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Within- and between-person effects of violence in video games on aggression and empathy

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Do violent video games increase aggression and decrease empathy?

- Meta-wars
  - r ≈ 0.20 (e.g., Anderson et al., 2010 ; Greitemeyer & Mügge, 2014)
  - Negligible (e.g., Ferguson et al., 2020 ; Ferguson & Kilburn, 2009)
- Longitudinal evidence
  - Longitudinal X cross-sectional & experimental
    (e.g., Ferguson et al., 2020 ; Ferguson & Kilburn, 2009 ; Greitemeyer & Mügge, 2014)
  - r ≈ 0.10 (Burkhardt & Lenhard, 2022 ; Prescott et al., 2018)
  - Negligible (Drummond et al., 2020)

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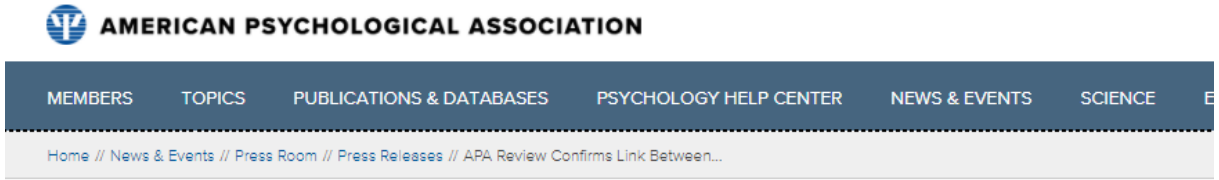
APA press releases



Date created: August 13, 2015

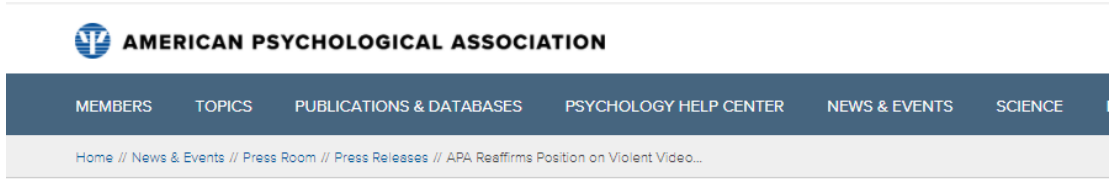
APA Review Confirms Link Between Playing Violent Video Games and Aggression

Anger | Physical Abuse and Violence | Video Games

Finds insufficient research to link violent video game play to criminal violence

WASHINGTON — Violent video game play is linked to increased aggression in players but insufficient evidence exists about whether the link extends to criminal violence or delinquency, according to a new American Psychological Association task force report.

"The research demonstrates a consistent relation between violent video game use and increases in aggressive behavior, aggressive cognitions and aggressive affect, and decreases in prosocial behavior, empathy and sensitivity to aggression," says the report of the APA Task Force on Violent Media. The task force's review is the first in this field to examine the breadth of studies included and to undertake multiple approaches to reviewing the literature.



Date created: March 3, 2020

APA Reaffirms Position on Violent Video Games and Violent Behavior

Physical Abuse and Violence | Video Games

Cautions against oversimplification of complex issue

WASHINGTON — There is insufficient scientific evidence to support a causal link between violent video games and violent behavior, according to an updated resolution (PDF, 60KB) adopted by the American Psychological Association.

APA's governing Council of Representatives seated a task force to review its August 2015 resolution in light of many occasions in which members of the media or policymakers have cited that resolution as evidence that violent video games are the cause of violent behavior, including mass shootings.

"Violence is a complex social problem that likely stems from many factors that warrant attention from researchers, policymakers and the public," said APA President Sandra L. Shullman, PhD. "Attributing violence to video gaming is not scientifically sound and draws attention away from other factors, such as a history of violence, which we know from the research is a major predictor of future violence."

