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Serious Moral Games in Ethics

Video Games as a Tool for Research and Teaching

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Bioshock, 2007 (2K Games)



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A changing appreciation of videogames



Video games in research

A crude measure for the frequency of research topics related to video games: A search for:

	Web of Science	PubMed
“video game*”	~3’600	~800
“video game*” & aggress* (etc.)	~660	~110
“video game*” & moral* (etc.)	~120	~20

This (partly) confirms a general perception, that investigating negative effects of (violent) video games dominates the scientific literature and probably even more the public discussion (e.g. subsequent to Newtown).

This talk is not about video games and aggression/violence.



Some observations in the literature

Table 1
Effect Sizes, Criminal Justice Research

Relationship	Effect size (<i>r</i>)
Video game sales and youth violence rates in the United States	-.95
Genetic influences on antisocial behavior	.75
Self-control and perceptions of criminal opportunity on crime	.58
Protective effect of community institutions on neighborhood crime	.39
VVG playing on visuospatial cognitive ability	.36
Firearms ownership on crime	.35
Incarceration use as a deterrent on crime	.33
Aggressive personality and violent crime	.25
Poverty on crime	.25
Childhood physical abuse and adult violent crime	.22
Child witnessing domestic violence on future aggression	.18
Video game violence and nonserious aggression ^a	.15
Television violence on violent crime	.10
VVG playing on serious aggressive behavior ^b	.04

Ferguson & Kilburn 2010

Anderson et al. 2010:

(...) However, as numerous authors have pointed out, even small effect sizes can be of major practical significance. When effects accumulate across time, or when large portions of the population are exposed to the risk factor, or when consequences are severe, statistically small effects become much more important. All three of these conditions apply to violent video game effects.



Prosocial video games?

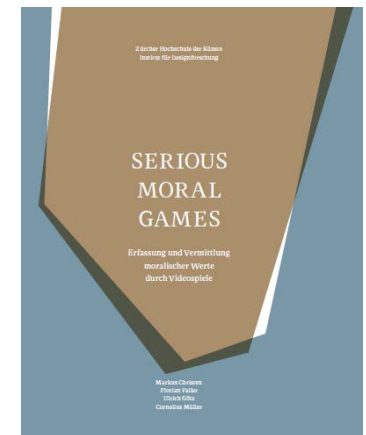
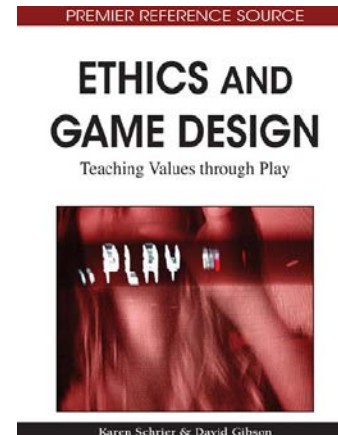
Anderson et al. (2010): *Of course, the same basic social-cognitive processes should also yield prosocial effects when game content is primarily prosocial. Unfortunately, there has been relatively little research on purely prosocial game effects (...). However, some recent studies have found that prosocial games can increase cooperation and helping.*

Ferguson 2010: *It is argued that the debate on video game violence should be broadened to include both potential negative and positive effects.*

And there is indeed an increasing amount of research investigating positive (i.e. prosocial) effects of video games.

The **Good Play Project** of Harvard University (→ Carrie James!)

Or two recent book (the English translation of our book is in preparation)





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The idea of a Serious Moral Game



Games and Serious Games (1)

Games can be understood as a way to structure play behavior, which is a fundamental aspect of human (and mammalian) behavior and culture.

The *homo ludens* (Huizinga, 1938) engages in playing games that express freedom, that are outside of the “real life”, that usually have a defined locality and location and that create order and rules.

Serious Games are games that use the structure and motivational force of games in order to reach goals outside of the game (i.e. build bridges between the “game world” and the “real world”). Examples are:

- 1) Games for learning (cognitive) knowledge
- 2) Games for training motor function / basic senses
- 3) Games supporting psychotherapy
- 4) Games for marketing purposes
- 5) Games as “measurement instruments” for psychological competences



Games and Serious Games (2)

In the following, we focus on **video games** (setting aside, board games, children play games etc.). One should also distinguish Serious Games from simple behavioral games used, e.g., in behavioral economics (dictator game, ultimatum game etc.), as a Serious Game should have a “game character”, i.e. it should:

- create a working fiction (“game world”),
- be fun to play (i.e. the external goal should not be obvious)
- built up an intrinsic motivation to play
- allow for some degree of immersion

In addition, a video game needs clearly defined **goals** and parameters that define to what extent one has succeed the goal, i.e. all video games have to solve a measurement problem.

