

**DOES CHILDHOOD VIDEO GAME CONSUMPTION
DECREASE SCHOOL ENJOYMENT?**

EFFECTS OF VIDEO GAMES ON ACADEMIC MOTIVATION.

Gabriel A. Tiraboschi, PhD
 Gabrielle Garon-Carrier, PhD
 Jonathan Smith, PhD
 Caroline Fitzpatrick, PhD



70's



80's



90's



00's



10's



20's



In Canada it is estimated
that 95% of school-age
boys play video games with
an average of 12h per week

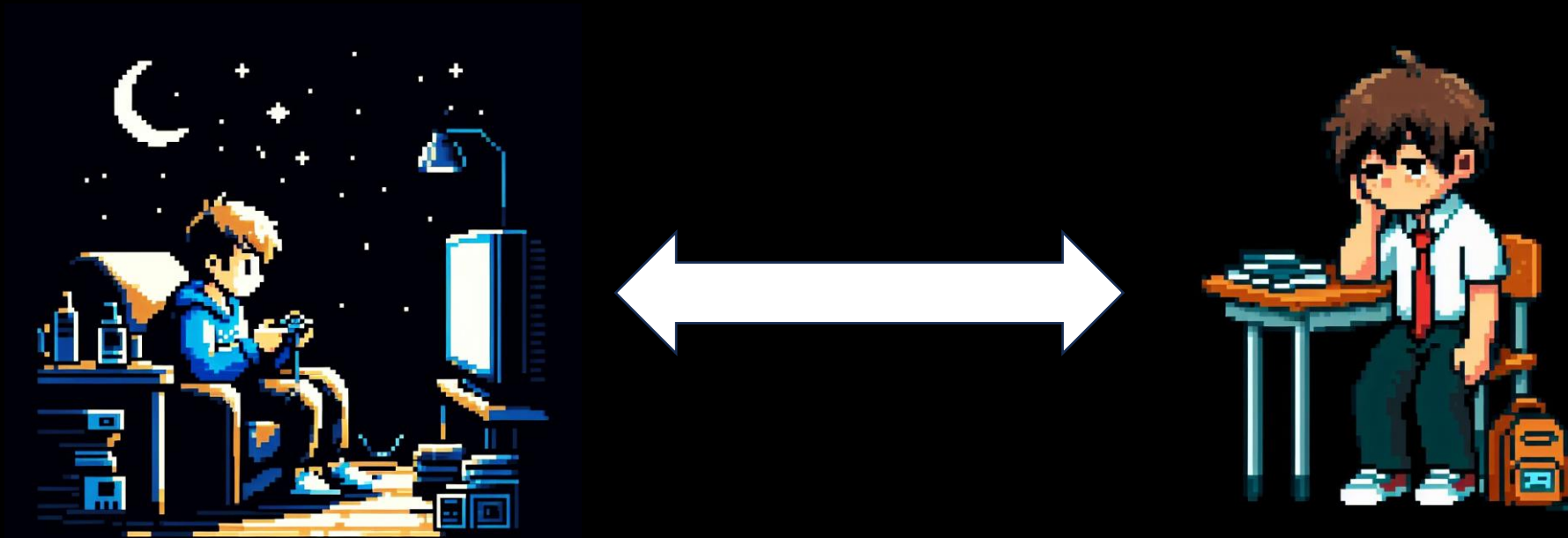
Entertainment Software Association of Canada 2020

Can video games affect children learning?

