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# **Co-Utility through Serious Game based Training of Moral Competences in Finance**

*Co-Utility-Workshop – Tarragona, March 11 2016*

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Ethics, University of Zurich, Switzerland**



## Overview

### 1) **Co-utility & Ethics: The problem**

How to get shared utilities from individual utilities and the role of ethics?

### 2) **Moral Intelligence – a competence approach to ethics**

Ethical behavior involves more than having the right reasons and values.

### 3) **Measuring Competences – an Example**

Outlining the creation of a tool for measuring moral sensitivity.

### 4) **Creating a Serious Moral Game for Finance**

A sketch of an ongoing research project



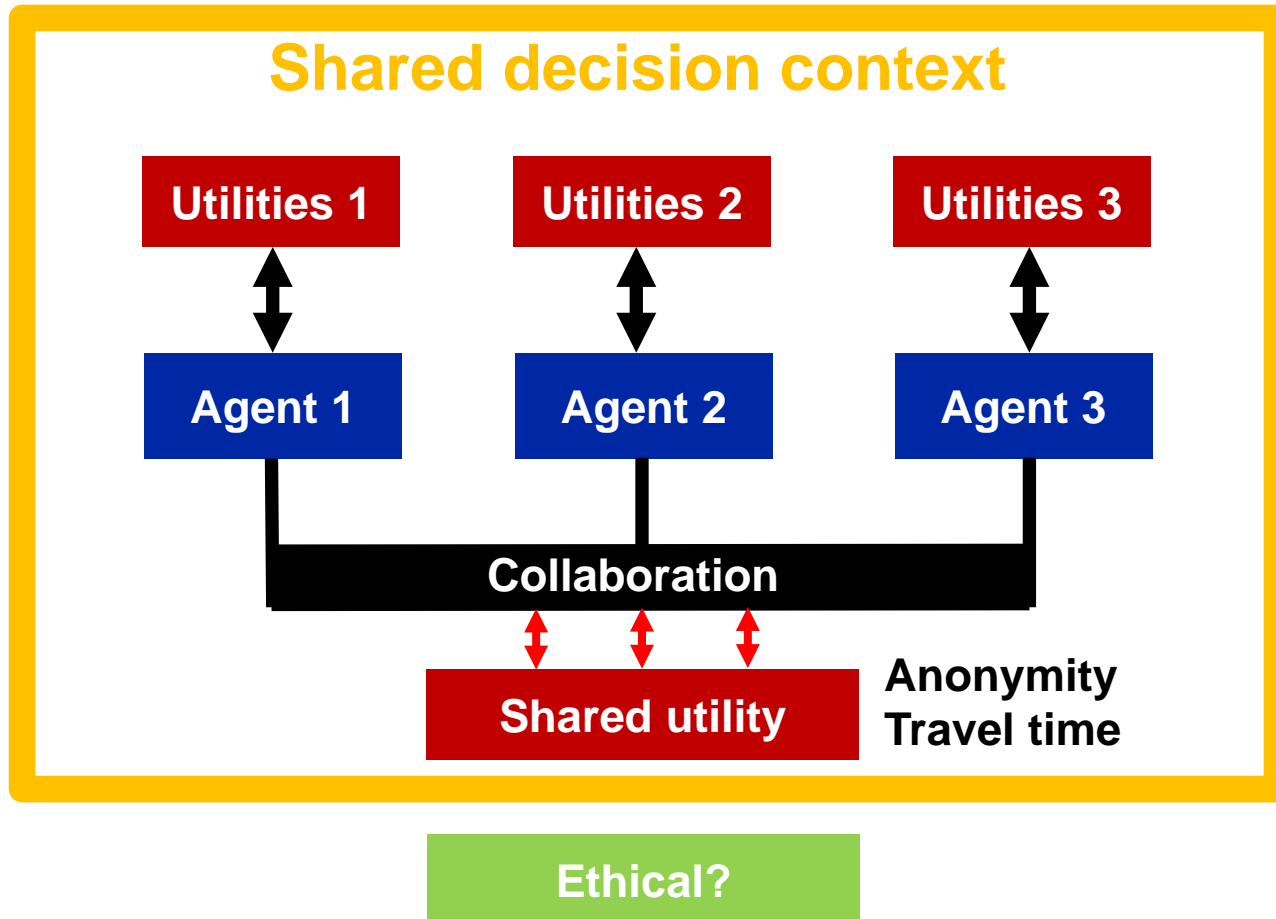
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# Co-utility & Ethics: The problem

