

How does violence and death in video games affect adolescents' perception of death and violence in real life?

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Abstract

This is the abstract.

Contents

1	Introduction	1
1.1	Background and significance	1
1.2	Psychological mechanisms	1
1.3	Gender differences	2
1.4	Societal and developmental relevance	2
1.5	Research question and hypotheses	2
2	Methodology	4
2.1	Research Design	4
2.2	Participants	4
2.3	Materials and Measures	4
2.4	Procedure	5

1 Introduction

Video games have become one of the most prevalent forms of entertainment among adolescents across the globe, with violent and death-related content present in many popular titles (*e.g.* *Call of Duty*, *Fortnite*, *Grand Theft Auto*). Existing rating systems such as PEGI (EU) and ESRB (US) already flag the degree of violent realism in these games, reflecting widespread public concern about the effects of such content on young people's development and moral reasoning.

1.1 Background and significance

Discussions over whether violent video games influence aggressive attitudes or behavior have continued since these games first appeared. Meta-analyses and longitudinal studies have produced mixed results, with some suggesting that frequent exposure to violent or dark-themed games may increase tolerance toward aggression and reduce empathic concern for others (Anderson and Bushman 2018; Bushman et al. 2025). Other large-scale and well controlled studies, however, found little to no direct causal link between exposure to violent game content and real-world aggression once individual traits and prior aggression are accounted for (Przybylski and Warstein 2019; Lacko, Machackova, and Smahel 2024).

Although large-scale violent events such as school shootings and public attacks reopen public debates about the role of violent media, including video games, in fostering aggressive tendencies, empirical evidence connecting real-world violent incidents and video game consumption remains correlational and far from conclusive (Ramasubramanian and Banjo 2020). Still, the perception that violent video games might normalize aggression or death sustains an important social as well as scientific question: **how does repeated exposure to virtual violence shape adolescents' moral reasoning, emotional responses to and perception of real-world violence and harm?**

1.2 Psychological mechanisms

From a psychological perspective, video games can engage several mechanisms, such as reward-processing systems, that reinforce and justify aggressive acts. In many games players are rewarded with (Experience-) points, level-ups, in-game items or currency after committing violent or unjustful acts, such as slaying enemies or stealing from non-player characters (NPCs). This rewarding may strengthen the player's association of a positive outcome with aggressive behavior, potentially leading to desensitization toward violence over time (Carnagey, Anderson, and Bushman 2007). Additionally, the immersive and interactive nature of video games allows players to actively participate in violent scenarios, which may enhance the emotional impact and identification with aggressive characters. Furthermore, these games often lack realistic consequences for violent actions, which could distort players' understanding of the severity and impact of violence in real life. And finally, in these games death is often portrayed in a trivialized or gamified manner, where characters can respawn or continue playing after being killed, potentially diminishing the perceived gravity of death

and harm (Hartmann, Krakowiak, and Tsay-Vogel 2014).

1.3 Gender differences

Gender differences may also play a role in how violent video games affect adolescents. Research indicates that boys statistically play more violence and competitive-/combat-driven games than girls, who tend to prefer narrative-driven and cooperative experiences (Walker-dine 2007; Hartmann and Klimmt 2017). This differential exposure could lead to differences in moral reasoning and emotional responses to violence if viewed as normative behavior within their gaming communities. Furthermore, societal norms and expectations around masculinity and aggression may further shape these experiences and responses.

1.4 Societal and developmental relevance

Investigating the impact of adolescents' perception of violence and death in video games is especially relevant given that adolescents are in a critical developmental stage where moral reasoning and empathy are still maturing (Blakemore and Robbins 2012), and they are particularly susceptible to peer influence and media effects (Steinberg 2008; Fikkens et al. 2016). Adolescents are also in the process of forming their identity and understanding social norms, making them especially vulnerable and receptive to media messages, including those related to violence and death (Avci, Baams, and Kretschmer 2024). Furthermore, adolescents' digital lives often blur the boundaries between fantasy and reality, especially in immersive or multiplayer environments.

The issue is not only theoretical but also practical. Given the rise of interest in game and app development, understanding how reward systems and death depictions shape users' psychological responses can lead the creation of games that are engaging, yet ethically and emotionally responsible. Integrating psychological insights into game design could help developers build interactive experiences that foster empathy, prosocial behavior, and critical thinking about violence rather than desensitization or normalization of harm.

