

TO KILL OR NOT TO KILL –

Behavioral, physiological and personality markers of moral decision-making in video games



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THEORETICAL BACKGROUND

Morality

= ancient concept, studied by cognitive, developmental, and moral psychologists for decades (Haidt & Joseph, 2007) using abstract textual dilemmas (cf. trolley problem)

Gaming

= increasingly popular and technologically advanced, recently even for complex storytelling and meaningful decisions (Consalvo et al., 2019; Weaver & Lewis, 2012; Oliver et al., 2015)

Investigating moral gameplay

- can overcome methodological obstacles of classic moral psychology
- can bring new insights regarding meaningful and eudaimonic experiences
- can widen the scope beyond purely violence (violence ≠ morality) driven research

Factors influencing (virtual) moral decision-making

- time pressure/reaction time (e.g., Greene et al., 2001; Katsarov et al., 2017; Tinghög et al., 2016)
- moral disengagement (e.g., Hartmann & Vorderer, 2010; Hartmann et al., 2010)
- trait variables (e.g., empathy, trait moral disengagement)

PARTICIPANTS & DESIGN

N = 101

Age: $M = 23.20$ $SD = 4.59$ range 18-51 years

Gender: 65 female, 36 male

Gaming h/week: $M = 4.11$ $SD = 5.88$ range 0-25h

Main AV

Moral decision-making in up to 13 decision situations in *Detroit: Become Human*



Link to *Detroit: Become Human* game trailer

2 x 3 Design

- Decisions under time pressure vs. no time pressure (within subjects)
- Playing a morally engaged (n = 39) vs. disengaged (n = 42) vs. control (n = 20) character (between subjects)

MEASURES & PROCEDURE

Informed consent

Computerized questionnaires:

- demographics, gaming-related items,
- trait items (moral disengagement, Bandura et al., 1996; empathy, Davis, 1983; media-based empathy, Happ & Pfetsch, 2016; moral foundations salience, Graham et al., 2009)

Cabling with heart rate monitor

Introduction of controls + training chapter *Shades of Color* (approx. 10min)

