T1 and T2)

Variables/constructs	Measure	Informant
Internalized and externalized problems	Child Behavior Checklist (CBCL; Achenbach & Rescorla, 2001)	Parent
Executive functions behaviors	Behavior Rating of Executive Function (BRIEF; Gioia et al., 2000)	Parent Teacher
Parental stress	Parental Stress Index (PSI; Abidin, 2012)	Parent
Chronic stress	Cortisol concentrations in hair samples	Child



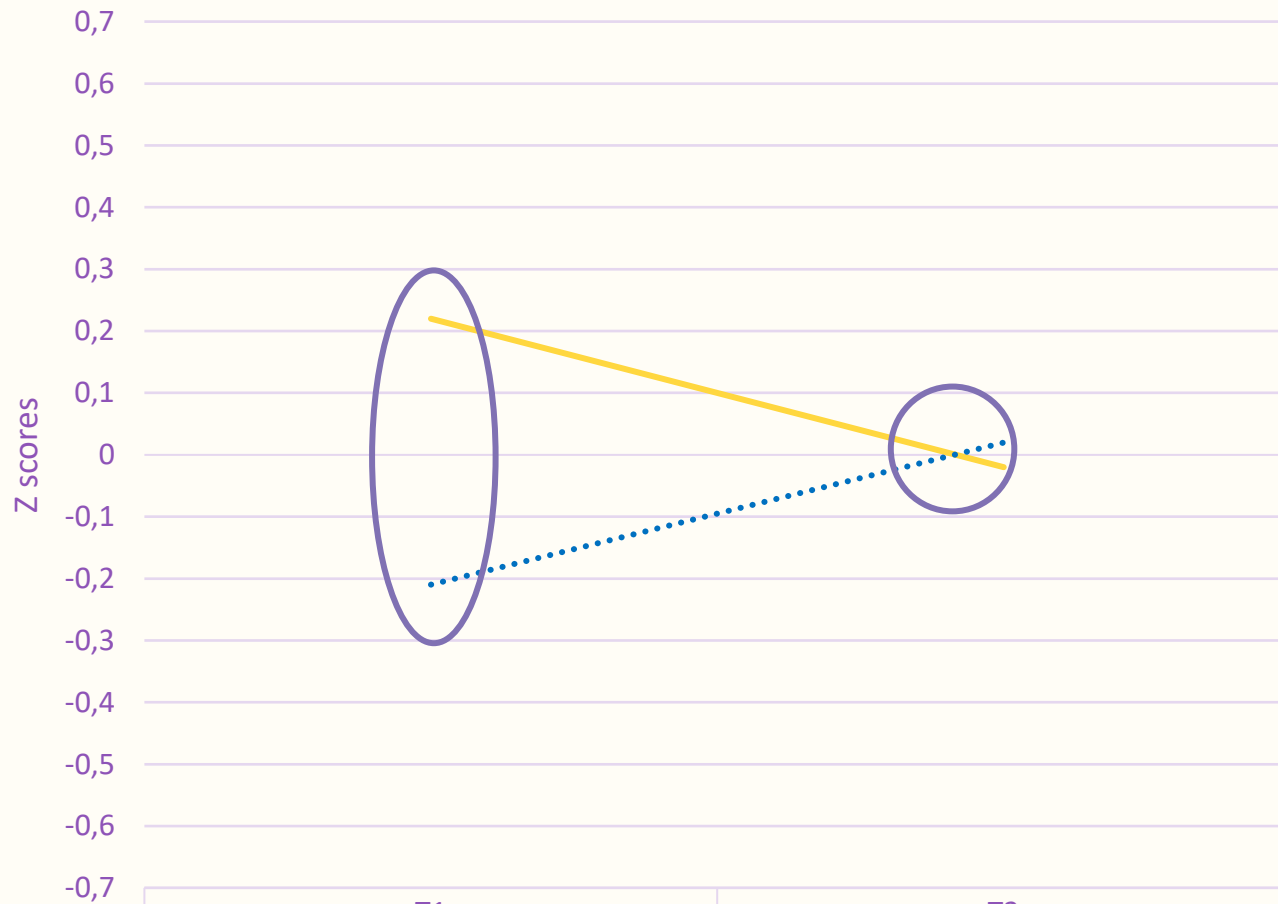
Internalized problems  
(social withdrawal, anxiety, depression)



Repeated measures ANOVAs (no covariables): main effects of group and time, and interaction effect (group \* time)

NS, although effect size was moderate for the interaction effect ( $\eta^2 = .023$ ;  $p > .05$ ), suggesting larger decreases in internalized problems in the EG compared to the CG.