In Serious Games, the measurement has to align with the external goal to which the game wants to contribute and it has to fulfill the quality criteria (e.g. validity) associated with such measurements.

Games and moral behavior

There are two types of moral decisions players can make in a video game:



Gameplay-external (in particular in multi-player-games):

Adaptation of player-behavior to increase, e.g. fair play or enjoyment of other players (Globulus, 2003).



Gameplay-internal:

The game offers decision situations that can be interpreted as “moral decisions” and that have an effect on gameplay (The Witcher, 2007)



Defining a Serious Moral Game

A serious game that focuses on the morality of the player is a **Serious Moral Game (SMG)**. Our definition is:

A Serious Moral Game is a video game, by which

- *a moral agent reveals information*
- *on his or her moral intelligence (the model that describes the agent's moral capacities and orientations)*
- *through his or her playing behavior*
- *towards him-/herself or towards third parties such that an inference on the real-world morality of the agent is possible.*

The goal of the game lies outside of the game, allowing, e.g. for:

- Obtaining data for moral psychological research
- Getting a self-understanding of the agent (morality in context)
- Training specific moral capabilities of the agent.



Issues to consider

Beside all technical difficulties that have to be solved when programming a SMG, there are three conceptual issues to consider:

- **What do we mean by “morality”?** Which norms are included, i.e. how “rich” is the moral ontology? What about moral relativism? What about moral justifications?
- **What understanding of “moral agency” do we have?** How do we frame the psychological competences and their interplay that characterize moral agency?
- **Which game mechanisms are available that allow conclusions on the morality of the player?** How can this be done such that the parameter space is richer than the current “moral tests” but still allows for reliable conclusions?



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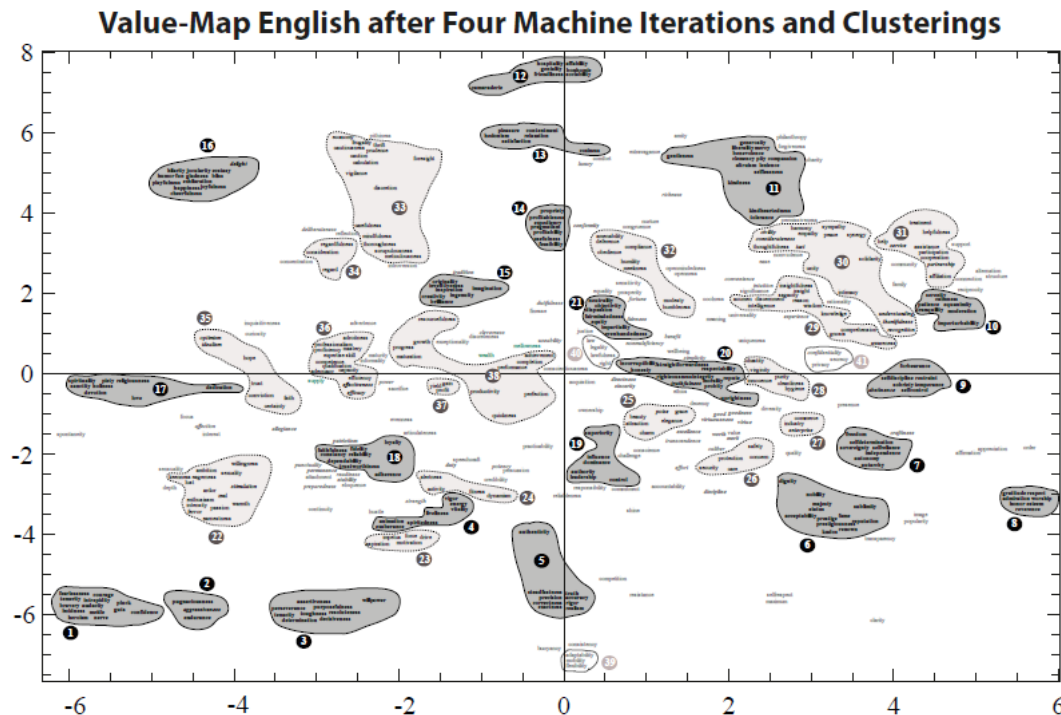
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Setting a psychological frame: Moral Intelligence



Morality (moral ontology)

Ongoing: Investigating the semantic structure of ~460 value orientations based on thesaurus-databases (intercultural: German-English, Spanish in preparation), i.e. language use (Christen et al, in preparation):



