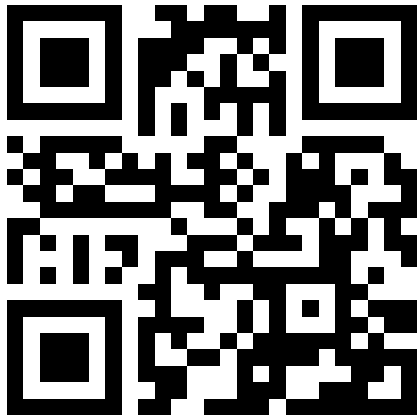


Learning to hate? Exploring long-term effects of adolescents' cyberhate exposure



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What is cyberhate?

Specific form of cyberaggression **targeting groups or individuals** based on their actual or perceived **group identity**

(Almagor 2011; Kansok-Dusche et al., 2023)

Rooted in **intergroup bias** and **prejudice**

(Mondal et al., 2017)

E.g., **ethnicity, religion, sexual orientation**





Why focus on adolescents?

Cyberhate frequently surfaces in **social media** and **online discussions**, becoming a part of adolescents' digital experiences

(Castaño-Pulgarín et al., 2021; Kansok-Dusche et al., 2023; Machackova et al., 2020)

Developmental stage: higher **peer influence**, ongoing **moral development** and **formation of intergroup attitudes**

(Cortese, 2005; Muuss, 1976)

Extremist actors tailor their communication to **appeal to youth**

(Douglas, 2010; McNamee et al., 2010)

Exposure rates: **26%–69%**
Perpetration rates: **5%–32%**

(Kansok-Dusche et al., 2023)



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Research gap

Limited longitudinal evidence on:

How repeated exposure **affects behaviour**

Whether it fosters **tolerance and imitation**

Psychological mechanisms involved

Our focus:

Desensitisation and **social learning** frameworks

(Anderson & Bushman, 2018; Bandura, 1978)





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Desensitisation perspective

Repeated exposure **reduces emotional/cognitive reactivity**

→ **normalises aggression**

(Rule & Ferguson, 1986)

Our focus: cognitive dimension

Moral disengagement: minimising consequences

Downplaying or overlooking harm caused by cyberaggression

(Bandura, 1999, 2002)

Studied in the context of **online communication** and **cyberbullying**

(Nicklin et al., 2020; Pabian et al., 2016)

Emerging research on cyberhate – qualitative, experimental, two-wave longitudinal design, or focus on adults

(Abuín-Vences et al., 2022; Cohen et al., 2021; Meerson et al., 2025; Ortiz, 2019; Soral et al., 2018, 2020, 2024)





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Social learning theory

Behaviour is learnt through observation, especially when:

Seen as **acceptable**

Goes **unpunished / rewarded**

Reinforced via **norms**

(Bandura, 1961, 1978; Huesmann, 2018)

Media exposure to hate or aggression can lead to **observational learning**

(Anderson & Bushman, 2018; Barlett & Anderson, 2013)

In cyberhate context:

Cyberhate often **visible, repeated, unpunished, or rewarded** (e.g., likes)

May **appear “normal”** and **encourage imitation**

Cross-sectional studies show **overlap** of frequent **cyberhate exposure** with **perpetration**

(Bedrosova et al., 2023; Wachs et al., 2021; Wachs & Wright, 2018)