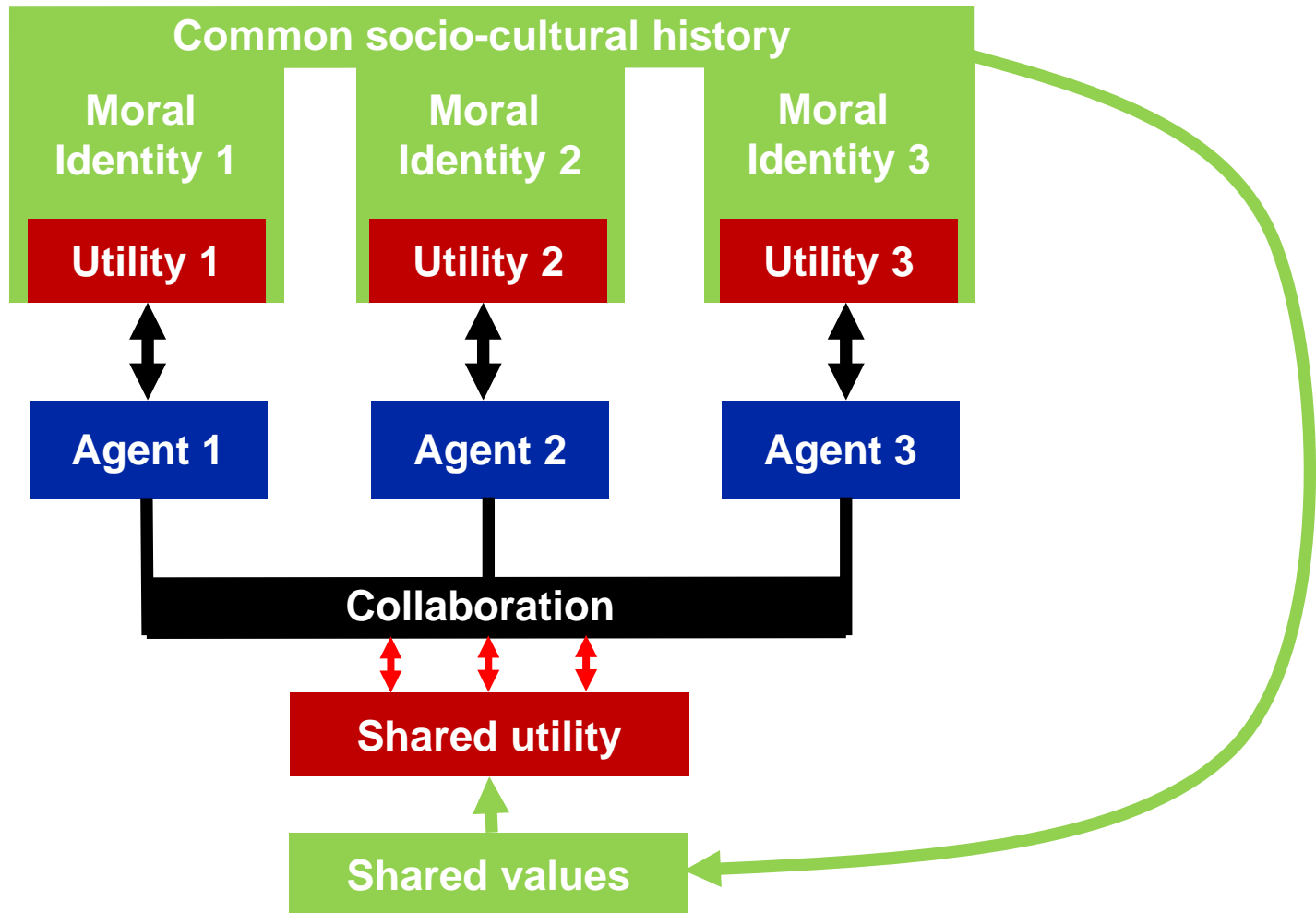


## From individual utilities to shared utilities





## Shared utilities and ethics





## Setting the framework

### Starting questions:

- 1) Setting up co-utile protocols in a decision context requires **shared utilities as motivational basis** for entering a collaboration.  
→ **How are shared utilities created?**
- 2) Shared utilities, co-utile protocols and collaboration are **ethically neutral**, they could serve both positive and negative purposes.  
→ **How to ensure that co-utility serves an ethical purpose?**

### Observations that can help to answer the questions:

- 1) Individual utilities of agents are usually embedded in their **moral identities**.
- 2) Moral identities (partly) result from complex, but (partly) **shared cultural/ social** histories of the agents (culture, education, institutions etc.).
- 3) Those shared histories are reflected in a (partial) **common understanding of values** that serve as the basis for shared utilities.



## Moral competences as “meta utilities”

**Setting up ethical co-utile protocols thus is based on certain conditions:**

- 1) The ability to relate the utilities at stake with the (presumably) shared values (i.e. to realize that this utility is an instance of this value)
- 2) The ability to realize that the decision procedures of which the protocol consists of contribute to upholding this value.
- 3) The ability to realize that the actions of the other agents are consistent to this shared value

**These abilities relate to specific moral competences.**

**Cooperating agents have an interest that the other agents do have these competences.**

**Those competences thus become a utility by themselves that provide a foundation for setting up co-utile protocols (i.e. they can be understood as meta utilities)**



