Emergency Assistance in Video Games: Selflessness or Self-Righteousness?

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presented on the 11.11.2011 at the XVI. Workshop Aggression in Marburg
1. Overview

Research Question

Do situations of violently helping others (emergency assistance) in video games reinforce

- violent behavior,
- helping behavior,
- or both?

Emergency Assistance in Video Games
1. Overview

Why it’s important

- Most popular genre are shooters (58%), directly followed by role-playing-games (55%) (Annenberg Studies on Computer Games Group)

- Situations of emergency assistance are typical for role-playing-games, where the heroic player has to protect “good” people by fighting “evil” people (e.g. saving a princess from a villain).

- And situations like these are also relevant in real-life, as they resemble extreme forms of situations of moral courage (e.g. the case of „Dominik Brunner“).
1. Overview

Current State of Research

- The General Aggression Model (GAM) predicts that in-game violence reinforces real-life aggressive behavior and reduces real-life prosocial behavior.
- Recent meta-analyses (Anderson & Bushman, 2001; Anderson 2004; Anderson et al., 2010) support this prediction.
- The General Learning Model (GLM) predicts that in-game helping reinforces real-life prosocial behavior.
- Early studies by Greitemeyer and Osswald (2009; 2010) and Gentile et al. (2009) support this prediction.
1. Overview

Limitations

- There exist no studies on the combined effect of in-game violent and helping behavior (=emergency assistance).
2. Hypotheses

**Violent Behavior**

Replication

H₁: In-game killing increases real-life violent behavior.

New

H₂: In-game emergency assistance increases real-life violent behavior.

New

H₃: In-game killing increases real-life violent behavior more than in-game emergency assistance.
2. Hypotheses

**Violent Behavior (H₃)**

- In comparison to a pure violent situation, situations of emergency assistance also contain some form of helping.

- But in situations of emergency assistance, helping occurs as nonviolently as possible.

- Therefore, in pure violent situations more violent behavior should occur than in situations of emergency assistance.
### 2. Hypotheses

#### Helping Behavior

<table>
<thead>
<tr>
<th>Replication</th>
<th>New</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H₄</strong>: In-game helping behavior increases real-life <strong>helping behavior</strong>.</td>
<td><strong>H₅</strong>: In-game emergency assistance increases real-life <strong>helping behavior</strong>.</td>
</tr>
<tr>
<td><strong>H₆</strong>: In-game helping behavior increases real-life <strong>helping behavior</strong> more than in-game emergency assistance.</td>
<td></td>
</tr>
</tbody>
</table>
Helping Behavior \((H_6)\)

- In comparison to a pure helping situation, situations of emergency assistance also contain some form of violence.
- But there is a strong inhibition to use violence against others.
- If helping is only possible by using violence, chances are that helping does not occur at all.
- Therefore, in pure helping situations more helping behavior should occur than in situations of emergency assistance.
3. Independent Variables

Independent Variables

IV A: In-game killing

- **Killing**: In-game characters (bandits) have to be killed in order to solve a quest. This is accomplished by fighting.

- **No Killing**: In-game characters cannot be killed. The quest is accomplished by sneaking.

IV B: In-game helping

- **Helping**: The questgiver (a damsel in distress) has to be helped in order to solve the quest.

- **No Helping**: The questgiver (a damsel without distress) cannot be helped.
3. Independent Variables

Operationalisation

- RPG „The Elder Scrolls IV: Oblivion“
- In-game tutorial to teach controls
- Fighting tutorial in violent conditions
- Game ends when quest is solved
- Average game-time comparable to other experiments (normally 20 minutes)

<table>
<thead>
<tr>
<th>Duration</th>
<th>Killing</th>
<th>Emergency</th>
<th>Helping</th>
<th>Treasure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tutorial</td>
<td>4.6</td>
<td>4.3</td>
<td>2.9</td>
<td>2.9</td>
</tr>
<tr>
<td>Quest</td>
<td>22.3</td>
<td>22.5</td>
<td>21.7</td>
<td>19.7</td>
</tr>
</tbody>
</table>
3. Independent Variables

**Design**

<table>
<thead>
<tr>
<th></th>
<th>Killing</th>
<th>No Killing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helping</td>
<td>Emergency Assistance</td>
<td>Help</td>
</tr>
<tr>
<td>No Helping</td>
<td>Kill</td>
<td>Treasure Hunt</td>
</tr>
</tbody>
</table>

\[N = 186\]
Questgiver

- Killing
- Treasure Hunt

No Helping

Helping
- Emergency A.
- Helping
4. Procedure

**Procedure**

- **Deception**
  - *Confederate*

- **Anamnesis**
  - *Interview*

- **DV Violence**
  - *CRTT (tutorial)*

- **IV**
  - *Oblivion*

- **DV Violence**
  - *CRTT*

- **Confounders**
  - *Questionnaire*

- **DV Helping**
  - *Willing to assist*

- **Debriefing**
  - *Interview*

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*Emergency Assistance in Video Games*
5. Dependent Variables

Dependent Variable A: **Violent Behavior**

- Competitive Reaction Time Task (CRTT)
- Cover story: compete 25 rounds against another participant in a reaction time test
- At the beginning of each round, set the intensity and duration of a sound shock your opponent will receive if he looses
- There is no opponent, participant wins 12 rounds
- Violent behavior is operationalized as the product of intensity and duration in the **first** round
- Training phase prior to video game in order to minimize time between treatment and measurement
5. Dependent Variables