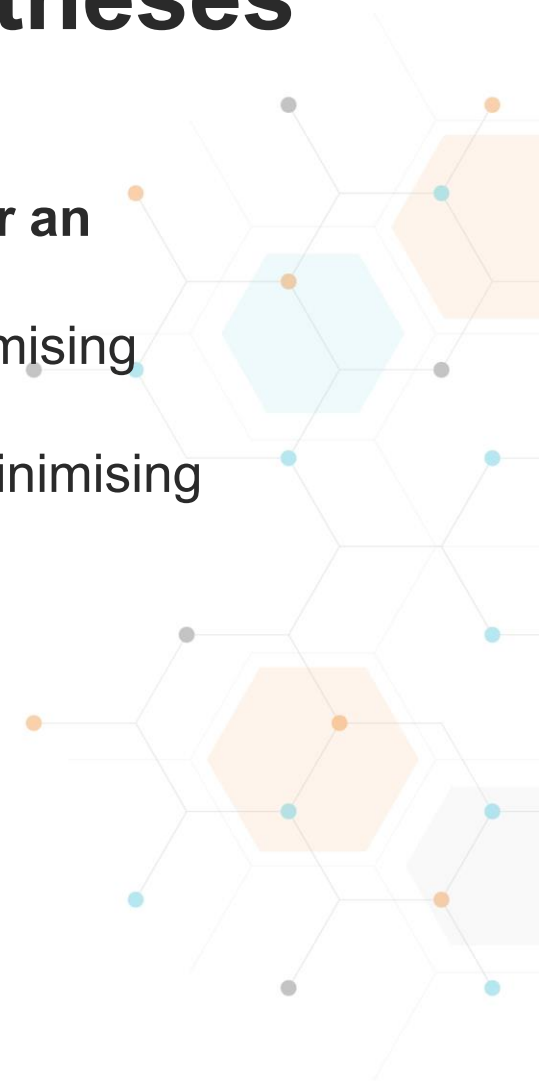
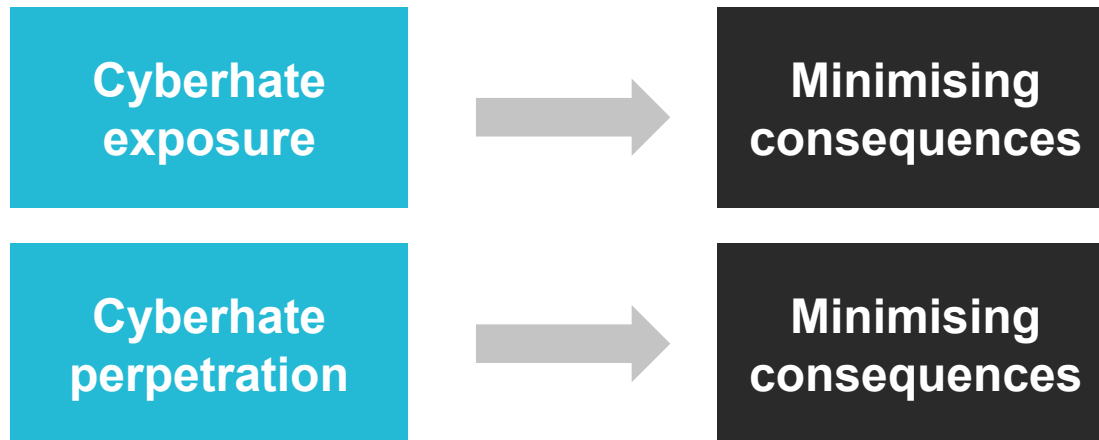
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Research questions and hypotheses

Desensitisation: Does frequent cyberhate exposure/perpetration foster an increased tendency to minimise consequences?

H1: More frequent cyberhate exposure will lead to higher levels of minimising consequences.

H2: More frequent cyberhate perpetration will lead to higher levels of minimising consequences.



Research questions and hypotheses

Social learning: Does this lead to the adoption of hateful behaviours in the form of cyberhate perpetration?

H3: More frequent cyberhate exposure will lead to higher levels of minimising consequences. In turn, this will lead to more subsequent cyberhate perpetration.

H4: More frequent cyberhate perpetration will lead to higher levels of minimising consequences. In turn, this will lead to more subsequent cyberhate perpetration.