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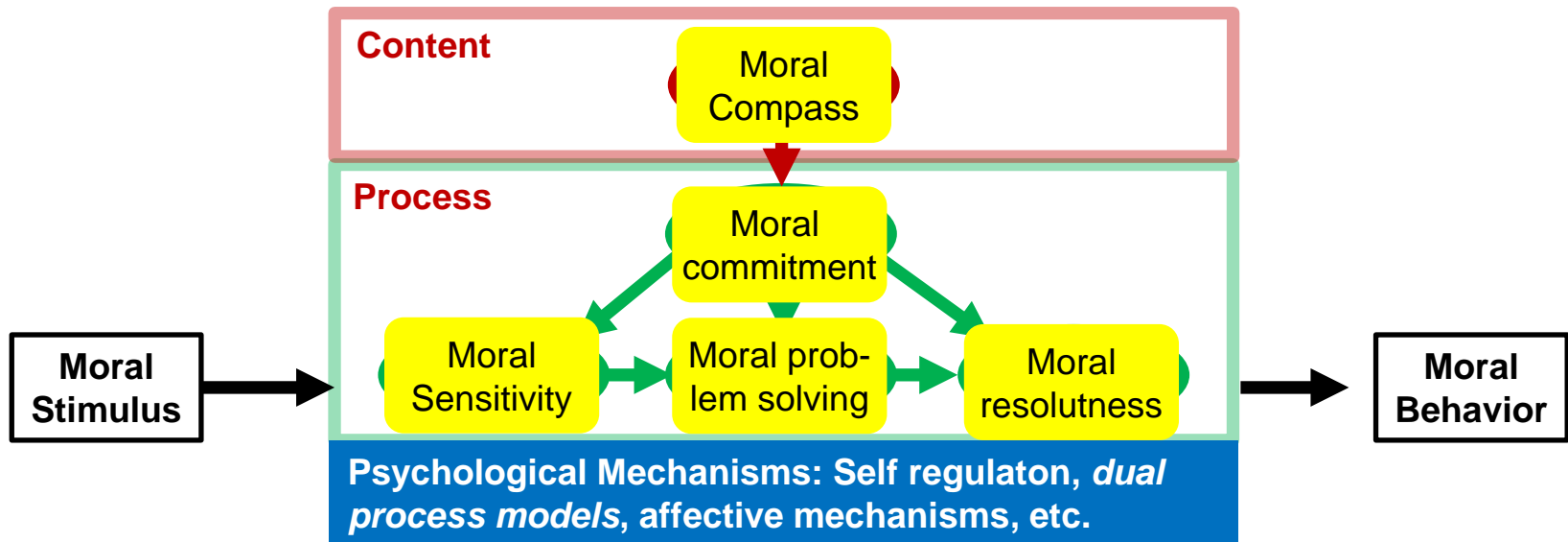
# Moral Intelligence – a competence approach to ethics





## The concept of Moral Intelligence

We work with an adaptation of classical stage models of moral decision making (Rest 1986, Narvaez 2005) which we call **Moral Intelligence**, an agent's capacity to process and manage moral problems (Tanner & Christen 2013):



**Our goal is to develop for each of these components measurement tools that combine explicit with implicit components.**



## The competence of moral sensitivity

Moral sensitivity (also referred to as moral awareness, ethical sensitivity/sensibility) is commonly defined as **the ability to recognize moral issues when they arise in practice.**

It includes being:

- responsive to the need of others
- envisaging whether a course of action can harm or help others or violates internalized moral standards or codes that govern professional conducts.

In fact, lack of moral sensitivity – also called **moral blindness** – is likely to have far-reaching implications. Without the recognition that a moral problem is at stake, no moral problem will exist for the individual.



## Effects of lacking moral sensitivity

Researchers found that “morally blind” people can have (morally) best intentions but nonetheless behave in contradiction to their own values and principles, without being aware of it (Bazerman & Tenbrunsel, 2011):

- **Slippery slope effect** (inability to “see” moral problems when they develop gradually rather than abrupt; Gino & Bazerman, 2009)
- **Psycho numbing** (loss of compassion when considering a group of victims rather than a single identified victim; Small, Loewenstein & Slovic, 2007)-
- **Self-deception or moral disengagement** (distortion of reality to maintain a positive self-image and to justify unethical behavior; Detert, Trevino & Sweitzer, 2008).

There is also evidence that moral sensitivity and behavior is **positively linked** (Tenbrunsel & Messick 1999, Jordan 2009, Reynolds 2006/2008).



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# Measuring Competences – an Example



## Developing a measure for moral sensitivity

The following considerations concern the explicit part of the instrument.