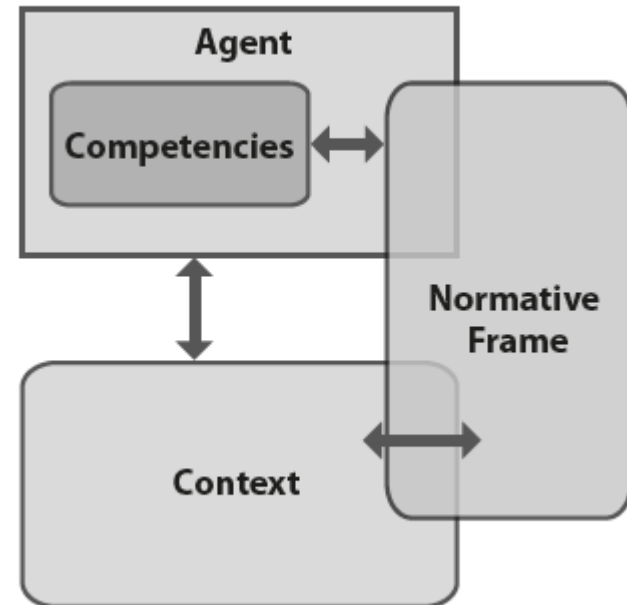


Moral agency

A moral agent is a being who is capable of acting with reference to right and wrong. This entity “agent” interacts with three other types of entities:

- Built-in competencies that allow for agency
- A context in which the agent operates
- A normative frame that provides the reference for “right” and “wrong”

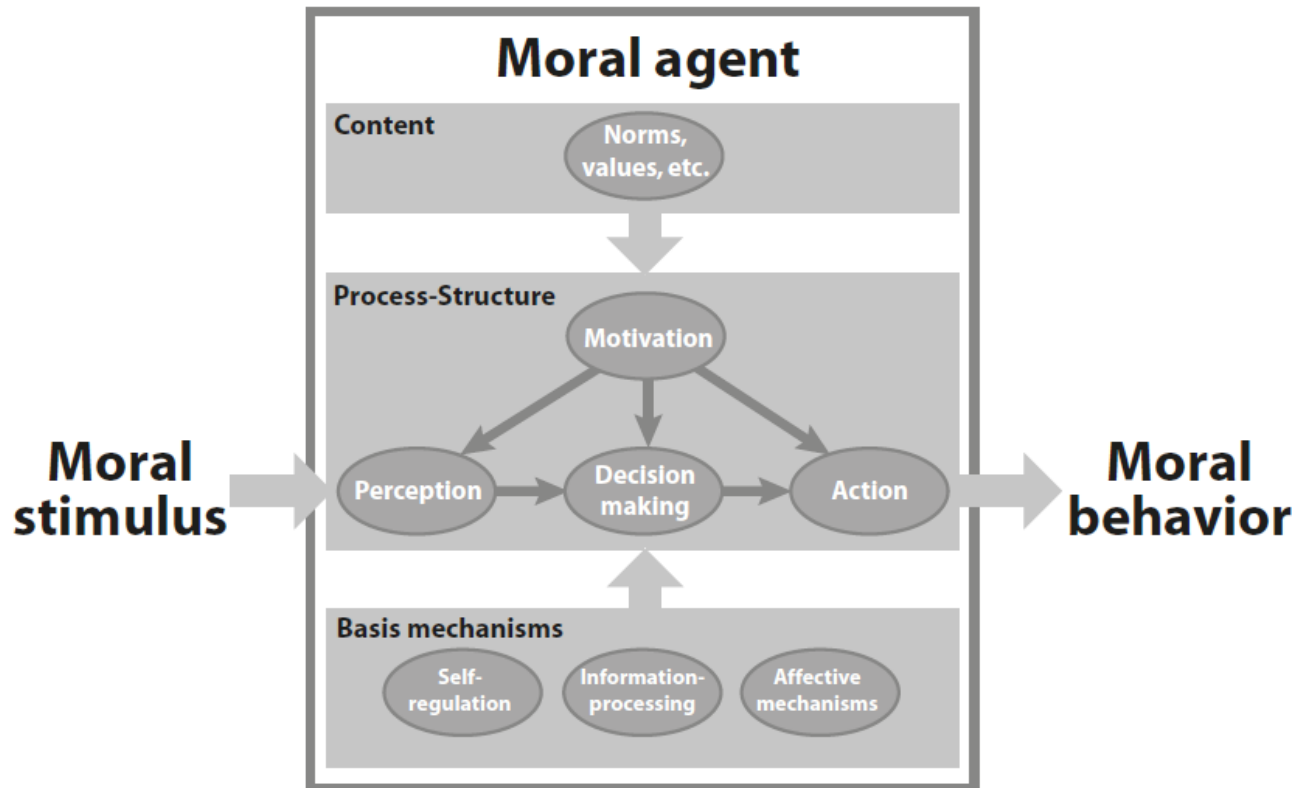
All these entities interact in rather complex ways, see Christen & Alfano (in press).