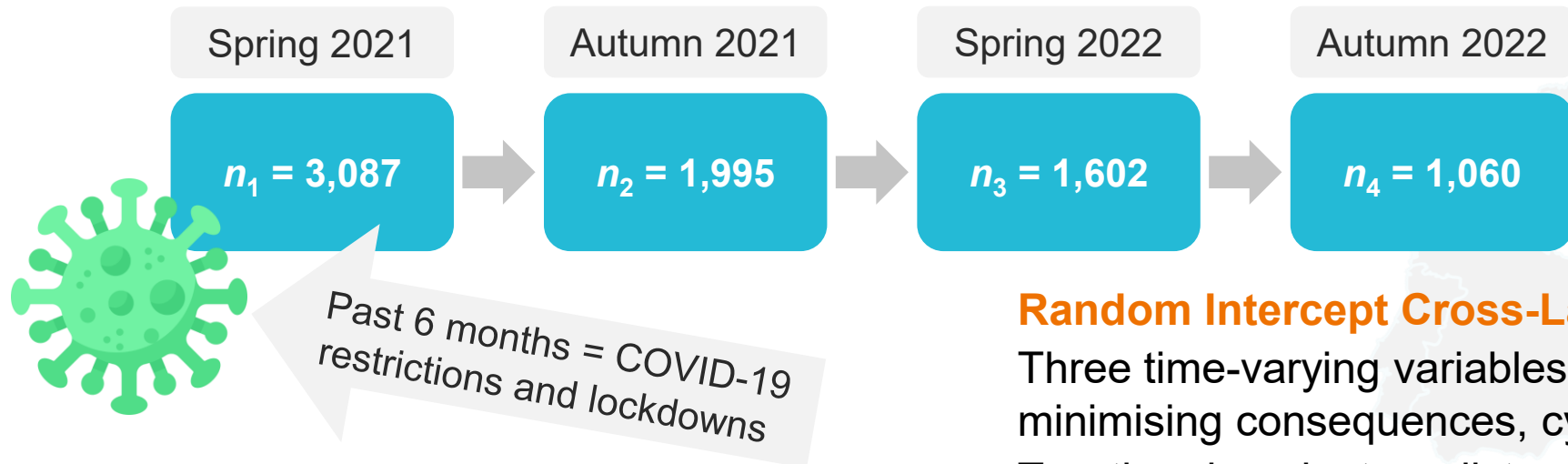
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Sample and procedure

4-wave longitudinal survey (2021-2022, 6-month lag)

Czech adolescents aged **11-16 yo** ($M = 13.47$, $SD = 1.74$), 50.1% boys

Representative for Czech households by **SES, municipality size, region**



Random Intercept Cross-Lagged Panel Model

Three time-varying variables (cyberhate exposure, minimising consequences, cyberhate perpetration)

Two time-invariant predictors (age, gender)



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Measures: cyberhate experiences

Newly developed, 7-point scale (1 = *never*, 7 = *several times each day*)

Exposure (1 item)

How often during the past 6 months have you seen on the internet hateful contents that target groups of people or individuals (e.g., people with different skin colour, religion, nationality, or sexual orientation)?

Perpetration (3 items)

I wrote about someone or to someone hateful or degrading comments or messages about their:
(1) *sexual orientation*, (2) *race, ethnicity, or nationality*, (3) *religion*

Index: 1 = no perpetration, 2 = once, 3 = repeated perpetration

		T1 (n = 3,087)	T2 (n = 1,995)	T3 (n = 1,602)	T4 (n = 1,060)
Exposure	... never	40.2%	40.4%	40.8%	42.5%
	... once	12.3%	14.0%	13.7%	14.5%
	... repeatedly	46.9%	45.1%	45.0%	42.6%
Perpetration	... never	92.3%	93.0%	92.1%	92.7%
	... once	2.7%	1.5%	2.7%	1.4%
	... repeatedly	4.9%	5.3%	5.1%	5.8%



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Measures: minimising consequences

Minimising attitudes toward bullying – dimension of the moral disengagement scale by Garland et al. (2017)

Adapted for **online interactions**

5-point scale (1 = *strongly disagree*, 5 = *strongly agree*), $\omega = .73-.84$

Sometimes, people can be nasty to each other on the internet, for example, they might call other people names or tease them. How much do you agree or disagree that...

... it is just a part of growing up.

... no one has ever died because of it.