**Dependent Variable B: Helping Behavior**

- Willingness to assist (computer based)
- Cover story: graduand wants to investigate how much concentration remains after long experiments
- Participant has to indicate how many items (between 0 and 200) he/she wants to solve; program crashes afterwards
- Long duration of experiment to minimize time pressure
6. Subjects

Subjects
- Experience with controls is required
- Students in Osnabrueck
- Sample size $N = 186 (n = 139 \text{ university}; n = 47 \text{ college})$
7. Manipulation-Checks

**Treatment**

- **Amount of violence**
  - Quest: $t(133)=22.93, \, g=3.43^{***}$
  - Content: $t(184)=6.63, \, g=0.97^{***}$

- **Amount of helping**
  - Quest: $t(184)=3.77, \, g=0.55^{***}$
  - Content: $t(184)=4.59, \, g=0.67^{***}$

<table>
<thead>
<tr>
<th>Mean</th>
<th>Kill</th>
<th>Emergency</th>
<th>Help</th>
<th>Treasure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Violence: Quest</td>
<td>4.4</td>
<td>4.0</td>
<td>1.2</td>
<td>1.2</td>
</tr>
<tr>
<td>Violence: Content</td>
<td>3.5</td>
<td>3.3</td>
<td>2.4</td>
<td>2.3</td>
</tr>
<tr>
<td>Help: Quest</td>
<td>2.6</td>
<td>3.1</td>
<td>3.5</td>
<td>2.6</td>
</tr>
<tr>
<td>Help: Content</td>
<td>1.9</td>
<td>2.6</td>
<td>2.9</td>
<td>2.3</td>
</tr>
</tbody>
</table>

*Hedges g: Standardized mean difference*
  - .20 = small
  - .50 = medium
  - .80 = large

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**Mean Kill Emergency Help Treasure**

Emergency Assistance in Video Games
8. Results

DV Violent Behavior

H₁: In-game killing increases violent behavior

Kill > Help: \( M_1 = 2.96; M_2 = 2.21 \), \( t(182) = 2.14, g = 0.46^* \)

Kill > Treasure: \( M_1 = 2.96; M_2 = 2.27 \), \( t(182) = 1.96, g = 0.40^* \)

H₂: In-game emergency assistance increases violent b.

Emergency > Help: \( M_1 = 2.82; M_2 = 2.21 \), \( t(182) = 1.76, g = 0.37^* \)

Emergency > Treasure: \( M_1 = 2.82; M_2 = 2.27 \), \( t(182) = 1.58, g = 0.31 \)

H₃: In-game killing increases violent b. more than in-game emergency assistance

Kill> Emergency: \( M_1 = 2.96; M_2 = 2.82 \), \( t(182) = 0.38, g = 0.07 \)

Hedges g: .20 = small; .36 = meta-analysis; .50 = medium; .80 = large
8. Results

DV **Helping behavior**

**H₄:** In-game helping behavior increases helping behavior

Help > Kill: \(M_1=22.13; M_2=18.91\), \(t(182)=0.92\), \(g=0.18\)

Help > Treasure: \(M_1=22.13; M_2=18.29\), \(t(182)=1.11\), \(g=0.22\)

**H₅:** In-game emergency assistance increases helping behavior

Emergency > Kill: \(M_1=11.69; M_2=18.91\), \(t(182)=-2.06\), \(g=-0.46^*\)

Emergency > Treasure: \(M_1=11.69; M_2=18.29\), \(t(182)=-1.89\), \(g=-0.42^*\)

**H₆:** In-game helping behavior increases helping behavior more than in-game emergency assistance

Help > Emergency: \(M_1=22.13; M_2=11.69\), \(t(182)=2.98\), \(g=0.62^*\)

Hedges \(g\): .20 = small; .32 = meta-analysis; .50 = medium; .80 = large
9. Discussion

**Violent Behavior**

- The hypothesis „In-game violence increases violent behavior“ was confirmed.
- The hypothesis „In-game emergency assistance increases violent behavior“ was marginally confirmed.
- But one third of the participants suspected that the CRTT measures aggression before it was conducted. This could have reduced the effect size due to social desirability.
- All in all, emergency assistance seemingly increases violent behavior.
9. Discussion

Helping Behavior

- The hypothesis “In-game helping increases helping behavior” could not be confirmed. This could be due to the weak treatment.
- The hypothesis “In-game emergency assistance increases helping behavior” could not be confirmed. Seemingly, the opposite seems to be true.
10. General Discussion

Usefulness for advancement of theories

- Results replicate preceding studies
  - In-game violence increases violent behavior
  - In-game helping could increase helping behavior
- First insights about emergency assistance
  - In-game emergency assistance seemingly increases violent behavior and at the same time reduces helping behavior
  - Results in accordance with moral management model
  - In the light of this model, one could say that in-game emergency assistance does not lead to selflessness, but to self-righteousness
  - But replication is needed as these hypotheses were not postulated a priori
## 10. General Discussion

### Usefulness for applications and everyday life

- In video games, assisting a character in an emergency seems to undermine moral thinking (at least for a short amount of time)
- There is a risk that regular use of violent games could permanently reduce moral thinking
- Do we have to shun from violent entertainment or can we protect ourselves from the negative consequences?
  - Maybe we should constantly remind ourselves that our actions are not in accordance with moral rules?
  - Maybe we should not disengage the moral concerns but instead suffer from the arising negative emotions even if this reduces the entertaining effect?
Thank you very much for your interest!