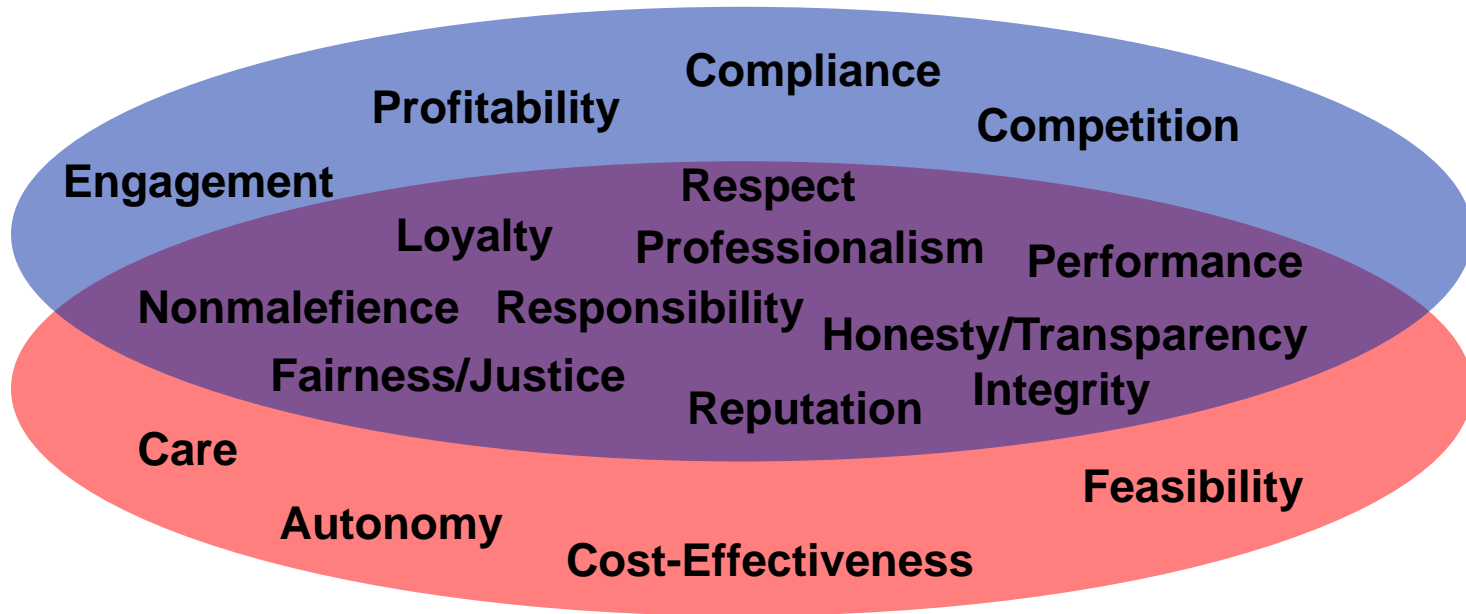
- 1) **Value Identification:** Find the relevant values for the domain under consideration and investigate to what extent these values are perceived as moral- or non-moral
- 2) **Value representation:** Create representative statements that exemplify those values without naming the values explicitly.
- 3) **Vignette construction:** Develop and quality check morally ambiguous vignettes characteristic of the context.
- 4) **Instrument validation:** Validate instrument along standard procedures of test psychology (construct validity, convergence with existing measures, extreme group comparison etc.).

A similar approach is used for the implicit instrument (currently under investigation, not discussed).



## Step 1: Value identification

Using several approaches (literature review, expert interviews, surveys) we identified 14 values each for two domains under consideration (finance, medicine):



