How does violence and death in video games affect adolescents' perception of death and violence in real life in the area of North Rhine-Westphalia?

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Abstract

Violent and death related content in video games raises concerns about potential impacts on adolescents' moral reasoning, emotional responses and behavioural tendencies. This study investigated whether exposure to violent video game content influences these developmental domains in North Thine-Westphalia, Germany. A total of 118 adolescents (aged 12-20) and an approximately equal number of parents completed structured questionnaires assessing gaming habits, engagement patterns, genre preferences, emotional responses to in-game violence and behavioural aggression tendencies.

Results revealed moderate gaming engagement (57% playing 0.5-3 hours daily) with substantial exposure to violent content, particularly shooters (61% engagement). Gender differentiation was pronounced with males reporting significantly higher enjoyment of violent gameplay (85% vs. 76% combined; 62% vs. 42% consistent enjoyment). Gaming demonstrated predominantly social characteristics (67% with substantial peer interaction). Regarding behavioural outcomes, 70% of parents reported no aggression increase or actual decrease following gaming, while 30% observed increases (23% moderate, 7% significant).

Evaluation of three research hypotheses derived from desensitization and aggression frameworks yielded limited support for Hypothesis 1 (violent game exposure correlates with higher aggression/ reduced empathy), insufficient measurement for Hypothesis 2 (reward system amplification) and robust support for differential exposure, but limited outcome differentiation in Hypothesis 3 (gender effects). THe dissociation between high in-game violence enjoyment (76%) and predominantly unchanged real-world aggression suggests adolescents maintain psychological boundaries between fictional gameplay and real-world moral domains - a phenomenon termed *compartmentalization* (Békés, Ferstenberg, and Perry 2018).

However the 30% experiencing aggression increases, particularly the 7% with significant escalation, indicates that violent content demonstrably affects a substantial minority. These heterogenous outcomes challenge linear dose-response media effects models and suggest that protective factors (social gaming, moral development, individual differences) substantially buffer against predicted negative effects for most adolescents. THe findings necessitate reconceptualization of media effects frameworks emphasizing domain-specific emotional calibration and individual heterogeneity rather than uniform desensitization trajectories. Practical implementations emphasize informed parental engagement, media literacy education and ethically sophisticated game design over categorical content prohibition.

Contents

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) (Tompson and Haninger 2004) 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 and how different are these affects within the same demographic group?**

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 (Walkerdine 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; Fikkers 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 single-methods approach using quantitative data collection through structured questionnaires. The 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 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. To ensure the upholding of the ethical standards of research involving minors, the questionnaires will only be made available to the students by the teachers and parents with no direct contact from our side. A secondary target group of parents may also be surveyed to gather additional contextual information on adolescents' gaming habits and parental mediation strategies.

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 and gender 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 teachers and parents in the selected school in Nordrhine-Westphalia.

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:**

   Introduction, consent confirmation and short briefing

   Demographics, age and gender

   Video game exposure and habits

   Perception of violence, empathy and moral disengagement

3 Results

3.1 Sample Characteristics

Age Distribution

A total of 118 participants were included in this study: 118 students (aged 12-20 years), with corresponding data from parents. As shown in Figure 1, the student sample was concentrated in the younger to mid-adolescent age ranges with relatively even distribution. The 12-14 age group accounted for 35% of students (36% of parents), the 15-17 age group accounted for 40% of students (36% of parents) and the 18-20 age group accounted for 25% of students (28% of parents). This shows a good spread across the adolescent age range with a slight but negligible under representation of older adolescents. The close alignment between student and parent age reporting demonstrates convergent validity and confirms that parent-child correspondence was maintained in the data collection process.
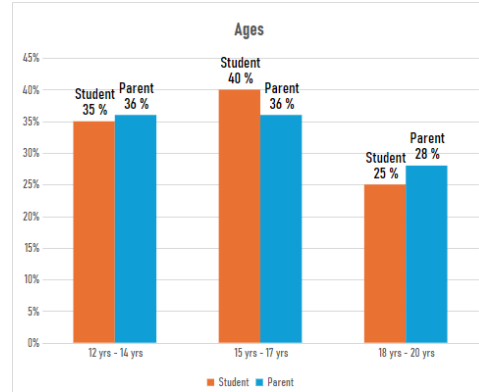