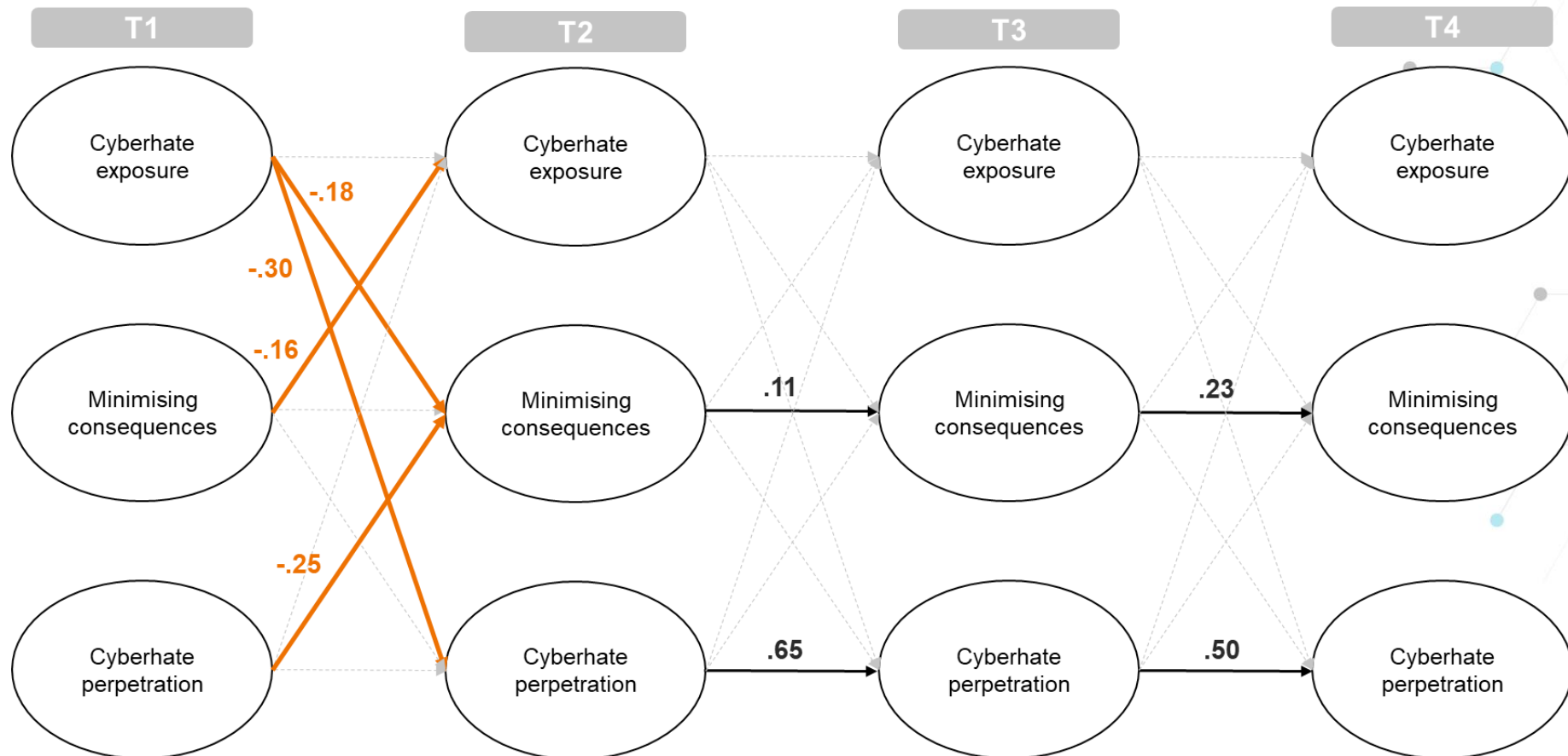
... it does not have any long-lasting effects.

... there is no harm in it.

	T1 (n = 3,087) M (SD)	T2 (n = 1,995) M (SD)	T3 (n = 1,602) M (SD)	T4 (n = 1,060) M (SD)
Minimising consequences	2.33 (0.85)	2.22 (0.87)	2.22 (0.87)	2.18 (0.92)