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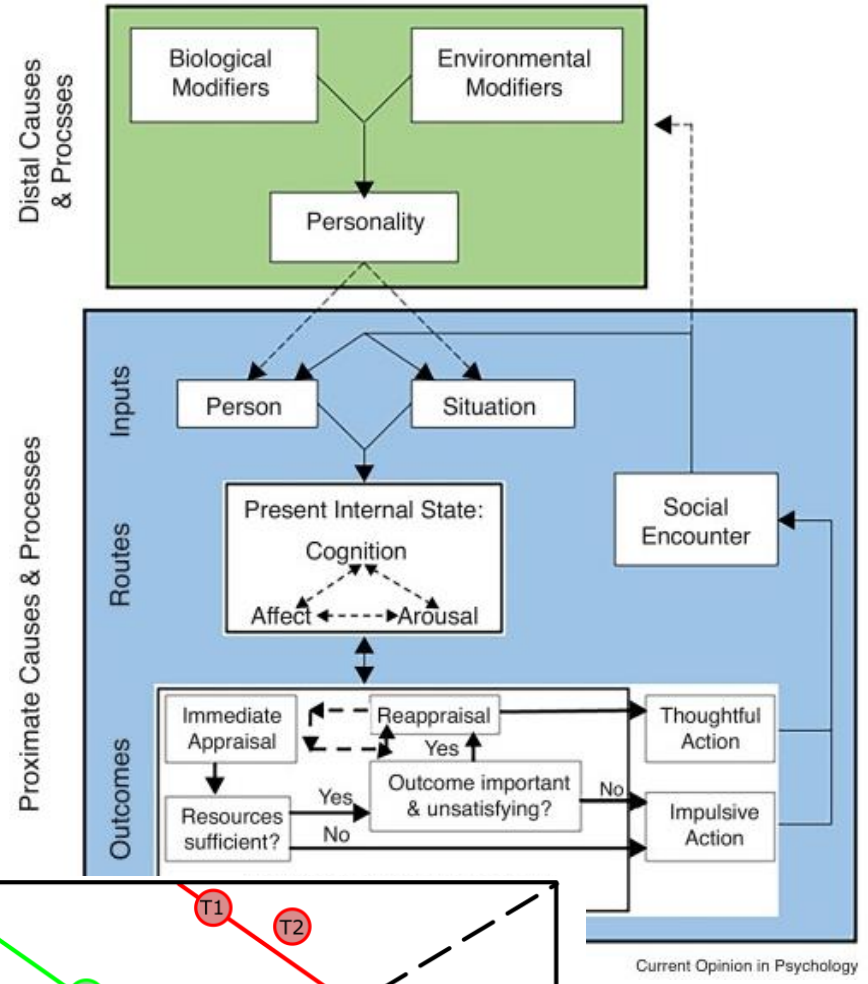
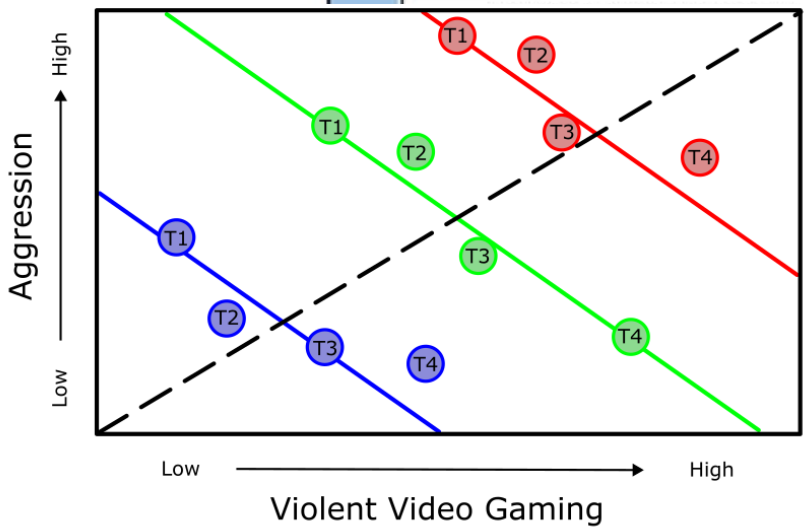
Shortcomings of prior studies

