Workshop at the 41st Annual Meeting of the Association for Moral Education, AME in Santoz, Brazil, Sept. 5-7, 2015

Moral Competence Test (MCT)

Georg Lind
Universität Konstanz

Contact:
Prof. Dr. Georg Lind, em.
E-mail: georg.lind@uni-konstanz.de
Internet: http://www.uni-konstanz.de/ag-moral/
If there are contradictory point of views about the nature, relevance, development and education of moral competence, only valid measurement data can help us to judge which of these views is closest to reality.

However, as a basis for our judgment, such measurement must be theoretically valid, that is, it must exactly measure what it pretends to measure:

“Validity is the most important consideration.”
(APA/AERA 1985, p. 9, first sentence.)

Overview

P Theory: The *Dual-Layer Dual-Aspect* model of the moral self

P Meaning and measurement of moral competence

P Exercise: Calculating the C-score

P Four rigorous theoretical criteria for test validation
Six Types of Moral Orientations  
Adapted from Lawrence Kohlberg

P Type 1: Use of physical or psychological force as a criterion of moral rightness: “The stronger party has the right of way.”

P Type 2: Morality of simple exchange: “I do to you what you do to me.”

P Type 3: Appeal to group solidarity and cohesion: “It is not good if this will harm the relationship to my family or my friends.”

P Type 4: Appeal to the law as the ultimate arbiter: “The law and order must be preserved.”

P Type 5: Keeping social contracts: “Promises and contracts must always be kept.”

P Type 6: Referring to universal moral principles: “This maxime must be followed by everyone if we want to live in a world of peace.”
The Cognitive Aspect: Moral Competence

General definition:
*Moral competence is the ability to solve problems and conflicts on the basis of moral principles through thinking and discussion rather than violence, deceit and power.*

Specific definition:
*Moral competence is the ability to judge arguments by their moral quality rather than other attributes (e.g., opinion agreement).*


Piaget’s *Dual-Layer* Model of Cognition: Practice versus Consciousness of Rules

P “For the relations that exist between the practice of rules and the consciousness of rules are those which will best enable us to define the psychological nature of moral realities.” (p. 15)

P It “is the moral judgment that we propose to investigate, not moral behavior or sentiment.” (S. 7)

P “Great danger, especially in matters of morality, is that of making the child say whatever one wants him to say.” (S. 8)

### The Dual-Process Dual-Aspect Model of the Moral Self*

<table>
<thead>
<tr>
<th>Affective Aspect</th>
<th>Cognitive Aspect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Layer of conscious reasoning or judgment:</td>
<td>Ethical principles, e.g., the Categorical</td>
</tr>
<tr>
<td><em>Ethics</em></td>
<td>Imperative</td>
</tr>
<tr>
<td>Layer of unconscious behavior or sentiments:</td>
<td>Ethical judgment and reasoning</td>
</tr>
<tr>
<td><em>Morality</em></td>
<td><em>Moral competence as shown in pattern of behavior</em></td>
</tr>
</tbody>
</table>


---


Excerpt from the
MCT
Six Pro-Arguments

2. Doctor's Dilemma

A woman had cancer and she had no hope of being saved. She was in terrible
pain and so weakened that a large dose of a painkiller such as morphine
would have caused her death. During a temporary period of improvement,
she begged the doctor to give her enough morphine to kill her. She said she
could no longer endure the pain and would be dead in a few weeks anyway.
The doctor complied with her wish.

20. Do you disagree or agree with the doctor's behavior?

How acceptable do you find the following arguments in favor of the
doctor? Suppose someone said he acted rightly . . .

21. because the doctor had to act according to his conscience. The
woman's condition justified an exception to the moral obligation to
preserve life.

22. because the doctor was the only one who could fulfill the woman's
wish; respect for her wish made him act as he did.

23. because the doctor only did what the woman talked him into doing.
He need not worry about unpleasant consequences.