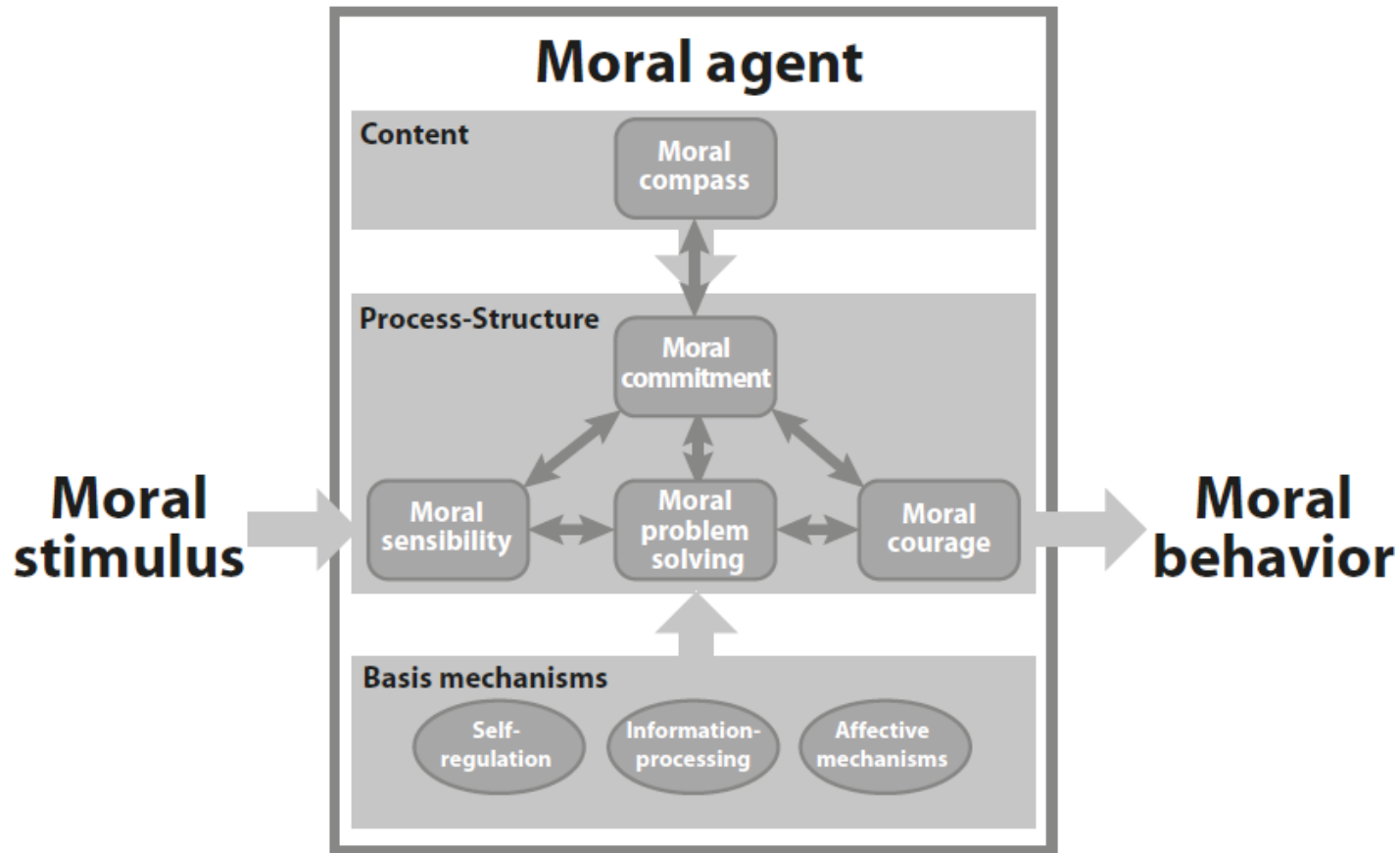
Stage models of moral behavior

We work with an adaptation of classical stage models of moral decision making (Rest 1986, Narvaez 2005):





Our working model: Moral Intelligence



Tanner & Christen, in press



Consequences for a Serious Moral Game

The model of moral intelligence allows to structure the various questions that have to be solved when creating a SMG:

- 1) **Moral compass:** We need a way to evaluate (game-internally or externally, e.g. during debriefing) the moral orientations that are important for the player
- 2) **Moral commitment:** Moral issues must be important within the setting of a SMG.
- 3) **Moral sensibility:** One potential variable to measure/improve, i.e. moral issues should not be too obvious.
- 4) **Moral problem solving:** An inherent part of any video game (all games offer decision) – but here we have the possibility to vary various aspects of moral decision (time constraints, long-term consequences etc.)
- 5) **Moral courage:** One potential control parameter: effort to uphold moral decisions, dealing with temptations, etc.