Figure 1: Age Distribution of Student and Parent Participants

Gender Distribution

As presented in Figure 2, gender distribution was relatively balanced among student participants, with males representing a slight majority. The difference of 7% between male (52%) and female (45%) students was minimal, indicating a fairly even gender representation in the sample and as such does not suggest a significant gender bias in participation. An additional 3% of students identified as non-binary or preferred not to disclose their gender. This balanced distribution enables exploration of gender differences across gaming behaviours and outcomes.
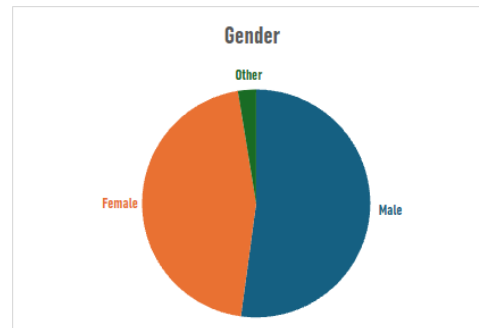

Figure 2: Gender Distribution of Student Participants

6

3.2 Gaming Duration and Frequency

Average Daily Gaming Time

Figure 3 represents the distribution of average daily gaming hours across the students. The data reveals a distinctly tendency toward moderat engagement patterns: 30% reported 1-2 hours, 30% reported 2-3 hours and 20% reported less than 1 hour of gaming per day. Only a small minority (8%) reported gaming for more than 4 hours daily. This indicates that while gaming is a common activity, excessive daily gaming is relatively uncommon in this adolescent sample. Cumulatively, 75% of students reported engaging in gaming for 0.5-3 hours daily. Extreme gaming intensities (exceeding 5 hours daily) were rare, reported by only 3% of participants, whilst 5% reported 4-5 hours and 12% reported 3-4 hours. The distribution approximated normality around a modal value of 2-4 hours daily, with extreme outliers representing distribution tails rather than normative engagement patterns.

Notably, these moderate patterns contradict assumptions about widespread gaming addiction (Wang et al. 2014). The finding that the modal category of 2-4 hours falls within leisure-time recommendations and that excessive gaming (more than 5 hours) remains rare suggests that gaming constitutes a normative leisure activity rather than a pathological behaviour in this adolescent cohort.
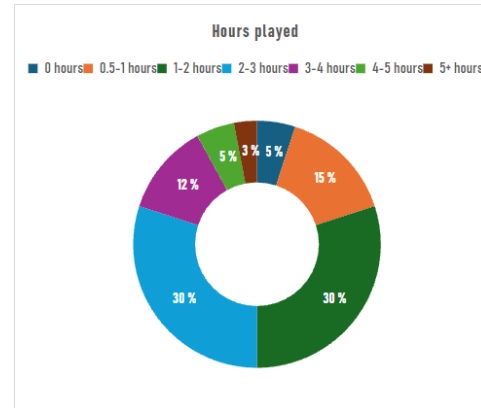

Figure 3: Average Daily Gaming Time Among Students

Gaming Frequency Per Week

As illustrated in Figure 4, the frequency with which students engage in gaming across a typica week shows a great concentration in the midrange reaching as high as 24% at 3 days a week. Specifically, 5% of students reported gaming 0 days a week, which correlates who reported 0 hours of daily gaming. The largest proportion of students (48%) reported gaming 3-5 days per week, with 24% gaming 3 days, 19% gaming 4 days and 15% gaming 5 days weekly. A further 16% reported gaming 6 (10%) -7 (6%) days
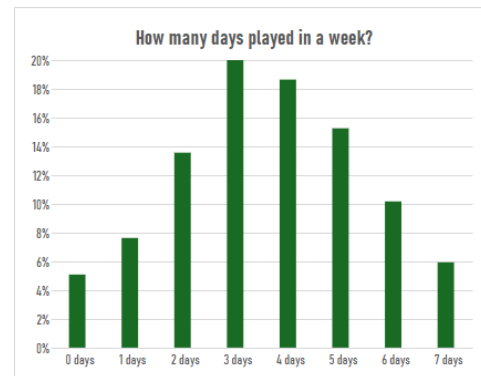

