

Insight into the vicious circle: A longitudinal study of health anxiety and health-related internet use in adolescents

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Background



health anxiety

- ~ fear of contracting an illness
- ~ misinterpretation of symptoms
- ~ catastrophic cognitions

both HA and adolescence ~
attention to bodily changes



health-related internet use

- ~ seeking information, reading articles, posts, interacting with content
- ~ information about illness, lifestyle, symptoms, sexual health, mental health...





Background



health anxiety



health-related internet use



high health anxiety ~ intensive health-related internet use





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Background

- two common interpretations:



- people with high health anxiety perceived as the most susceptible to both
 - higher need for reassurance, more catastrophic cognitions, different seeking style



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Research gaps

- theoretically plausible (Jagtap et al., 2021; Nicolai et al., 2022) x deduced from between-person designs
 - cross-sectional data
 - comparing one person to another, not changes for the same person
- co-occurrence, or causality? (Brown et al., 2014)
- limited literature on long-term effects (te Poel et al., 2016)
- Are initially health anxious users more susceptible than the others? If not, who is? (te Poel et al., 2016; Lokajova et al., 2023)
- very scarce evidence on adolescent samples





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The current study

- When one's **health anxiety** increases above their common level, does it lead to increase in their **health-related internet use** 6 months later?
- When one's **health-related internet use** increases above their common level, does it lead to increase in their **health anxiety** 6 months later?
- Do these effects differ for **adolescents with low, medium and high level of health anxiety** (compared to the others)?





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Methods

- Longitudinal design, 3 waves, 6 months apart
 - T1 in June 2021, T2 in December 2021, T3 in May/June 2022
 - context of Covid-19
- N = 2,500 Czech adolescents (N = 1,102 in T3)
 - Age 11-16 in T1, 50% girls
 - Quota sampling
- Health anxiety (Multidimensional Inventory of Hypochondriacal Traits, 4 items)
- Health-related internet use (Escobar-Viera et al., 2018; adapted)
- Grouping: high, medium and low initial health anxiety (33th and 66th percentile)
- Random-intercept cross-lagged panel model (RI-CLPM) analysis