- Limited understanding of long-term effects
- Causal modeling gaps:
  - VVG effects on aggression identified (Teng et al., 2019, 2022)
  - Contradictory findings (Johannes et al., 2022; Kersten & Greitemeyer, 2022)
- Unknown effects on empathy
- Self-report biases in violence assessments

  (Ferguson, 2011)
- Poor distinction between aggression and empathy factors





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Current study

- Representative data
- 3087 Czech adolescents
  - 11-18y, 49% girls
- Four waves of data collection
  - every six months
- Scales:
  - AMES (Vossen et al., 2015)
  - BPAQ-SF (Bryant & Smith, 2001)
- Random-intercept cross-lagged panel model (RI-CLPM) in R

string	frequency
Minecraft	2250
Roblox	1037
Fortnite	906
Grand Theft Auto (all games together)	475
Brawl Stars	448
FIFA (all games together)	423
Counter-Strike	395
The Sims (all games together)	333
World of Tanks	307
League of Legends	270
Among Us	239
Call of Duty (all games together)	231

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Coding process

- 4249 unique answers
- 1300 game titles
- 474 extracted from Common Sense Media
- 826 (21.06% of the total observations) were coded by two independent raters
  - inter-rater reliability: α = 0.833
  - intra-rater reliability with CSN: ICCRater 1 = 0.930, ICCRater 1 = 0.848

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2 main hypotheses

- selection effect: effects of changes in aggression/empathy on changes in VVG
- desensitization effect: effects of changes in VVG on alterations in aggression/empathy

Between-person associations

	1.	2.	3.	4.	5.
1. Cognitive empathy	–				
2. Affective empathy	0.264 [a] [0.185, 0.343]	–			
3. Verbal aggression	−0.002 [-0.083, 0.080]	0.191 [a] [0.110, 0.273]	–		
4. Physical aggression	−0.007 [-0.081, 0.067]	0.091 [c] [0.013, 0.169]	0.584 [a] [0.531, 0.638]	–	
5. VVG	0.077 [c] [0.004, 0.150]	0.009 [-0.069, 0.086]	0.115 [b] [0.035, 0.195]	0.240 [a] [0.167, 0.313]	–

$\chi^2(90) = 129.769$, $p = 0.004$, *CFI* = 0.997, *TLI* = 0.992, *RMSEA* = 0.017 [0.007, 0.025], *SRMR* = 0.018

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Time-invariant predictors

Outcome	Predictor	β [95% *CI*]	*SE*	*p*
Cognitive empathy	Gender	−0.307 [-0.347, −0.266]	0.030	<0.001
	Age	0.242 [0.200, 0.284]	0.016	<0.001
Affective empathy	Gender	−0.328 [-0.371, −0.284]	0.030	<0.001
	Age	0.068 [0.023, 0.114]	0.015	0.001
Verbal aggression	Gender	−0.008 [-0.055, 0.038]	0.031	0.726
	Age	0.070 [0.022, 0.118]	0.016	0.004
Physical aggression	Gender	0.268 [0.226, 0.310]	0.031	<0.001
	Age	−0.050 [-0.093, −0.007]	0.016	0.023
VVG	Gender	0.406 [0.365, 0.448]	0.032	<0.001
	Age	−0.015 [-0.059, 0.029]	0.016	0.500