Figure 4: Gaming Frequency Per Week Among Students

per week, indicating daily or near-daily engagement. Another 21% reported gaming 1 (8%) - 2 (14%) days weekly. This distribution indicates that while daily gaming is not the norm a substantial minority of students engage in gaming on most days of the week.

The heterogenous frequency distribution, combined with moderate daily gaming durations, indicates substantial interindividual variation in cumulative gaming intensity. When combining frequency and duration data, this exposure can range from minimal (e.g., 0.5 hours on 1 day) to substantial (e.g., 5+ hours on seven days). This variability highlights the importance of considering both dimensions when assessing gaming behaviours and potential impacts.

3.3   Gaming Context and Social Engagement

Solo Versus Social Engagement

Figure 5 presents the student and parent perspectives on whether adolecents played alone or with friends. A striking difference emerges between student self-reports and parent perceptions. From the students perspective, 12% reported gaming solely with friends, as much as 29% reported gaming primarily with friends, 26% reported gaming equally alone and with friends and 18% reported playing primarily alone. Only 15% reported gaming exclusively alone. In contrast, parents perceived a much higher prevalence of solitary games with 19% reporting their child games exclusively alone and

Figure 5: Solo Versus Social Gaming Engagement Among Students

as much as 31% reported their child gaming primarily alone. Only 8% said their child only plays with friends and another 18% said their child primarily plays with friends. This discrepancy suggests that parents may underestimate the social dimensions of their children's gaming activity.

The data indicates that while a substantial portion of adolescents do engage in social gaming, a significant minority also games alone. The divergence between student and parent reports highlights potential gaps in parental awareness of their children's gaming contexts. This has implications for understanding the social versus solitary nature of adolescent gaming and the need for parental education regarding gaming behaviours.
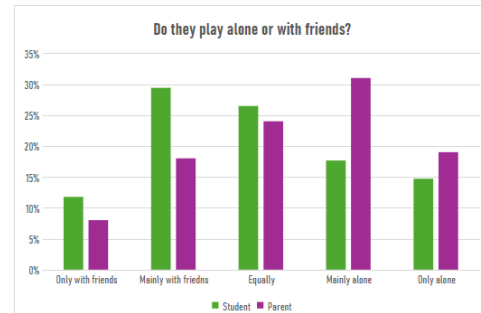
Game Preferences and Genre Selection

Figure 6 presents the types of games most frequently played by students. Shooter are the most popular genre, with 61% of students reporting regular engagement. This is followed by Sandbox games (49%), Role-Playing Games (RPGs) (37%), Open World Games (28%), Sport games (23%) and Story Games (19%). This distribution indicates a strong preference for action oriented gaming experiences among adolescents, with shooters and sandbox games dominating the landscape. The popularity of RPGs and open world games also suggests an interest in immersive, narrative driven experiences. Less popular genres such as sports and story games indicate more niche interests. Overall, the genre preferences reflect a diverse range of gaming tastes within the adolescent cohort, with a clear leaning toward action and adventure oriented titles. It also suggests a tendency towards mostly short lived and fast-paced gaming experiences rather than slow-paced and strategic ones.
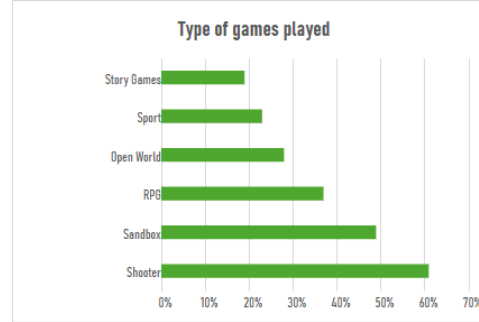