- Inattention and Hyperactivity (Gentile et al., 2012, Tiraboschi et al., 2022)
- Heavy gaming → Academic engagement (Przybylski and Mishkin, 2016)
- Academic performance (Meta-analysis from Adelantado-Renau et al., 2019)
- Why are children performing worse in school?
- **Academic motivation**



Objectives of our study



Method

- Quebec Longitudinal Study of Child Development (QLSCD, 1998–2023)
- Ages 7 (n= 1537), 8 (n= 1526), and 10 (n= 1402)
- N = 1,631 (48% boys and 52% girls) – Info in at least 1 time point
- Random Intercept Cross-Lagged Panel Model (RI-CLPM)
- Stratified by sex

Method: Video game playing measure

- At ages 7, 8, and 10, parents reported the average daily time video game playing by their children
- “On average, how much time does your child spend each day playing computer or video games?”
- “None”, “Less than one hour”, “From 1 up to 3”, “From 3 up to 5”, “From 5 up to 7”, “More than 7 hours”
- Converted to midpoint values



Method: Academic motivation

- At ages 7, 8, and 10, children were asked about their academic enjoyment in reading, writing, and math
 - 1- "I like reading/writing/math"
 - 2- "Reading/writing/math interest me a lot"
 - 3- "I read/write/do math"
- Derived from the intrinsic motivation subscale of the Elementary School Motivation Scale ($\alpha = .76$ to $.80$)
- 5-point Likert scale from "Always no" to "Always yes"
- Standardized to an intrinsic motivation scale from 0 to 10



Results

- Invariance testing :
 - Supported decision to stratify by sex
($\Delta \chi^2 = 213.46$, $\Delta df = 15$, $p < .001$)
 - Significant better fit with constrains for equality over time
($\Delta \chi^2 = 6.3$, $\Delta df = 8$, $p = .61$)
- Good fit (RMSEA = 0.000, Robust CFI = 1.000, and $\chi^2 = 7.712$, $p = .657$)
- Model result:
 - Autoregressive effects of motivation for boys and girls
 - No within-person cross-lagged associations for girls



Results for boys

(N = 1,631)

Age 7



$\beta = -.11^*$
95% CI [-.22 to .00]

Age 8



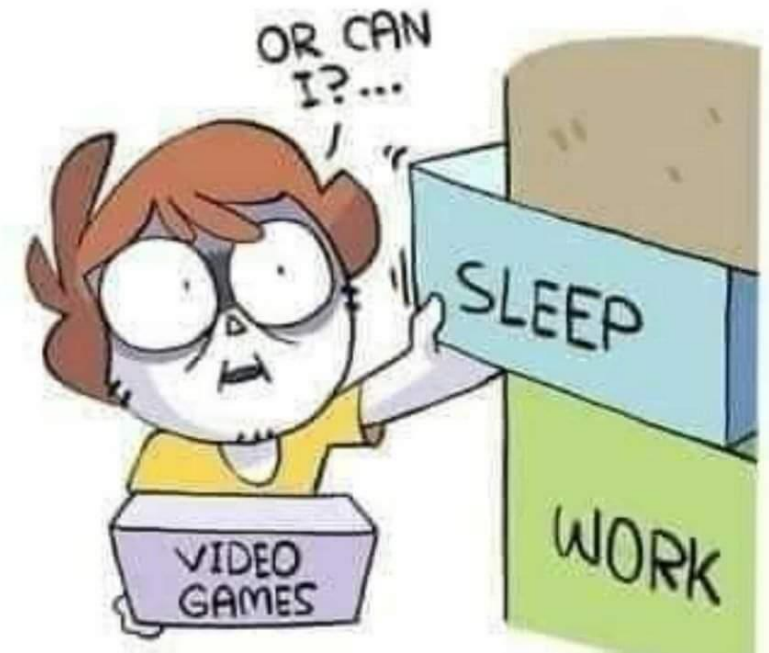
$\beta = -.10^*$
95% CI [-.19 to -.01]

Age 10



Discussion

- First study to show that gaming precedes lower academic motivation in boys during middle childhood
- Not for girls → Different media use (less heavy gaming)
- Possible explanations:
 - Reward and arousal from video games → Boys less responsive to school incentives
 - Time gaming can replace time studying



Thank you!

gabriel.arantes.tiraboschi@usherbrooke.ca

Fonds de recherche
Société et culture

Québec 



Table with full results
and References



E-mail me!