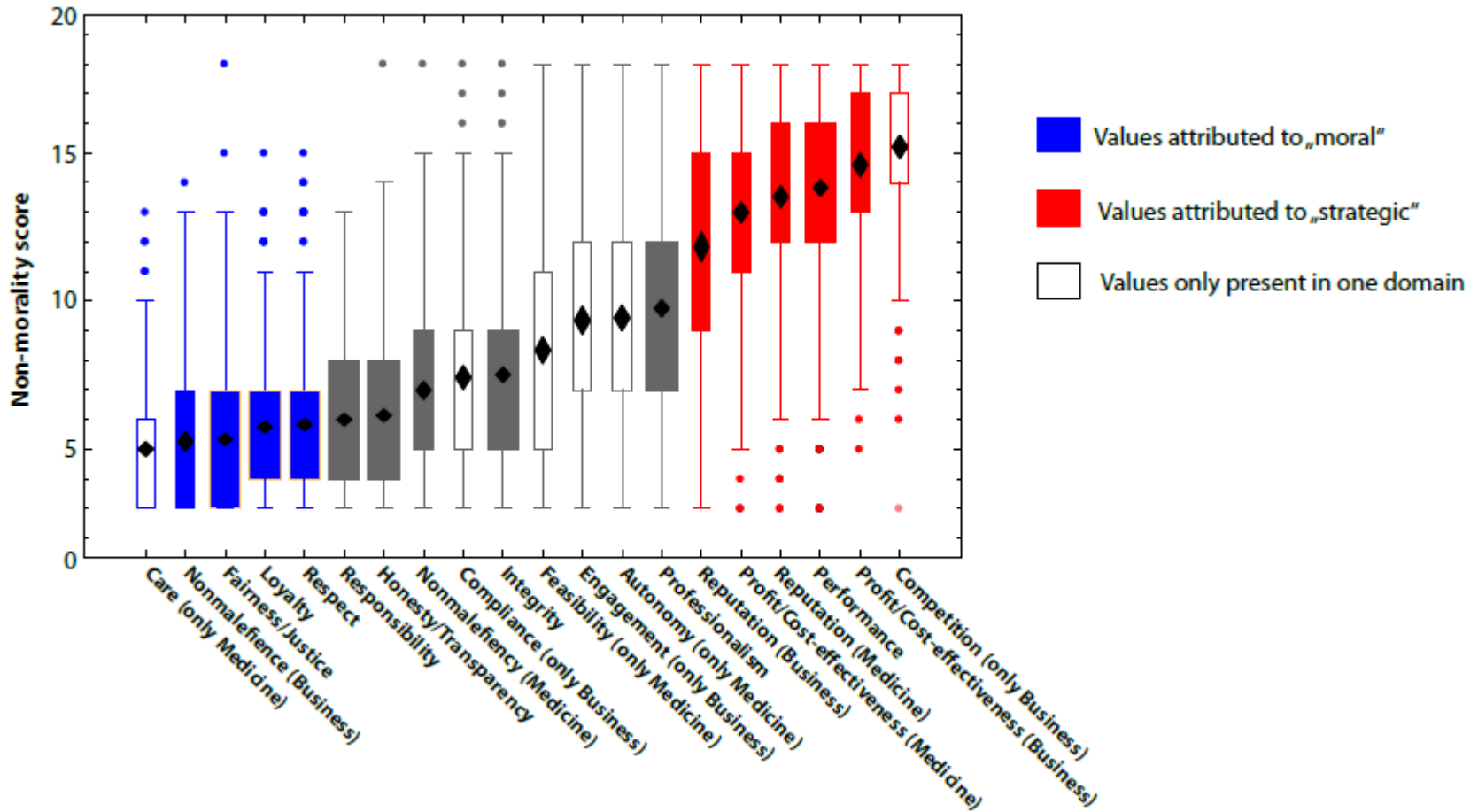


## Step 1: Dimensions of morality

Dimension	Description of left endpoint	Description of right endpoint
<b>MO-NMO:</b> <b>moral</b> – <b>non-moral</b>	A value is "moral" if it claims to be universally valid and its corresponding actions are judged as right or wrong.	A value is "non-moral" if it is not claimed that the value is universally valid and if corresponding actions are not subject of evaluations as right or wrong.
<b>COM-SELF:</b> <b>community-oriented</b> – <b>self-oriented</b>	A value is "community-oriented" if it refers to the goals of a community, common interest or the relation among individuals.	A value is "self-oriented" if it refers to the priority of personal goals, personal interests or the individual.