Figure 6: Game Genre Preferences Among Students

3.4 Emotional Engagement with IN-Game Violence

Happiness during Violent In-Game Actions

As illustrated in Figure 7, students reported varying levels of happiness when engaging in violent actions within games. A majority of 76% reported feeling happy (46% always, 30% sometimes) when performing violent acts in games. In contrast only 24% reported never enjoying violent acts in game or getting joy out of them. This indicates that for most adolescents, engaging in violent gameplay is associated with positive emotional experiences. A notable difference can be observed between male and female adolescents. As for male students, as much as 62% reported always enjoying violent in-game acts and another 23% reported sometimes enjoying them. In contrast only 42% of female adolescents reported always enjoying violent acts in game with another 34% reporting sometimes enjoying them. This suggests that male adolescents derive greater happiness from violent
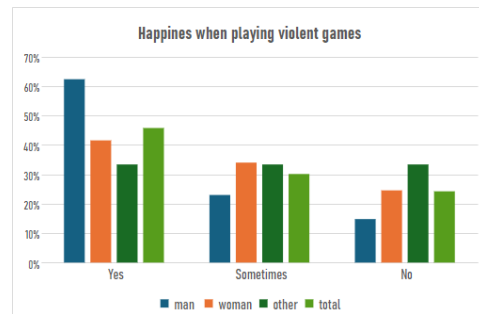

Figure 7: Happiness Levels During Violent In-Game Actions Among Students

9

gameplay compared to their female counterparts and are as such more emotionally engaged by violent in-game actions.

3.5 Behavioral Outcomes Related to In-Game Violence

Aggression Level after prolonged Gaming

Figure 8 depicts the aggressional changes in adolescents after prolonged gaming sessions as seen by the parents.

1. **No change:** A majority of 52% reported **no increase in aggression** after extended gaming periods, indicating that for many adolescents, gaming does not elicit heightened aggressive feelings.

2. **Decrease:** Interestingly, 18% of parents observed a **decrease in aggression** in their children following prolonged gaming sessions. This suggests that for some adolescents, gaming may serve as a stress-relieving activity that helps to reduce feelings of aggression.

3. **Increase:** Conversely, 23% of parents reported an **increase in aggression** after their children engaged in extended gaming. This indicates that a subset of adolescents may experience heightened aggressive feelings as a result of prolonged gaming exposure.

4. **significant Increase** A small minority of 7% of parents observed a **significant increase in aggression** following extended gaming sessions, suggesting that for a few adolescents, gaming may exacerbate aggressive tendencies to a notable degree.

Combined, 70% of parents reported either no change or a decrease in aggression after prolonged gaming, suggesting that for the majority of adolescents, gaming does not lead to increased aggressive feelings. However, the 30% of parents who observed an increase in aggression indicates that a significant minority of adolescents may be susceptible to gaming-related aggression. This highlights the need for further investigation into the factors that may mediate or moderate the relationship between gaming and aggression.
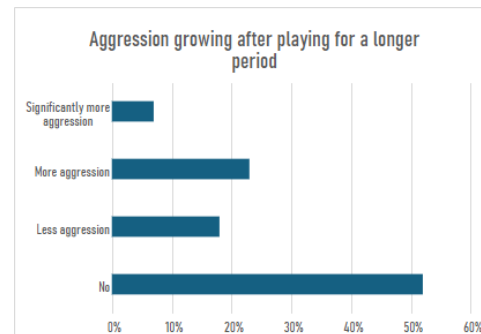

Figure 8: Self-Reported Aggression Levels After Prolonged Gaming Among Students

4 Conclusion

4.1 Summary of Principal Findings

This investigation examined whether violent and death-related content within video games influences adolescents' moral reasoning, emotional responses, and behavioral tendencies in North Rhine-Westphalia, Germany. The study surveyed 118 students (aged 12-20) and an approximate equal number of parents, addressing three research hypotheses derived from desensitization and aggression frameworks.