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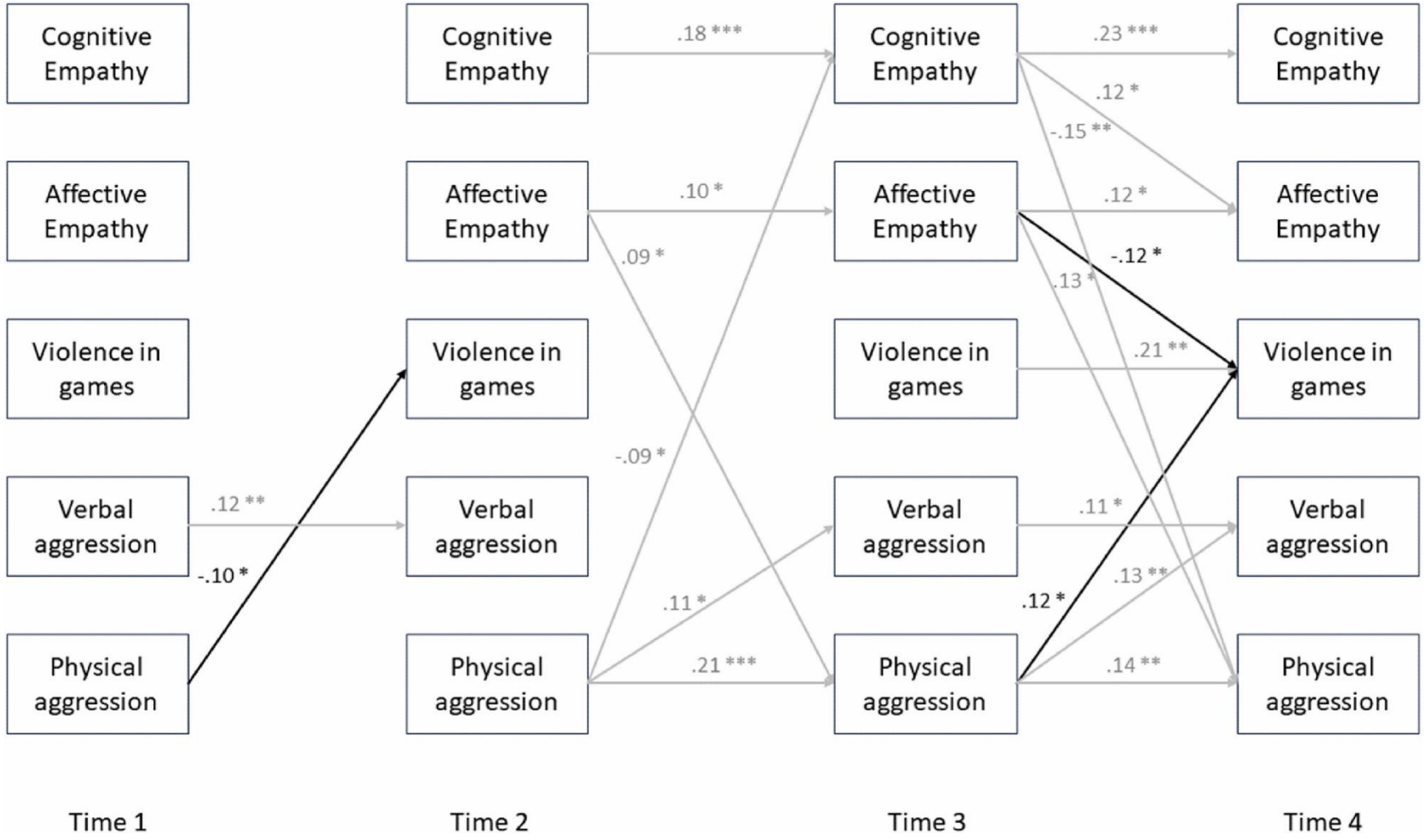
Within-person effects



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Moderation effects

- Gender: $\Delta\chi 2 = 25.288$, $\Delta df = 27$, $\Delta AIC = 27$, $p = 0.559$
- Age: $\Delta\chi 2 = 44.100$, $\Delta df = 27$, $\Delta AIC = 8$, $p = 0.021$

- the positive effect of physical aggression from T3 on VVG at T4 was moderated by age. The effect was strong for younger participants ($\beta = 0.29$, $p < 0.001$), but basically non-existent for older adolescents ($\beta < 0.01$, $p = 0.967$).

Discussion

- Verbal and physical aggression and affective empathy were positively associated with VVG at the between-person level.
- **At the within-person level, no evidence was found for the desensitization effect of VVG on empathy and aggression.**
- At the within-person level, few associations for the selection effect of empathy/aggression on VGG were found.
  - Increases in affective empathy correlated with decreased VVG. Changes in physical aggression showed bidirectional effects.

More information

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Does violence in video games impact aggression and empathy? A longitudinal study of Czech adolescents to differentiate within- and between-person effects ☆

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