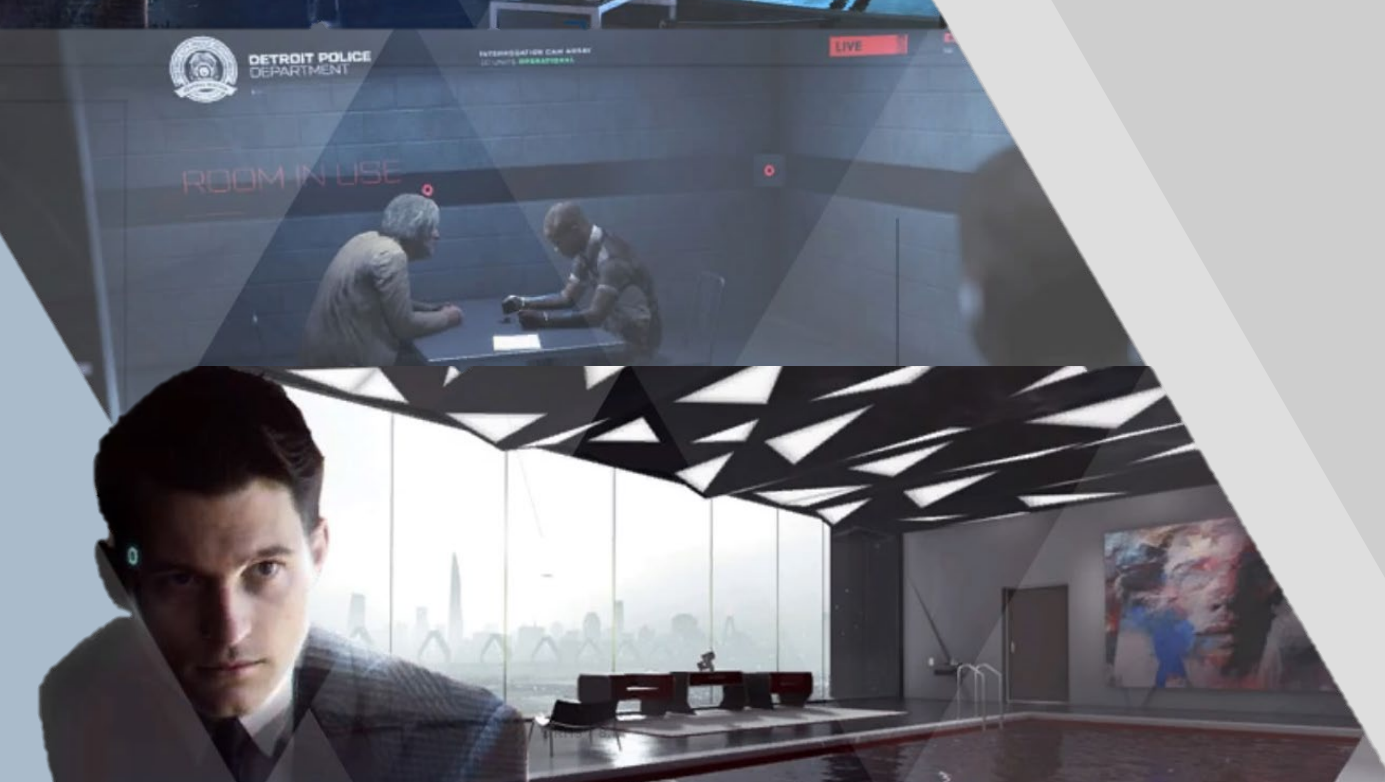
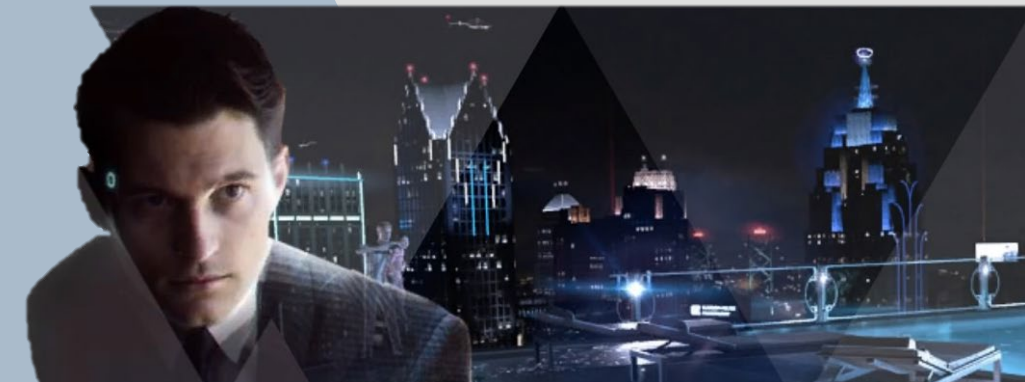
Randomized assignment to condition (engaged vs. disengaged vs. control) i.e., reading the respective character sheet/no character sheet

Playing *The Hostage*, *The Interrogation*, *Meet Kamski* (approx. 45min) including the main AV, i.e., 8-13 moral decisions

Computerized questionnaires evaluating the sessions (e.g., perceived guilt/presence)



Link to *The Hostage* playthrough



RESULTS

Moral vs. immoral decision-making:

- 13 χ^2 -tests: 3 non-significant, 2 significant + more immoral decision-making, 8 significant + more moral decision-making)
- Individually aggregated moral decision index (MDI): $M = 0.69$ $SD = 0.16$ range 0.22 to 1
- Overall pooling function: moral = 69.24 % vs. immoral = 30.66 %

Influence of character framing (engaged vs. disengaged vs. control):

- 13 2x3 χ^2 -tests/Fisher's Exact tests: all non-significant ($\chi^2 \leq 4.06$, $p \geq .14$)
- Comparison of MDIs across conditions: non-significant ($F[2, 98] = 0.12$, $p = .89$)
- Comparison of pooling functions: engaged = 69.88 % vs. disengaged = 69.71 % vs. control = 67.50 % (for moral decision-making)

Influence of time pressure/reaction time:

- Comparison of pooling functions: TP moral = 72.08 % immoral = 27.92 %
no TP moral = 65.50 % immoral = 34.50 %
- Comparison of RT data in non-pressured decisions ($k = 5$): significant only for 2 decisions

DISCUSSION & LIMITATIONS

In a morally-laden context players tend to choose moral over immoral options.

Character framing using texts presented prior to play were unsuccessful to alter moral decision-making

Time pressure generally increases the occurrences of moral decision-making, however, RT effects in non-pressured situations were only found in certain decision-situations

Limitations:

- transfer of results to other gaming titles should be tested
- within subject design condition (i.e., time pressure) = quasi-experimental

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