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Potential parameters of a Serious Moral Game



Gameplay

What are the consequences of player-decisions? In an extreme form (September 12th, Casual Game, 2003) the decisions are irrelevant.





Rules of the Game

Do the rules of the game allow different types of moral actions? They indeed can offer such choices, e.g. avoidance instead of combat (Deus Ex, Eidos Interactive, 2000).





Fictionality

What degree of fictional freedom does the game offer? For example, choosing to be the good guy or bad guy (InFamous, Sucker Punch Productions, 2009).





Narration

What is the narrative setting in which the game is placed? Often, the world is described as a place in which our “normal morality” has been suspended (e.g., *Fallout 3*, Bethesda Softworks, 2008).





Usability / Player guidance

How are options presented to the player? Not necessarily in an explicit (e.g., multiple choice) way (e.g., *Façade*, *Procedural Arts*, 2005).





Representation of avatars, NPCs

Does the appearance of avatars or non-playable characters (NPCs) reflect the “personality” of the figure? And what about the representation of the game itself? (e.g., Fable 2, Microsoft, 2008).





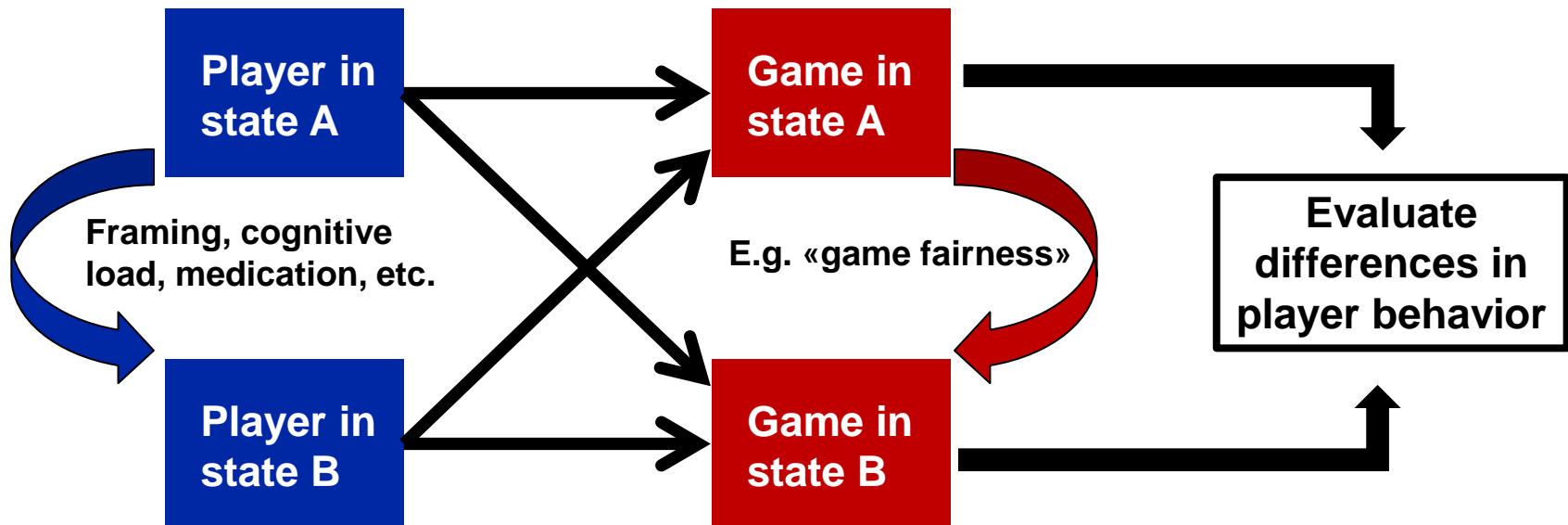
Overview of factors that can be controlled

- Deliberation time
- Reversibility of decisions (e.g. “compensation”)
- Priming through narrative variability
- Context of a decision problem
- Character (change) of player avatar
- Interaction with NPCs
- Audiovisual appearance of avatar / NPCs
- Framing through general style (e.g. realistic vs. abstract)
- Perspectives (first person, third person)
- Decision costs
- ...



Dealing with the problem of fictional freedom

Games allow to try out (unmoral) options, i.e. a simple count of the number of prosocial choices is probably not the appropriate measure. Rather, differences in behavior should be the focus:





Fields of Applications

Serious Moral Games could be used for various applications:

- **Diagnostic tools:** Personality research, human resources, career counseling.
- **Video game research:** training of game designers, media research.
- **Interventions:** Training of professionals working in “morally loaded” fields, working with antisocial children.