Key findings revealed: moderate gaming engagement (majority paying 0.5-3 hours daily, 48% gaming 3-5 days weekly), with extreme gaming being rare (3% exceeding 5 hours); substantial violent content exposure, with shooters dominating preferences at 61%; pronounced gender differentiation, with males reporting more liking of violent in-game actions (85% vs. 76% combined; 62% vs. 42% always happy); predominantly social gaming contexts (67% reporting substantial social components); heterogenous aggression outcomes, with 70% showing no increase or actual decrease post-gaming (18% decrease).

4.2 Evaluation of Research Hypotheses

Hypothesis 1 (violent exposure correlates with higher aggression/ reduced empathy) received **limited support**. Despite 61% engaging with shooters, and 76% reporting positive affect during violent actions, 70% demonstrated no aggression increase. The 30% reporting increase indicates heterogenous rather than uniform effects.

Hypothesis 2 (reward systems amplify negative effects) could not be adequately evaluated due to measurement limitations assessing genres rather than specific reward mechanics. Despite high shooter engagement, the absence of systematic aggression increase suggests reward exposure operating weakly or protective factors buffer effectively.

Hypothesis 3 (stronger effects among males) received **robust support for differential exposure, but limited support for differential outcomes**. Males reported greater liking of violent content (85% vs. 76%) and enjoyment throughout (62% vs. 42%), yet aggregational outcomes showed no corresponding gender divergence.

4.3 Addressing the Research question

The central question asked: *How does violence and death in video games affect adolescents' perception of death and violence in real life in the area of North Rhine-Westphalia?* **Violent game exposure does not systematically corrupt adolescent behavioral control or moral reasoning for the majority.**. Despite substantial engagement, most adolescents demonstrated no aggression increase or showed actual decreases. The dissociation between in-game emotional engagement and real-world behavioural manifestations indicates an upkeep of psychological boundaries between fictional gameplay and real world morality - also called *adaptive compartmentalization* (Békés, Ferstenberg, and Perry 2018).

However, the 30% experiencing aggression increases - particularly the 7% with significant escalations - indicates violent content demonstrably affects a substantial minority. This het-

erogeneity challenges simplistic narratives, requiring nuanced understanding of moderating factors determining individual vulnerability and resilience.

4.4 Theoretical Implications

The findings necessitate reconceptualization of media effects beyond linear dose-response models towards frameworks, emphasizing **domain-specific emotional calibration and heterogenous effects moderated by individual differences**.

The coexistence of high in-game violence enjoyment (76%) with predominantly unchanged aggression (70%) suggest that adolescents develop context-specific emotional responses distinguishing between fictional and real-world moral reasoning. This represents developmental achievement wherein metacognitive awareness enables simultaneous gameplay enjoyment and maintenance of prosocial standards. Traditional desensitization (Wolpe 1968) models, predicting emotional numbing, insufficiently account for this complexity.

The predominantly social gaming contexts (67%) further highlight the importance of peer-mediated normative influences, suggesting that social interaction processes may counterbalance potential negative effects of violent content exposure. The discrepancy between student reports (67% social) and parental perceptions (50% solitary) indicates stakeholders underestimate social-collaborative dimensions buffering against individual-level desensitization.

The 70/30 distribution indicates fundamental individual heterogeneity, requiring investigation of moderating variables such as trait aggression, family-environment quality and emotional regulation capabilities. The 7% experiencing significant escalation may represent a vulnerable subpopulation requiring targeted investigation and intervention.

4.5 Methodological Considerations

The investigation incorporated multi-perspective design (student and parent reports), comprehensive assessment across multiple domains, filtered demographics and naturalistic ecological validity. However, critical limitations constrain causal inference: the cross-sectional design precludes temporal precedence establishment; self-report measures may introduce social desirability bias; absence of statistical controls for trait-level variables prevents definitive mechanistic identification; genre-level measurement does not capture within-genre variation in reward structures; direct assessment of death perception and moral reasoning was not conducted. These limitations necessitate cautious interpretation and emphasize the need for longitudinal designs, experimental manipulations and targeted moderator measurement.