1.5 Research question and hypotheses

This study aims to investigate how exposure to violent and death-related content in video games influences adolescents' moral reasoning, emotional responses, and behavioral tendencies. Specifically, the research will explore whether frequent exposure to violent/death content is associated with increased tolerance for aggression, reduced empathy, and altered moral judgments concerning harm to others.

Based on desensitization and aggression models, we hypothesize that:

1. Greater exposure to violent/death-related game content correlates with higher acceptance of aggression and reduce empathy for pain and suffering in real life.
2. Games that reward aggressive actions will amplify these associations compared to games without such reward systems.
3. These relationships will differ by gender, with stronger effects expected among boys.

Addressing these questions can clarify whether interactive violent content merely reflects existing preferences or actively shapes and contributes to perceptual, moral and emotional desensitization. Understanding these dynamics is crucial for informing parents, educators, policymakers and game developers about potential risks and ethical considerations in adolescent media consumption.

2 Methodology

2.1 Research Design

This study will employ a mixed-methods approach, combining a quantitative, cross-sectional correlational design with exploratory moderation analyses and examination of potential relevant existing datasets. The primary data collection will involve administering standardized questionnaires with the aim to assess whether adolescents' exposure to violent and death-related content can be associated with changing perceptions of violence, moral reasoning, emotional responses and behavioral tendencies.

2.2 Participants

The target for this study is adolescents aged 12 to 20 years devided into two age groups. A sample size of approximately 100-200 participants will be recruited from secondary schools and clubs to ensure a sufficient and diverse representation. The geo-locational focus will be the set on urban and suburban regions within Nordrhine-Westphalia, Germany.

For inclusion in the study, participants must access to video games at least twice a week. To ensure ethical compliance, informed consent will be obtained from all participants and participation will be voluntary, anonymous and in accordance with ethical guidelines. For participants under the age of 14, parental consent will also be required.

2.3 Materials and Measures

A structured questionnaire will be developed to assess the key constructs of interest. The questionnaire will include validated scales and self-report items to measure:

- **Exposure to video games:** Frequency and duration of video games played, with a focus on violent and death-related content.
e.g., "How often do you play video games?", "Do you play games that involve violence or death?"
- **Rewarding and supporting of aggressive acts:** Assessment of the extent to which the games played reward and support aggressive behavior.
e.g., "In these games, how often does the gameplay require you to perform aggressive actions to succeed?", "In these games, how/ how often are aggressive actions rewarded?"
- **Moral reasoning about violence:** Using established scales such as the Aggression Acceptance Scale (AAS, Anderson and Bushman 2018) to measure attitudes toward aggression.
e.g., "Is it acceptable to hit someone who insults you?", "Is it okay to use violence to solve problems?"

- **Perception of death and empathy for pain:** Utilizing instruments like the Basic Empathy Scale (BES) or the Empathy for Pain Questionnaire (Miedzobrodzka et al. 2023) to assess emotional and cognitive empathy toward others' suffering.
e.g., "When I see someone get hurt, I feel sorry for them.", "I can understand how others feel when they are in pain."
- **Demographics and Gender:** Collecting information on the participants age, gender and demographic background to explore potential moderating effects.
- **Control variables:** Including measures of average weekly playtime, game genre preference (competitive, narrative, cooperative), parental mediation (restrictive / active), and prior aggression incidents.

All questionnaires will be administered in English and will have a German translation available to ensure comprehension amongst all participants.

2.4 Procedure

The Procedure follows the same structure for all participants. Access will be made available with a link to the online questionnaire.

1. **Distribution:** The distribution will be handled through multiple channels to reach a diverse and representative sample of adolescents.

Schools: A person of authority will be contacted to distribute the link to students.

Clubs: Trainers or leaders will be contacted to distribute the link to members.

2. **Consent:** Prior to participation the questionnaire will inform the adolescents that participation is entirely voluntary. It will inform that children under the age of 14 have to take the survey with parental consent. Anonymity and confidentiality will be assured.

3. Questionnaire sequence:

Demographics, age and gender

Video game exposure and habits

Perception of violence, empathy and moral disengagement

4. **Debriefing:** After finishing the questionnaires participants will receive an explanation on the purpose of the survey.

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