Results

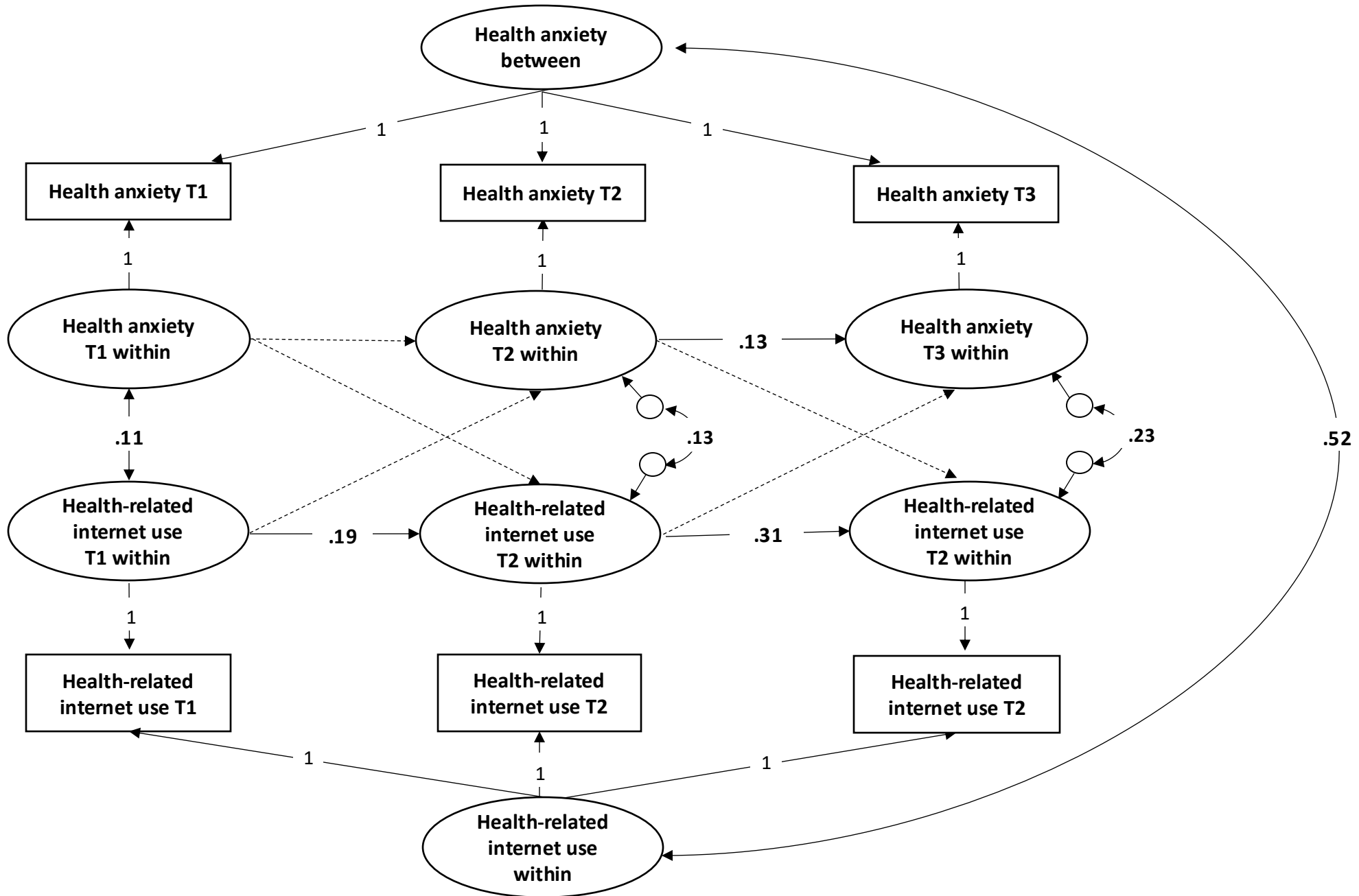




Table 2. Results of the RI-CLPM model with and without grouping.

	Ungrouped			High HA			Medium HA			Low HA		
	β	SE β	p	β	SE β	p	β	SE β	p	β	SE β	p
Cross-lagged effects												
W1_HA → W2_HRIU	-.01	.05	.88	-.12	.11	.261	-.19	.19	.308	.06	.07	.408
W2_HA → W3_HRIU	.04	.04	.41	.12	.07	.071	.15	.07	.033	.11	.05	.027
W1_HRIU → W2_HA	-.01	.05	.89	-.01	.08	.900	.16	.07	.026	.17	.05	< .001
W2_HRIU → W3_HA	.10	.05	.048	.11	.07	.09	.18	.07	.010	.09	.05	.073
Between-person corr.	.52	.04	< .001	.18	.09	.048	.38	.20	.065	.12	.26	.646

Note: HA = Health anxiety, HRIU = Health-related internet use; STDYX standardized results, significant effects are in bold

$\chi^2 = 3.899$, $p = .27$, RMSEA = .02 [.00; .06], CFI = 1, TLI = .99, SRMR = .01





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Results

- High health anxiety
 - Frequent users x least susceptible to the vicious circle
 - Potential ceiling effect (Too high to increase?)





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Results

- High health anxiety
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 - Potential ceiling effect (Too high to increase?)
- Medium health anxiety
 - Susceptible to the vicious circle
 1. health-related internet use → health anxiety
 2. health-related internet use ↔ health anxiety





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Results

- High health anxiety
 - Frequent users x least susceptible to the vicious circle
 - Potential ceiling effect (Too high to increase?)
- Medium health anxiety
 - Susceptible to the vicious circle
 1. health-related internet use \rightarrow health anxiety
 2. health-related internet use \leftrightarrow health anxiety
- Low health anxiety
 - Susceptible to the temporary effect of health-related internet use on health anxiety
 - May be resilient towards the vicious circle





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Limitations and conclusions

- health-related internet use at one time point ~ reflection of use patterns at that time
- groups created arbitrarily for contrasting
- effect of Covid-19 difficult to bracket, especially at T1
- the first longitudinal study on this topic on adolescents
- successful replication of the findings from te Poel et al (2016) with deeper exploration of the group with seemingly non-problematic level of health anxiety
- underlines the need to draw attention to this group





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