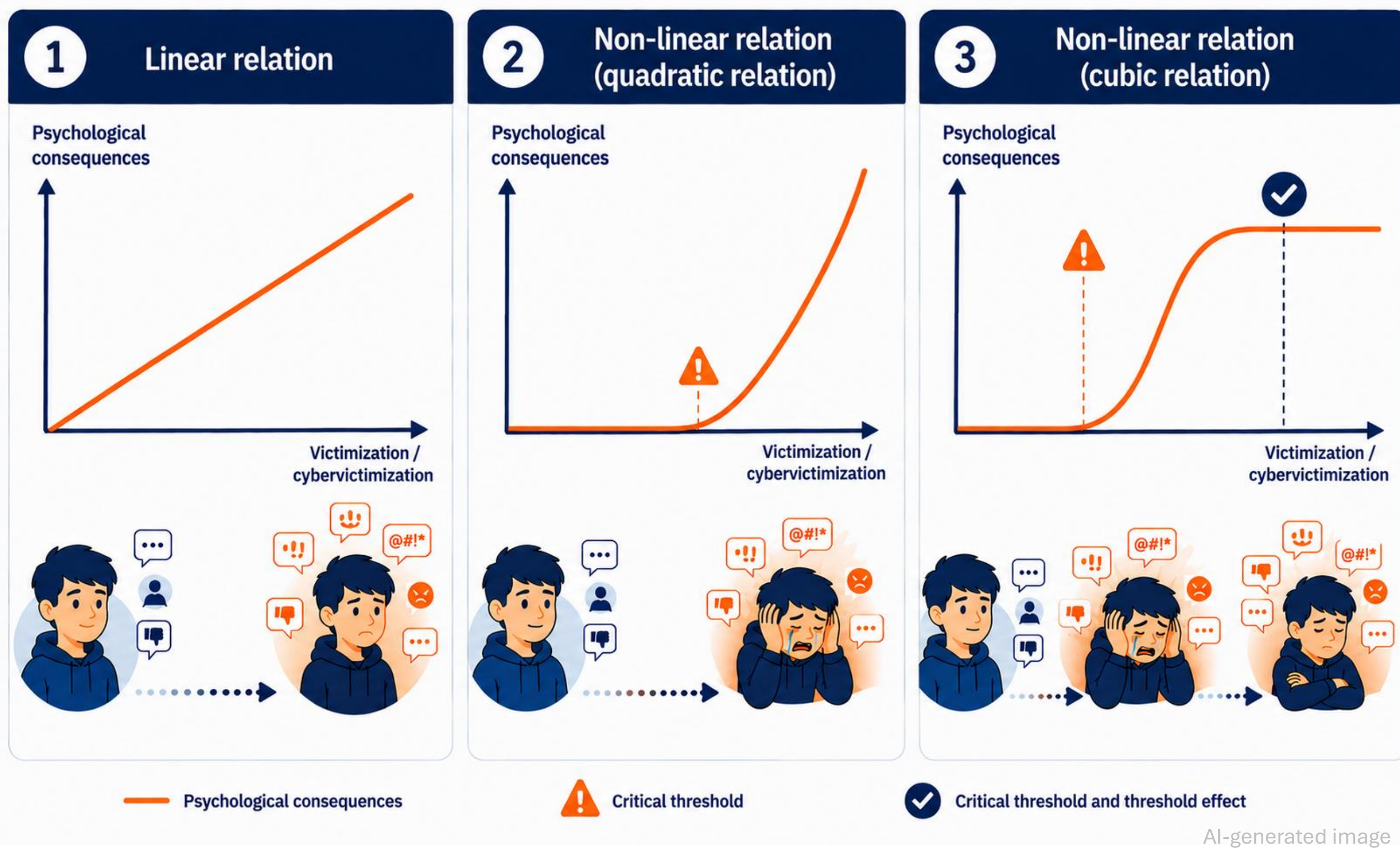


Beyond cut-offs: Examining linearity and threshold effects in the association between victimization and psychological consequences

Introduction

- Bullying victimization is associated with psychological consequences such as depression or negative emotions (Moore et al., 2017)
- One theoretical question remains unanswered:** do the psychological consequences increase gradually with each experience of victimization, or do they only become apparent once a certain level of exposure has been reached?
 - **1) Linear hypothesis:** psychological consequences increase proportionally with victimization, with no threshold effect
 - **2 & 3) Nonlinear hypothesis:** psychological consequences change once specific victimization thresholds are reached
- This question has methodological implications because many studies create categories (e.g. victims or non-victims) using predefined thresholds that have not been widely tested empirically (e.g. Solberg & Olweus, 2003)