<b>COOP-COMP:</b> <b>cooperative</b> – <b>competitive</b>	A value is "cooperative" if it refers to the collaboration, cooperation or communication between human beings or institutions.	A value is "competitive" if it refers to the competition or rivalry between human beings or institutions.
<b>PRI-CON:</b> <b>principle-focused</b> – <b>consequentialist</b>	A value is "principle-focused" if it focuses on the legitimacy of the act itself when the value is used to evaluate actions.	A value is "consequentialist" if it focuses to the evaluation of consequences of an action when the value is used to evaluate actions.



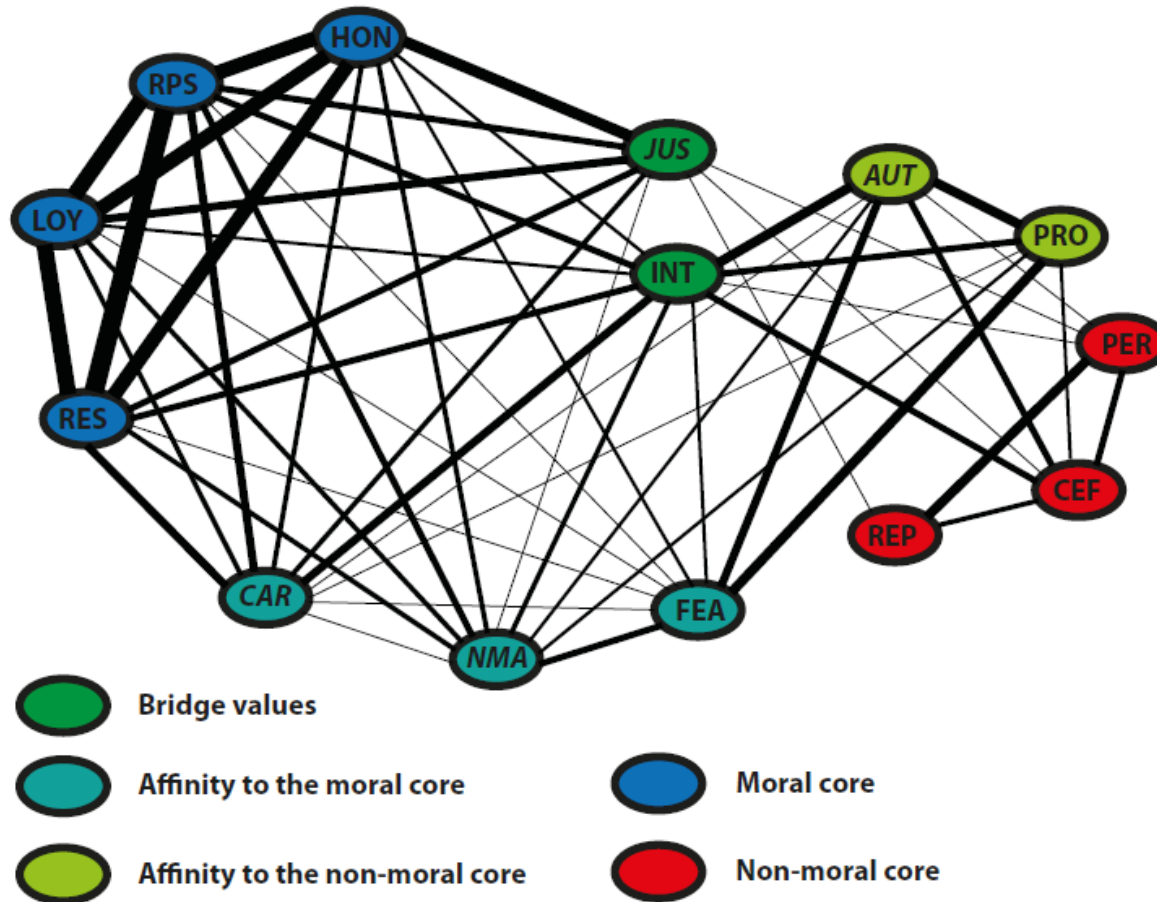
# Step 1: Results (1)