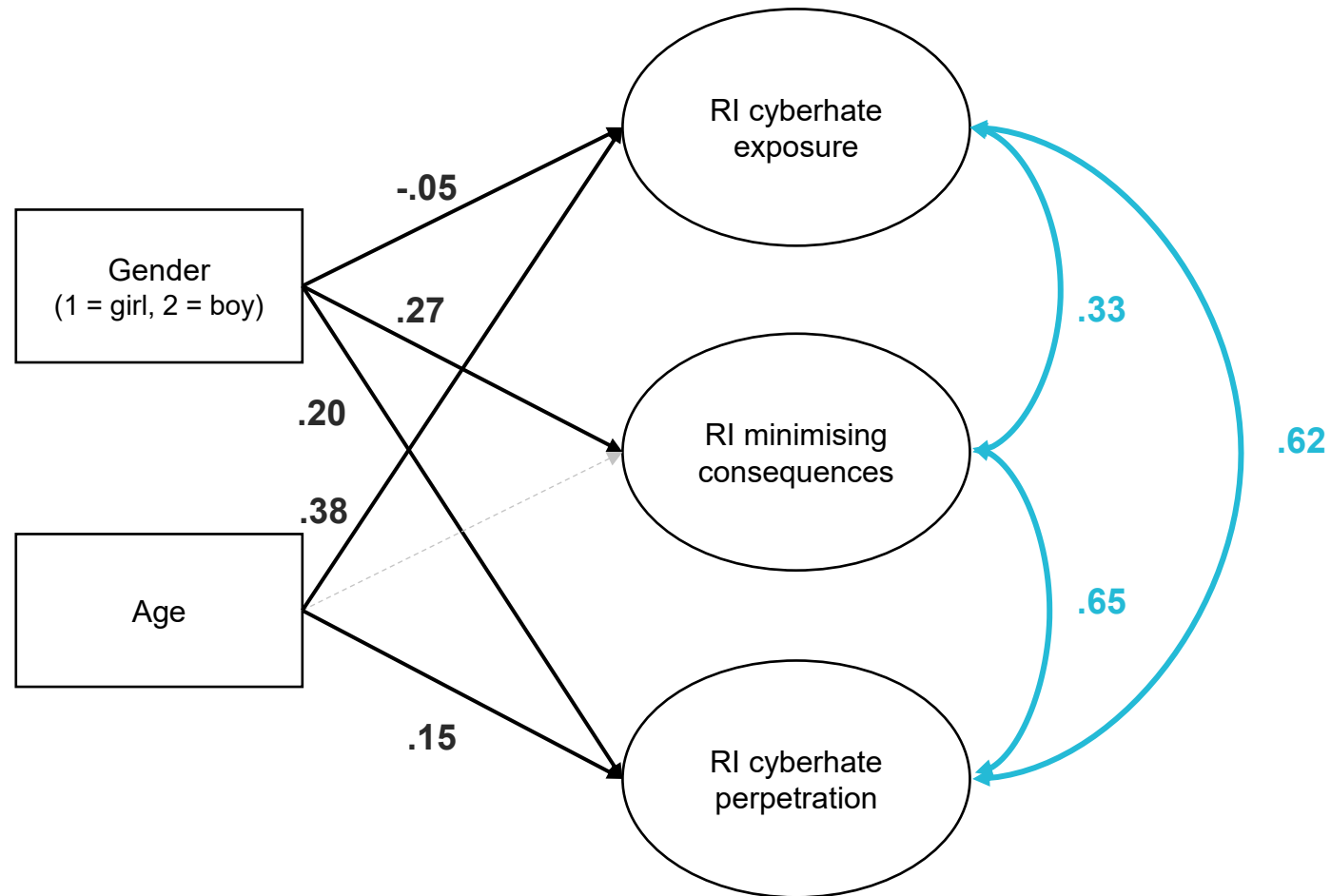
Unexpected within-person dynamics and the absence of causal effects

Desensitisation and social learning hypotheses were not confirmed on the within-person level
On the contrary: sensitisation effect (but only in T1–T2), cyberhate exposure lead to decrease in perpetration