Aim Examine whether the relation between traditional victimization/ cybervictimization and depression/ negative emotions is linear or characterized by slope discontinuities (threshold effect)

Methodology

Sample

- Self-report questionnaire
- Belgian French speakers

Sample	N	Age	Gender % (Boy/Girl)
Sample 1 (S1)	2,210	[11;18]	51.7/ 48.3
Sample 2 (S2)	4,262	[7;13]	52.3/ 47.7
Sample 3 (S3)	3,962	[9;21]	50.5/ 49.5

Analysis

- Hierarchical polynomial (x, x^2, x^3) regression
- Replication in 3 samples

Measures

- Traditional victimization** : 13 items $\Omega_{S1}=.810$; 12 items $\Omega_{S2}=.884$; 8 items $\Omega_{S3}=.854$ (Tolmatcheff et al., 2020)
e.g.: make fun of me, force me to give something away, spread rumours, hit me, punch me or kick me
- Cybervictimization** : 3 items $\Omega_{S1}=.444$; 6 items $\Omega_{S2}=.722$; 3 items $\Omega_{S3}=.687$ (Tolmatcheff et al., 2020)
e.g.: call me or send me text messages to annoy me, insult me or try to scare me online, share photos/ videos
- Depression** : 11 items $\Omega_{S2}=.890$; 7 items $\Omega_{S3}=.856$ (Galand & Hospel, 2012)
e.g.: feel out of sorts, cry easily, feel drained and unrested, have dark thoughts, can't concentrate
- Negative emotions** : 6 items $\Omega_{S1}=.907$; 4 items $\Omega_{S3}=.773$ (Baudouin & Galand, 2017)
e.g.: feel angry/ outraged, embarrassed, anxious/ stressed, sad/ desperate, ridiculous/ ashamed

Results

		S2			S3		
		β	R^2	ΔR^2	β	R^2	ΔR^2
Depression	Age	.060***	.013	.014***	.334***	.094	.094***
	Gender	.137***			-.314***		
	Victimization	.530***	.288	.275***	.461***	.267	.173***
	(Victimization) ²	-	.289	.001*	-	.271	.004***
	(Victimization) ³	-	.291	.002**	-	.274	.003***
	Age	-.008 ^{ns}	.013	.014***	.176***	.095	.095***
	Gender	.126***			-.281***		
	Cybervictimization	.281***	.092	.079***	.246***	.154	.060***
	(Cybervictimization) ²	-	.097	.005***	-	.159	.005***
	(Cybervictimization) ³	-	.100	.003***	-	.158	.000 ^{ns}

→ Linear relations found between depression and traditional victimization/ cybervictimization

		S1			S3		
		β	R^2	ΔR^2	β	R^2	ΔR^2
Negative emotions	Age	.092***	.003	.004*	.253***	.057	.058***
	Gender	.092***			-.271***		
	Victimization	.455***	.203	.200***	.459***	.229	.172***
	(Victimization) ²	-	.205	.002*	-	.234	.005***
	(Victimization) ³	-	.205	.000 ^{ns}	-	.238	.005***
	Age	.026 ^{ns}	.003	.004*	.089***	.057	.058***
	Gender	.072***			-.235***		
	Cybervictimization	.257***	.069	.066***	.242***	.115	.058***
	(Cybervictimization) ²	-	.070	.001 ^{ns}	-	.118	.004***
	(Cybervictimization) ³	-	.069	.000 ^{ns}	-	.119	.001*

→ Linear relations found between negative emotions and traditional victimization/ cybervictimization

Discussion

- Although quadratic and cubic models are significant, their additional contribution to the explained variance remains very small
 - Therefore, results provide support for the hypothesis of gradual and linear relation between victimization/ cybervictimization and psychological consequences
- Traditional victimization shows higher correlations with depression and negative emotions than cybervictimization
- For both traditional victimization and cybervictimization, associations with depression and negative emotions were similar

Implications

- Working with continuous measures of traditional victimization and cybervictimization allows researchers to test the form of the relation rather than assuming the existence of thresholds
- Thresholds used to identify people at risk should be interpreted with caution (low and moderate levels of victimization are also associated with psychological consequences)

- Prevention/ intervention only on cybervictimization may not be useful
- Students exposed to victimization or cybervictimization may experience a wide range of psychological difficulties

Limits

- Transversal design
- Self-report questionnaire

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