Beware of ethical pitfalls: stigmatic effect of a “immoral diagnosis”, balancing of social demands and personal freedom, moral relativism.



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Application 1: Towards measuring moral sensibility in medicine (and other fields)



Moral Sensibility

We are currently developing tools for each component of our model of moral intelligence aiming to integrate them later in a unifying game setting adapted to specific social spheres (medicine, finance).

One of them is moral sensibility, the ability to recognize and identify a moral issue. This requires, as a first step, to identify what are common moral and non-moral value orientations in these social spheres and how are they generally rated as being moral or non-moral.

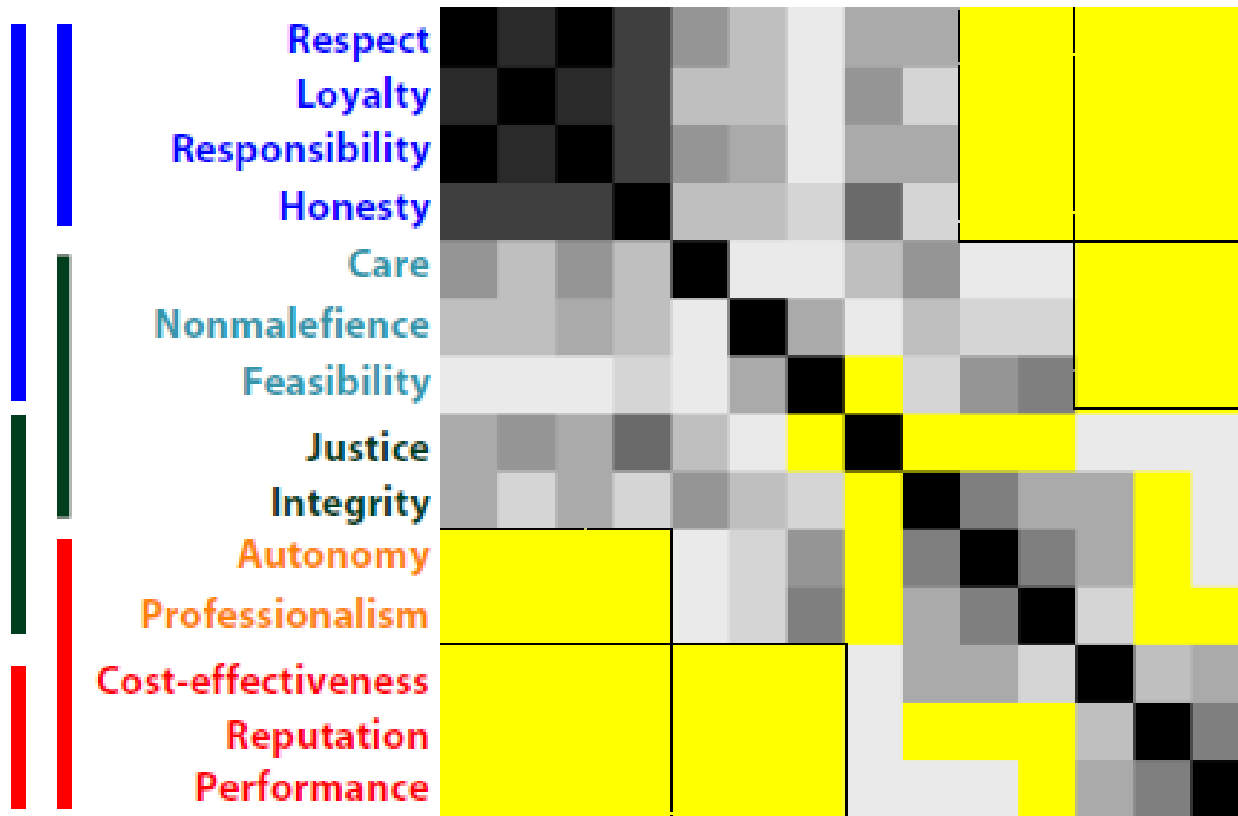
For medicine, we identified 14 value orientations. Exemplars have been rated (by students and professionals, N=317) along 4 dimensions:

1. moral/universal – non-moral/universal
2. community-oriented – self-oriented
3. collaborative – competitive
4. consequentialist – principle-focused



Result (1)