4.6 Practical Recommendations

- **For parents and educators:**

    - Evidence does not support categorical prohibition but rather informed engagement through co-play and ethnical discussion

    - behavioral monitoring focussing on observable changes rather than content alone is recommended

- media literacy education supporting critical evaluation of game content and emotional responses is advocated

- recognition of gaming's legitimate social functions is important

- individual assessment for the 30% manifesting aggression increases before intervening and implementing restrictions is advised.

- **For Game Developers:**

  - Design violence as consequence-generating rather than exclusively reward-producing to mitigate potential reinforcement of aggression. A good example for this strategy is the game "Red Dead Redemption 2", where violent actions often lead to negative in-game consequences such as increased law enforcement attention and loss of honor points.(Makuch n.d.) Incorporating moral choice systems that highlight the repercussions of violent actions can encourage players to reflect on their in-game behavior

  - integrate prosocial collaboration alongside combat

  - develop narrative sophistication humanizing adversaries

  - provide granular parental controls enabling tailored content regulation based on individual child profiles

  - commission empirical research examining how design features influence psychological outcomes

- **For Policymakers:**

  - Strengthen rating system transparency with evidence based criteria

  - fund longitudinal research establishing causal mechanisms

  - invest in population-level media literacy initiatives

  - support research identifying vulnerable subpopulations

  - facilitate collaborative partnerships supporting ethically sophisticated design innovations

4.7 Final Remarks

Rather than confirming fear of widespread moral corruption, this investigation reveals complex patterns: substantial violent content exposure coexists with predominantly unchanged or decreased aggression for 70%, whilst 30 experience increase requiring targeted attention. This heterogeneity challenges binary debates about inherent harm versus harmlessness, emphasizing the need for nuanced understanding of individual differences, social contexts and emotional calibration processes.

Contemporary adolescents demonstrate sophisticated psychological compartmentalization, maintaining psychological boundaries between fictional gameplay and real world morality.

The predominantly social-collaborative nature of gaming (67%) likely activates protective peer influences buffering against potential individual-level desensitization. However, the non-negligible minority experiencing aggression increases, particularly the 7% with significant escalations, indicates that violent content demonstrably affects a vulnerable subpopulation.

The path forward requires evidence-informed approaches supporting adolescent autonomy whilst safeguarding psychological well-being and recognizing legitimate concerns. Through informed parental engagement, media literacy education, ethically sophisticated game design and targeted support for vulnerable subpopulations, interactive media can evolve towards experiences that are simultaneously engaging and responsible. Understanding that 70% maintain healthy boundaries whilst 30% require support enables nuanced approaches replacing categorical prohibition with informed engagement and individualized assessment - the approach most consistent with supporting adolescent moral development in contemporary digital environments in North Rhine-Westphalia and beyond.

References

Anderson, C. A. and B. J. Bushman (2018). "Media Violence and the General Aggression Model". In: *Journal of Social Issues* 74.2, pp. 386–413.

Avci, H., L. Baams, and T. Kretschmer (2024). "A Systematic Review of Social Media Use and Adolescent Identity Development". In: *Adolescent Research Review* 10.2, pp. 219–236. DOI: https://doi.org/10.1007/s40894-024-00251-1.

Blakemore, S.-J. and T. W. Robbins (Sept. 2012). "Decision-making in the adolescent brain". In: *Nature Neuroscience* 15.9, pp. 1184–1191. DOI: https://doi.org/10.1038/nn.3177.

Bushman, B. J. et al. (2025). "Violent Video Games and Aggression". In: *Handbook of Children and Screens: Digital Media, Development, and Well-Being from Birth Through Adolescence*. Ed. by D. A. Christakis and L. Hale. Cham: Springer Nature Switzerland, pp. 581–587. DOI: https://doi.org/10.1007/978-3-031-69362-5_79.