### Externalized problems (rule-breaking, aggression)

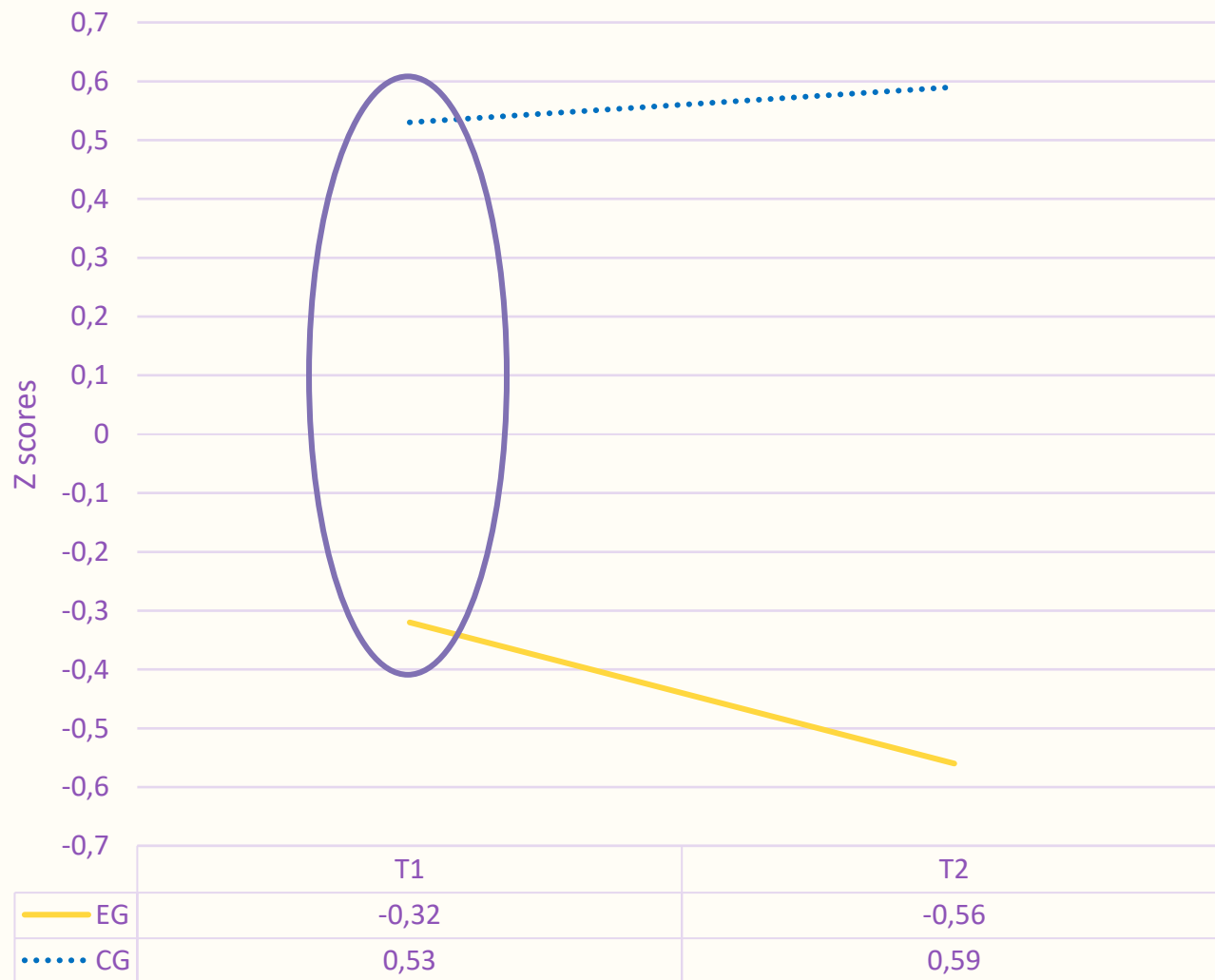


	T1	T2
EG	0,22	-0,02
CG	-0,21	0,02

Repeated measures ANOVAs (no covariables): main effects of group and time, and interaction effect (group \* time)