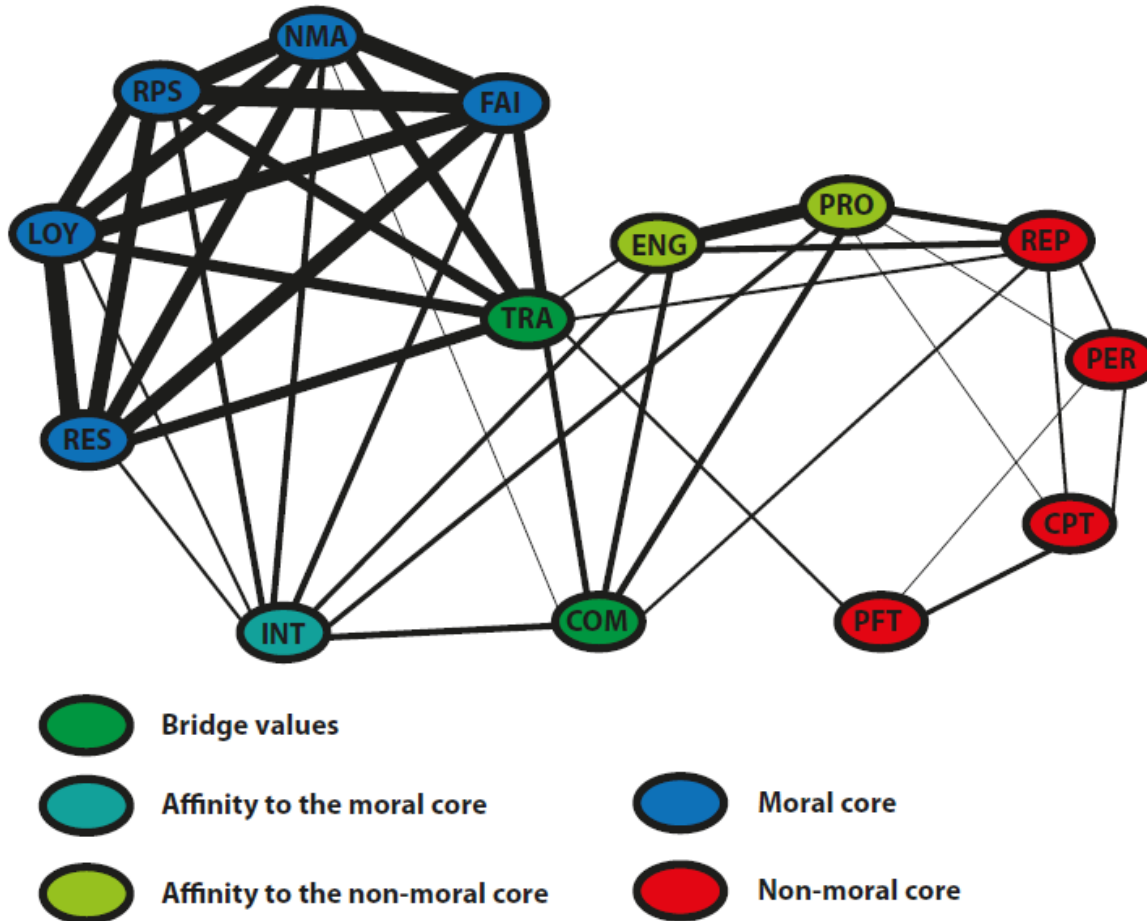


## Step 1: Value network – Medicine





## Step 1: Value network – Finance





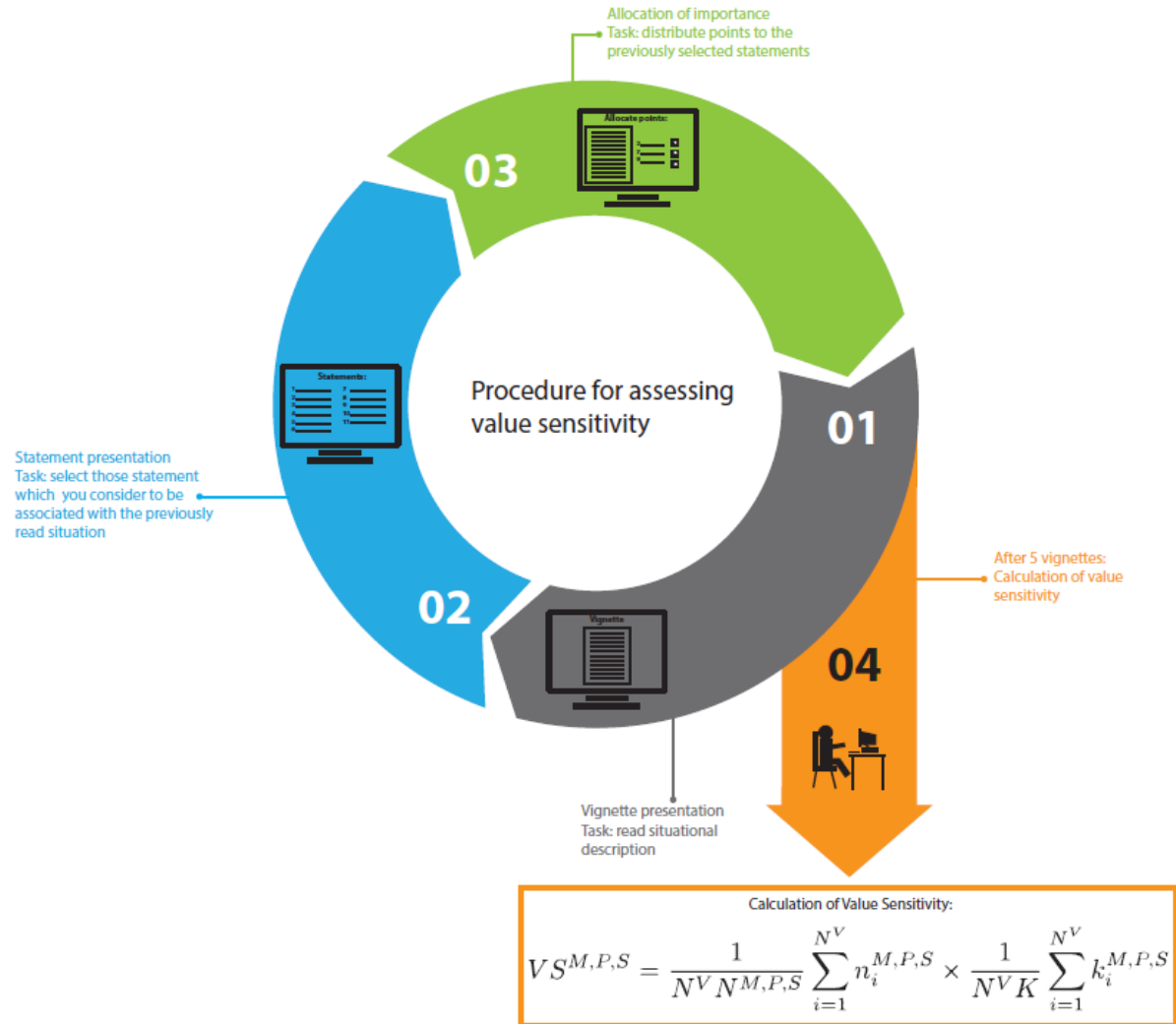
## Outline of the test

After performing steps 2 and 3, the final (explicit) instrument has been designed.

Moral sensitivity is seen as a combination of:

- **Identifying**
- **Weighting**

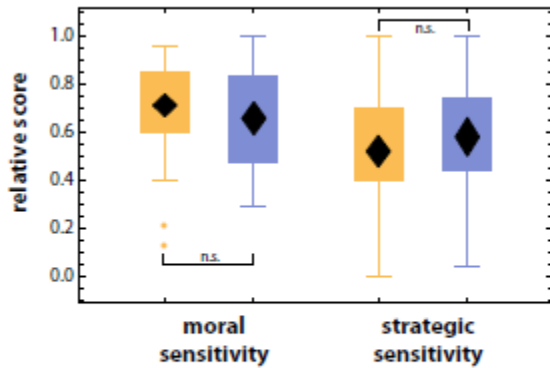
Furthermore, we evaluate the sensitivity for **several value groups**.