Békés, V., Y. Ferstenberg, and J. Perry (Dec. 2018). "Compartmentalization (Defense Mechanism)". In: pp. 1–5. ISBN: 978-3-319-28099-8. DOI: 10.1007/978-3-319-28099-8_1939-1.

Carnagey, N. L., C. A. Anderson, and B. J. Bushman (2007). "The effect of video game violence on physiological desensitization to real-life violence". In: *Journal of Experimental Social Psychology* 43.3, pp. 489–496. DOI: https://doi.org/10.1016/j.jesp.2006.05.003.

Fikkers, K. et al. (2016). "The role of perceived peer norms in the relationship between media violence exposure and adolescents' aggression". In: *Media Psychology* 19.

Hartmann, T., M. Krakowiak, and M. Tsay-Vogel (2014). "How violent video games communicate violence: A literature review and content analysis of moral disengagement factors". English. In: *Communication Monographs* 81.3, pp. 310–332. DOI: https://doi.org/10.1080/03637751.2014.922206.

Hartmann, T. and C. Klimmt (July 2017). "Gender and Computer Games: Exploring Females' Dislikes". In: *Journal of Computer-Mediated Communication* 11.4, pp. 910–931. DOI: https://doi.org/10.1111/j.1083-6101.2006.00301.x.

Lacko, D., H. Machackova, and D. Smahel (2024). "Does violence in video games impact aggression and empathy? A longitudinal study of Czech adolescents to differentiate within- and between-person effects". In: *Computers in Human Behavior* 159, p. 108341. DOI: https://doi.org/10.1016/j.chb.2024.108341.

Makuch, E. (n.d.). *Red Dead 2 Guide To Honor: How Morality And The Honor System Work*. `https://www.gamespot.com/articles/red-dead-2-guide-to-honor-how-morality-and-the-hon/1100-6462777/`. Accessed: 2026-01-17.

Miedzobrodzka, E. et al. (2023). "Desensitized gamers? Violent video game exposure and empathy for pain in adolescents – an ERP study". In: *Social Neuroscience* 18.6. PMID: 37990996, pp. 365–381. DOI: `https://doi.org/10.1080/17470919.2023.2284999`.

Przybylski, A. K. and N. Warstein (2019). *Violent video game engagement is not associated with adolescents' aggressive behaviour: evidence from a registered report*. 2. DOI: `https://doi.org/10.1098/rsos.171474`.

Ramasubramanian, S. and O. O. Banjo (May 2020). "Critical Media Effects Framework: Bridging Critical Cultural Communication and Media Effects through Power, Intersectionality, Context, and Agency". In: *Journal of Communication* 70.3, pp. 379–400. DOI: `https://doi.org/10.1093/joc/jqaa014`.

Steinberg, L. (2008). "A social neuroscience perspective on adolescent risk-taking". In: *Developmental Review* 28.1. Current Directions in Risk and Decision Making, pp. 78–106. DOI: `https://doi.org/10.1016/j.dr.2007.08.002`.

Tompson, K. M. and K. Haninger (2004). "Content and ratings of teen-rated video games". In: *JAMA* 291.7. DOI: `https://doi.org/10.1001/jama.291.5.856`.

Walkerdine, V. (2007). *Children, Gender, Video Games: Towards a Relational Approach to Multimedia*. Palgrave Macmillan. DOI: `https://doi.org/10.1057/9780230235373`.

Wang, C.-W. et al. (2014). "Prevalence and correlates of video and internet gaming addiction among Hong Kong adolescents: a pilot study". In: *The Scientific World Journal* 2014, p. 874648. DOI: `https://doi.org/10.1155/2014/874648`.

Wolpe, J. (1968). "Psychotherapy by reciprocal inhibition". In: *Conditional reflex: a Pavlovian journal of research and therapy* 3, pp. 234–240. DOI: `https://doi.org/10.1007/BF03000093`.