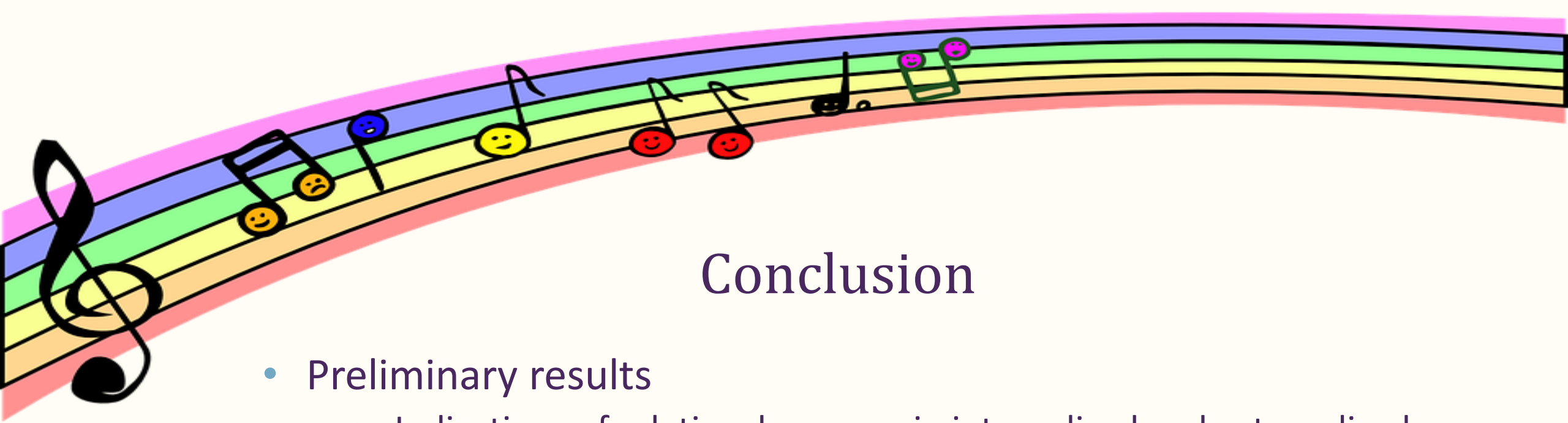
Significant, effect size was large for the interaction effect ( $\eta^2 = .204$ ;  $p = .045$ ), suggesting larger decreases in externalized problems in the EG compared to the CG.

### Chronic stress (cortisol concentrations in hair samples)



Repeated measures ANOVAs (no covariables): main effects of group and time, and interaction effect (group \* time)

NS, although effect size was large for the interaction effect ( $\eta^2 = .102$ ;  $p > .05$ ), suggesting larger decreases in chronic stress in the EG compared to the CG.



## Conclusion

- Preliminary results
  - Indications of relative decreases in internalized and externalized problems and chronic stress among children participating in music activities at this interdisciplinary specialized social pediatrics community centre.
    - Non-significant results and between group differences at T1
    - Ongoing study: other variables (EFs, school achievement, language skills), covariables, sample size

# Recommendations and takeaways



- This study could eventually provide additional support that music learning and collective practice is an innovative intervention to mitigate the consequence of ACEs on multiple aspects of development.
- Creative and playful group activities, such as music learning and collective practice, may constitute promising interventions to support children development and resilience.

# Thank you

Contact: [alexandra.matte-landry@tsc.ulaval.ca](mailto:alexandra.matte-landry@tsc.ulaval.ca)