Between-person differences aligned with theory

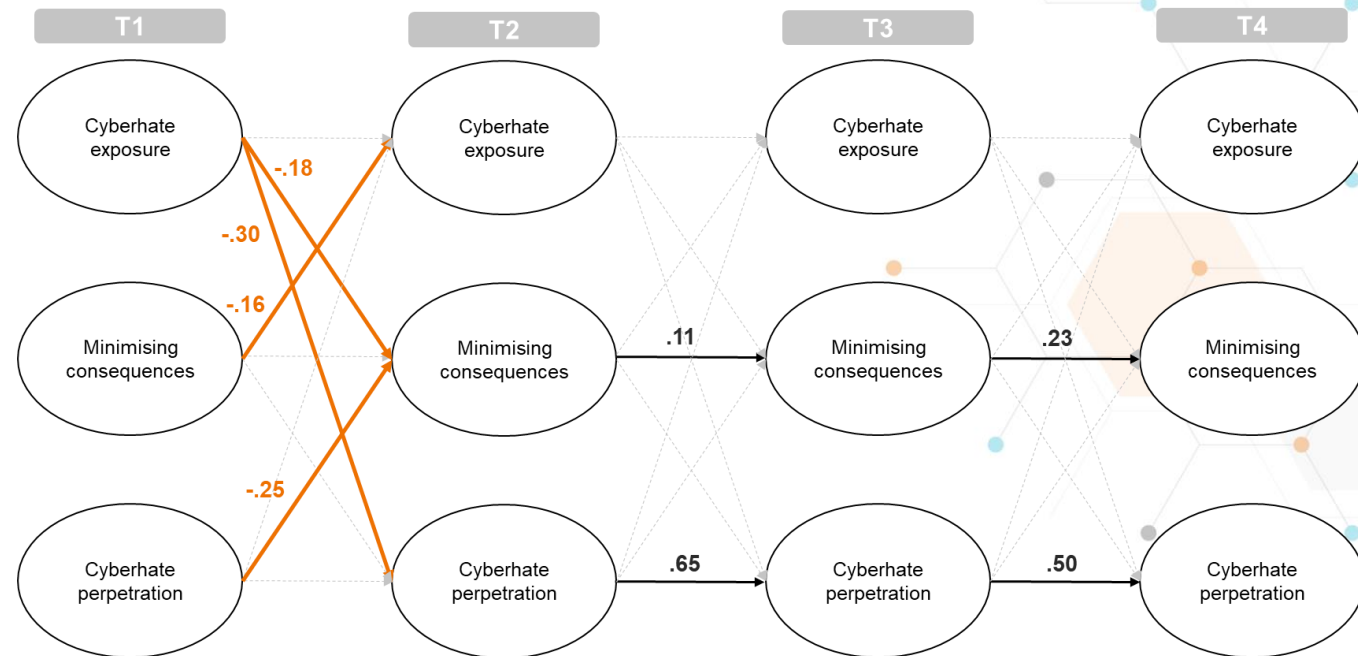
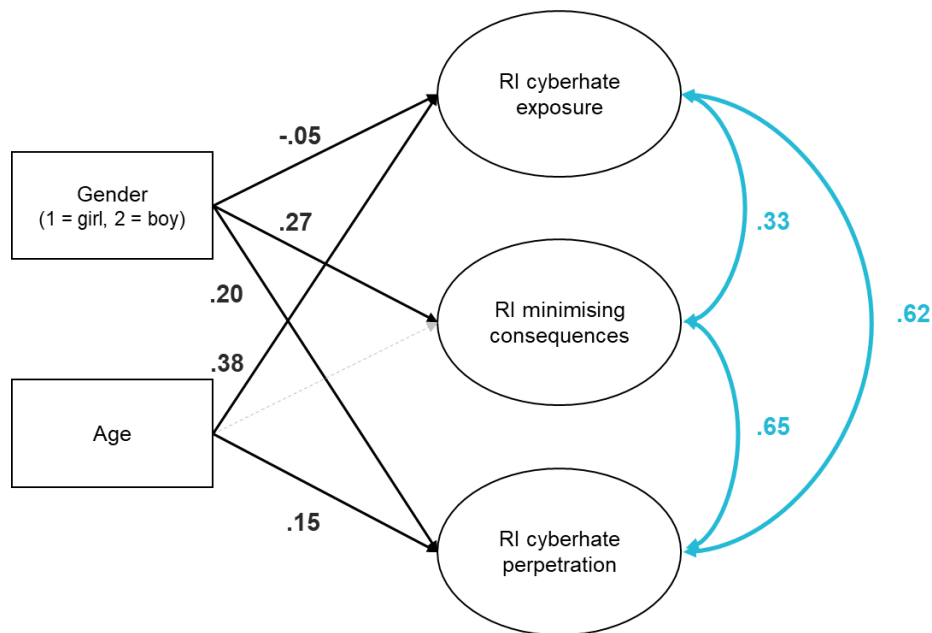
Expected associations only on the between-person level



Discussion: lack of causal effects

Need for studies exploring the **causal effects** of desensitisation and social learning

In our study, only **between-person effects** aligned with theoretical expectations (cf. **within-person level**)





Discussion: sensitisation?

Bystanders

Frequent exposure → **heightened awareness and sensitivity** to the harmful consequences of witnessed cyberhate

Especially if the **harm is visible or publicly acknowledged** (e.g., via comments, reactions, or removals)

Not hypothesised: higher **cyberhate exposure predicted a decrease in perpetration** in the subsequent wave

A promising dynamic: **cyberhate exposure** does not necessarily increase the risk of perpetration, but **may foster greater awareness and restraint**



Discussion: sensitisation?