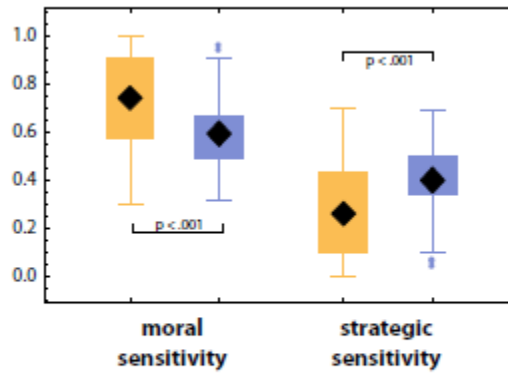


# Results

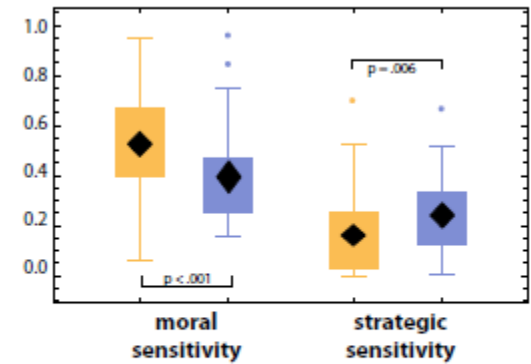
### Valure discovery



### Valure weigthing

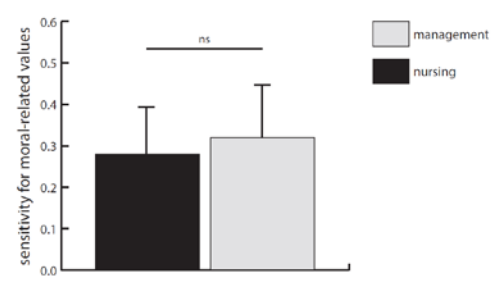
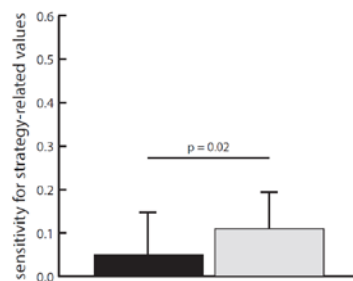
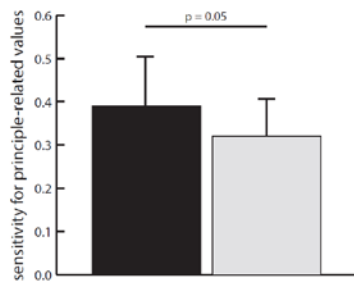


### discovery x weighting



Group 1: Care/NGO personell (n = 59)

Group 2: Management/banking personell (n = 35)





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# Creating a Serious Moral Game for Finance



## Games and Serious Games

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 and training instruments” for psychological competences**

## 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 (Globulos, 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 (including training) 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.





## Overview of factors that can be controlled

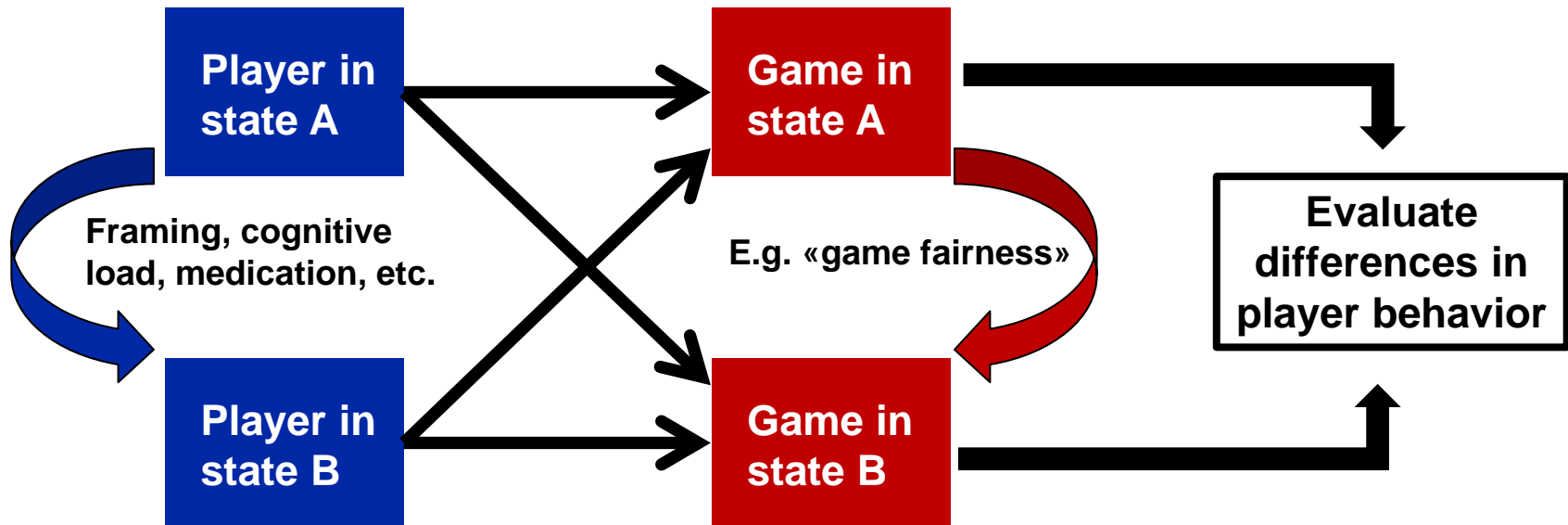
- Deliberation time
- Reversibility of decisions (e.g. “compensation”)
- Priming through narrative variability
- Context of a decision problem
- Character (change) of player avatar
- Interaction with NPCs
- Audiovisual appearance of avatar / NPCs
- Framing through general style (e.g. realistic vs. abstract)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

Our current focus for possible training mechanisms is on **situational cues**, **role models** and **built-in deliberation** (e.g., justifications).



## 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:





## Finding / suggesting a link to co-utility

Three potential lines of research:

- 1) Using moral competence measures in empirical research that **evaluates the compliance/success of co-utile protocols** in order to find links between the success of those protocols and moral competences.
- 2) **Integrate** moral competence measures in co-utile protocols (e.g., reputation systems).
- 3) Determine **co-utile protocols for Serious Moral Games** that intend to train moral competences (e.g., for increasing training compliance).

**We look forward to cooperate: Christian Ineichen, Johannes Katsarov, David Schmocker, Carmen Tanner & various master students**