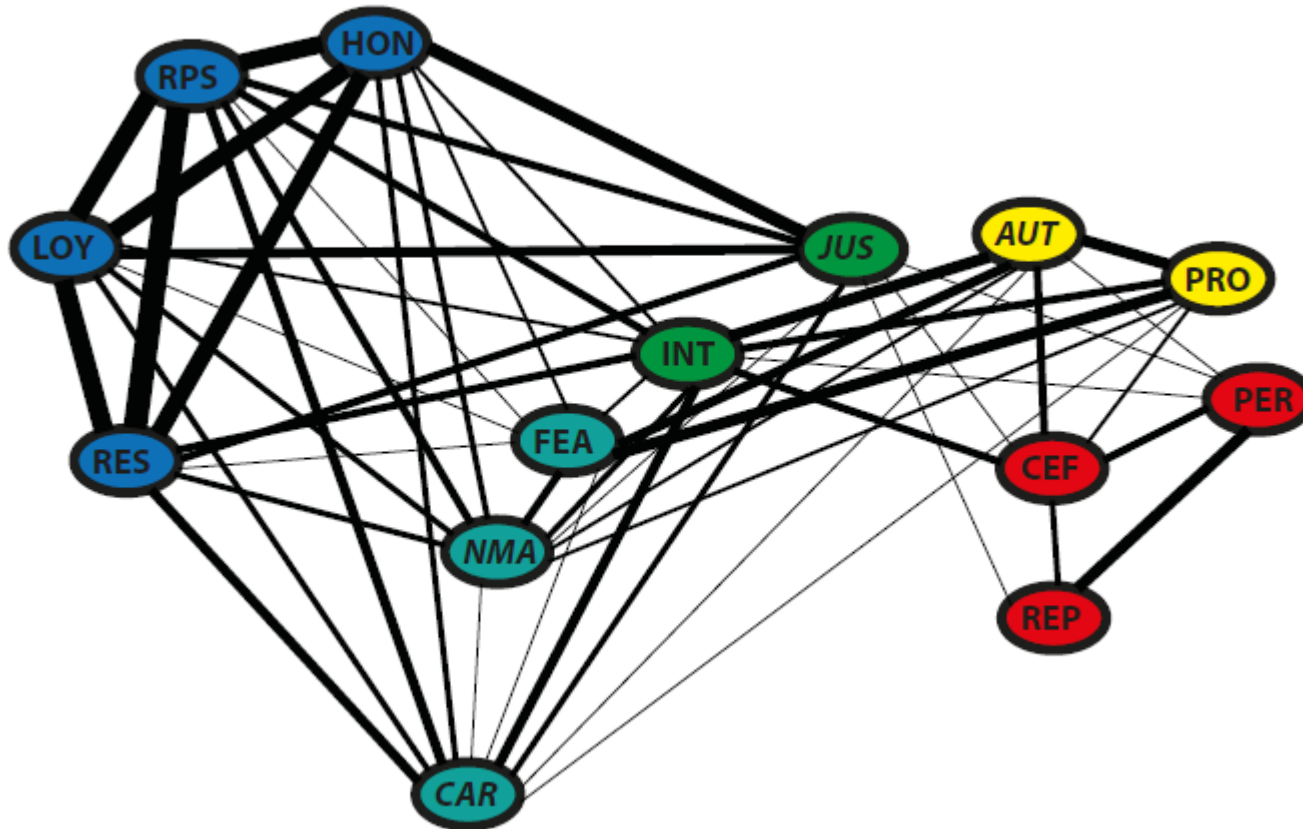
Details in: Christen et al, submitted/in preparation





Result (2)

Details in: Christen et al, submitted/in preparation





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Application 2: Understanding the virtualization of warfare using drones



The problem

Modern warfare increasingly uses Unmanned Aerial Vehicles (“drones”). This raises the question whether remote killing that significantly changes the experience of combat for those who operate drones has effects on human morality for drone pilots.

We currently create a game-like test setting based on Half-Life that translates the well-studied field of trolley dilemmas into drone scenarios. Using a four-factor design and two types of scenarios (a “kill” and a “help” scenario; in latter drones are used to fight forest fires) we intend to entangle the effect of virtualization from the intention to kill and assess the experience of deadly dilemmas on moral decision making and the moral identity of persons.



Setup of Study

Step 1: Subjects perform Triune moral identity questionnaire outside of the drone control room.

Step 2: Subject enters the drone control room. There are two computer screens: A big screen for playing the Drone scenarios and a smaller screen for performing the tests. The subject will be instructed about how to play the scenarios and how to perform the tests. The instructor will leave the room and only enter in between the two sub-steps (either to activate the scenario or the test-computer).