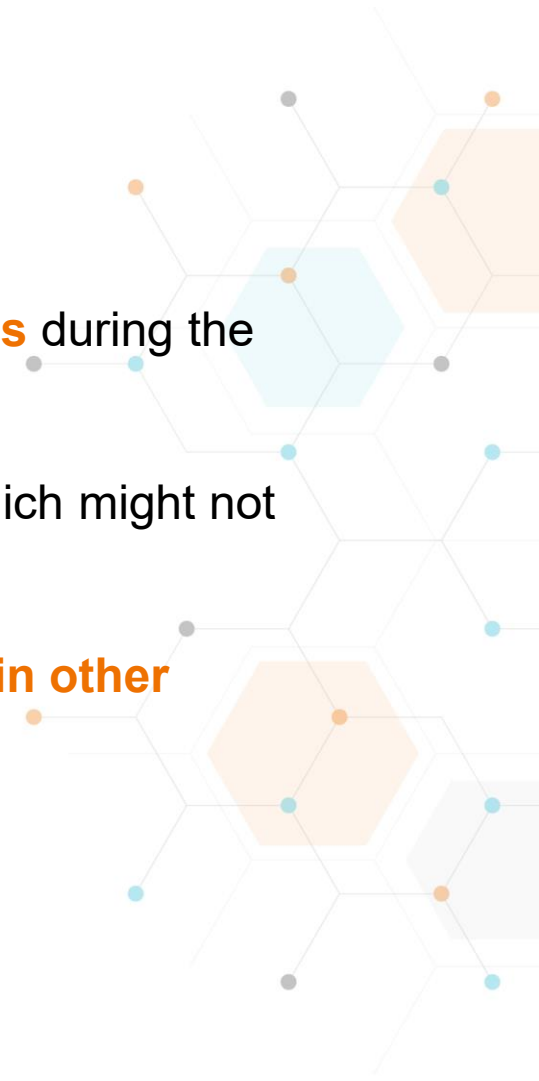
Perpetrators

Cyberhate perpetration → **a decrease in the tendency to minimise consequences** during the next wave

Perpetrators retain cognitive awareness of the harmful impact of cyberhate (which might not prevent them from engaging in it)

Cognitive awareness of consequences may operate **differently in cyberhate than in other cyberaggressive behaviours**

Cyberhate: **intergroup bias** and legitimisation of **harm for out-groups**



Discussion: sensitisation?

COVID-19 effect?

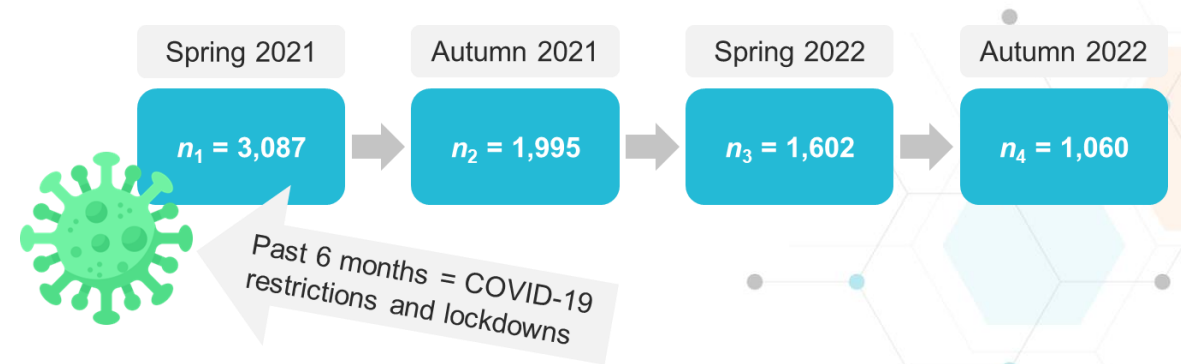
Sensitisation found only in T1–T2

Intensified online presence and **societal focus on online norms** during the pandemic

Adolescents were **more likely to witness or experience the outcomes of harmful online conduct**, potentially **fostering greater sensitivity** to its consequences

Increased exposure to **media coverage / educational initiatives** addressing the consequences of harmful online behaviours → **reducing tendency to minimise the consequences?**

(Heitmayer & Schimmelpfennig, 2024; Huang et al., 2024; Vejmelka et al., 2022)





Limitations and future directions

Low prevalence of cyberhate experiences (mainly perpetration); analysis still in progress

» **Purposefully oversampling perpetrators**

Broad measurements of cyberhate and minimising consequences

» **Focusing more specifically on a selected type of cyberhate content, and exploring desensitisation toward it**

» **Investigation of other moral disengagement mechanisms (e.g., dehumanisation)**

COVID-19 influence?

» **Investigation in post-pandemic context**



Thank you for your attention



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