**Additional analyses**

**Cross-lagged model**

First, a measurement model for all variables was tested. A confirmatory factor analysis (CFA) for all variables showed good model fit, χ2(1178) = 2985.83, *p* < 0.01, CFI = .94, TLI = .93, RMSEA = .034, 90% CI [.032, .035], SRMR = .051. The indicators for each variable can be seen in Table S1.

Table S1. *The indicators for all variables.*

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Factor loading | | |  |  | Factor loading | | |
| Indicators | T 1 | T 2 | T 3 |  | Indicators | T 1 | T 2 | T 3 |
| **Moral disengagement** |  |  |  |  | **Exposure to violent video games** |  |  |  |
| Moral justification | .74 | .73 | .78 |  | Favorite video game | .73 | .69 | .66 |
| Euphemistic language | .83 | .84 | .85 |  | Second favorite video game | .75 | .76 | .80 |
| Advantageous comparison | .75 | .79 | .77 |  | Third favorite video game | .65 | .59 | .67 |
| Displacement of responsibility | .64 | .73 | .70 |  | **Self-reported aggression** |  |  |  |
| Diffusion of responsibility | .65 | .72 | .71 |  | Self-reported physical aggression | .67 | .67 | .72 |
| Distorting consequences | .79 | .81 | .81 |  | Self-reported verbal aggression | .30 | .30 | .33 |
| Attribution of blame | .77 | .78 | .80 |  | Self-reported anger | .49 | .46 | .54 |
| Dehumanization | .72 | .78 | .79 |  | Self-reported hostility | .55 | .62 | .66 |
|  |  |  |  |  | **Peer-reported aggression** |  |  |  |
|  |  |  |  |  | Peer-reported relational aggression | .50 | .48 | .46 |
|  |  |  |  |  | Peer-reported physical aggression | .85 | .93 | .92 |

*Note:* All indicators were standardized and significant at the .05 level. When we conducted CFA, we fixed the first indicator loading equal 1 for each latent variable.

The cross-lagged model presented in **Figure S1.**

There was also no sex different, when constrained equal across sex.

There was an age different, when constrained equal across school (i.e., middle school = high school).

Family income

.44\*\*

**Time 1**

**Time 2**

**Time 3**

.87\*\*

.60\*\*

.10\*

.18\*\*

.09\*\*

.31\*\*

.46\*\*

.28\*\*

–.18\*\*

–.15\*\*

–.15\*\*

.14\*

.92\*\*

.21\*\*

.29\*\*

.14\*\*

.12\*

.13\*\*

.10\*

.09\*\*

.58\*\*

*Figure S1* Cross-lagged panel mediation model for violent video game exposure on aggression. All path coefficients were standardized. \* *p* < .05, \*\**p* < .01. Dashed lines are nonsignificant. **Bold lines** indicate the paths which are moderated by age. Indicators, within-time correlations, residuals are not shown.

**The moderation of sex**

Between persons, sex was not moderated the association between violent video game exposure and moral disengagement (*b* interaction = .001, *p* =.988); moreover, sex was not moderated the association between moral disengagement and aggression (*b* inter = –.021, *p* = .268); furthermore, sex was not moderated the association between violent video game exposure and aggression (*b* interaction = –.009, *p* = .113).

Within persons, sex was not moderated the association between violent video game exposure and moral disengagement (*b* interaction = .003, *p* =.675); moreover, sex was not moderated the association between moral disengagement and aggression (*b* inter = .001, *p* = .985); furthermore, sex was not moderated the association between violent video game exposure and aggression (*b* interaction = .007, *p* = .352).