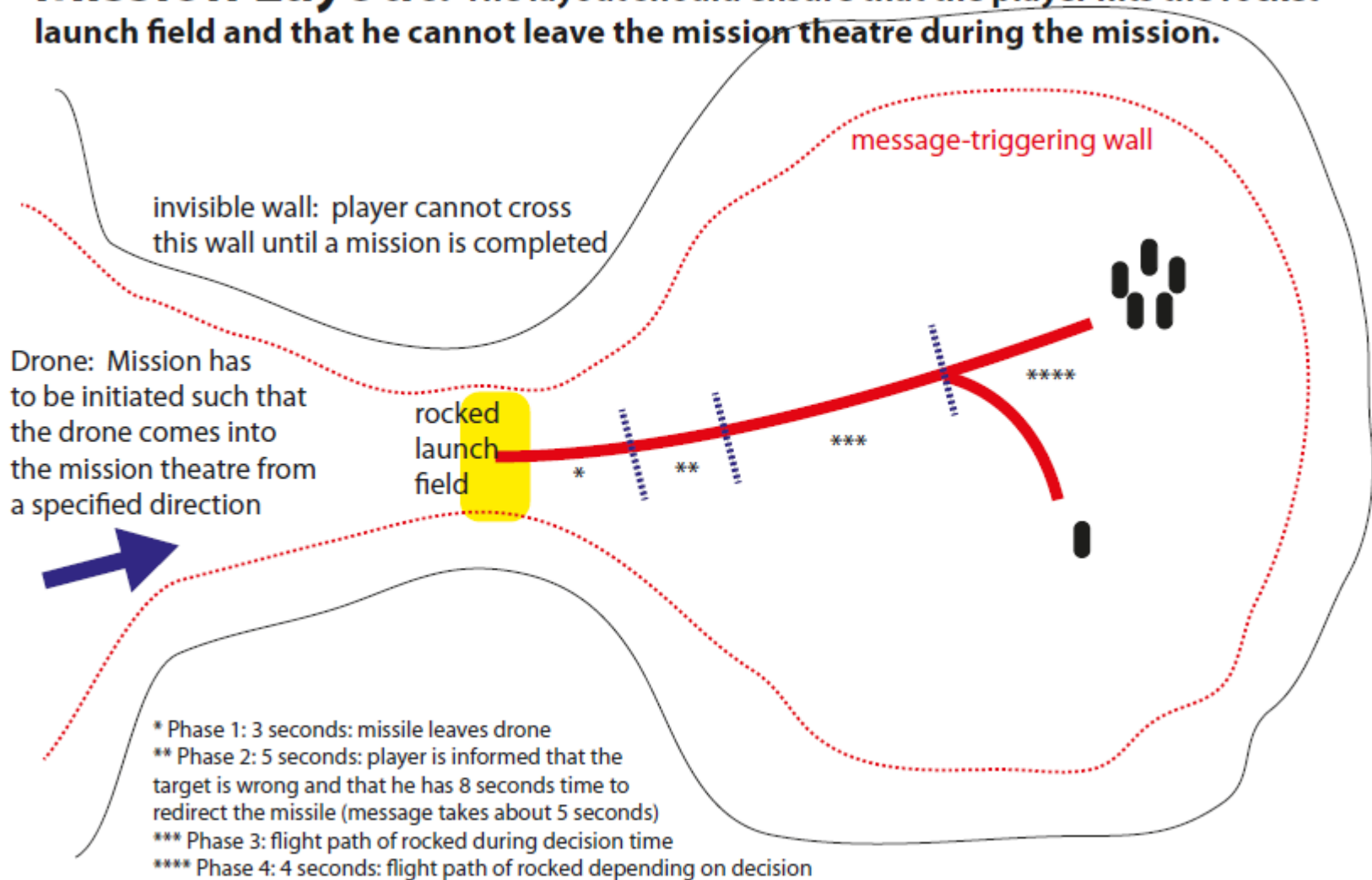
<p>Subject plays the “kill” scenario</p>	<p>Subject plays the “help” scenario</p>	<p>Subject performs the tests:</p> <ul style="list-style-type: none"> - Reason evaluation test - Implicit Association Test “Triune Ethics” - Value Judgment Test 	
<p>Subject performs the tests:</p> <ul style="list-style-type: none"> - Reason evaluation test - Implicit Association Test “Triune Ethics” - Value Judgment Test 		<p>Subject plays the “kill” scenario</p>	<p>Subject plays the “help” scenario</p>

Step 3: Debriefing, consisting of:

- **A qualitative part: Persons have to justify their decisions and have to describe their emotional experiences in being a drone pilot.**
- **A quantitative part: e.g. a measure for stress level**



Mission Layout: The layout should ensure that the player hits the rocket launch field and that he cannot leave the mission theatre during the mission.





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Collaborators:

- Florian Faller, Zurich Institute of Art (game design)
- Ulrich Götz, Zurich Institute of Art (game design)
- Cornelius Müller, Zurich Institute of Art (game design)
- Darcia Narvaez, University of Notre Dame (moral psychology)
- Carmen Tanner, University of Zurich (social psychology)
- Mike Villano, University of Notre Dame (game design)

Thank you!