24. because the woman would have died anyway and it didn't take much
effort for him to give her an overdose of a painkiller.

25. because the doctor didn't really break a law. Nobody could have
saved the woman and he only wanted to shorten her suffering.

26. because most of his fellow doctors would presumably have done the
same in a similar situation.

How acceptable do you find the following arguments against the doctor?
Suppose someone said that he acted wrongly . . .

27. because he acted contrary to his colleagues' convictions. If they are
against mercy-killing the doctor shouldn't do it.

28. because one should be able to have complete faith in a doctor's devotion
to preserving life, even if someone with great pain would rather

Single responses are ambiguous!

“The doctor acted wrong... because a person should be able to have complete faith in a doctor's commitment to save every life even if someone with great pain would rather die.”

<table>
<thead>
<tr>
<th>Reject strongly</th>
<th>Accept strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>-4</td>
<td>+4</td>
</tr>
<tr>
<td>-3</td>
<td>+3</td>
</tr>
<tr>
<td>-2</td>
<td>+2</td>
</tr>
<tr>
<td>-1</td>
<td>+1</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>X</td>
</tr>
</tbody>
</table>

Response: +4

Which factor has determined this response?

- Participant’s moral orientation?
- His/her opposition against mercy-killing?
- Acquiscience (the participant’s like of all arguments)? ...

How can one distinguish the determining factor?

- Classical Test Theory and Item-Response-Theory have no answer
Determining factors can only be discerned from a pattern of responses: Experimental Questionnaire

Assessment of Structure
The Response Pattern of Two Participants With Different Competence-scores

Person: Opinion:

Arguments of
Type 1
Type 2
Type 3
Type 4
Type 5
Type 6

Person A
“The decision was right”
Contra
Pro

Person B
“The decision was right”
Contra
Pro

C-score: 0.4
Moral competence: low
Opinion Agreement: high
Acquiescence: none

C-score: 92.2
Moral competence: high
Opinion Agreement: low
Acquiescence: none


**Internal Standards**

The moral competence score \([C]\) is scored in accordance with the participant’s *own* orientations, not with *external* norms.

Example: Different moral orientations, but same moral competence

<table>
<thead>
<tr>
<th>Arguments of Types</th>
<th>Person C</th>
<th>Person B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 1</td>
<td><img src="image.png" alt="Arguments" /></td>
<td><img src="image.png" alt="Arguments" /></td>
</tr>
<tr>
<td>Type 2</td>
<td><img src="image.png" alt="Arguments" /></td>
<td><img src="image.png" alt="Arguments" /></td>
</tr>
<tr>
<td>Type 3</td>
<td><img src="image.png" alt="Arguments" /></td>
<td><img src="image.png" alt="Arguments" /></td>
</tr>
<tr>
<td>Type 4</td>
<td><img src="image.png" alt="Arguments" /></td>
<td><img src="image.png" alt="Arguments" /></td>
</tr>
<tr>
<td>Type 5</td>
<td><img src="image.png" alt="Arguments" /></td>
<td><img src="image.png" alt="Arguments" /></td>
</tr>
<tr>
<td>Type 6</td>
<td><img src="image.png" alt="Arguments" /></td>
<td><img src="image.png" alt="Arguments" /></td>
</tr>
</tbody>
</table>

Person C

<table>
<thead>
<tr>
<th>“Do you accept or reject...”</th>
<th>Contra</th>
<th>Pro</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image.png" alt="Arguments" /></td>
<td><img src="image.png" alt="Arguments" /></td>
<td><img src="image.png" alt="Arguments" /></td>
</tr>
</tbody>
</table>

C-score: \(92.2\)
Range: 0 to 100
Modal moral orientation: Type 1

Person B

<table>
<thead>
<tr>
<th>“Do you accept or reject...”</th>
<th>Contra</th>
<th>Pro</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image.png" alt="Arguments" /></td>
<td><img src="image.png" alt="Arguments" /></td>
<td><img src="image.png" alt="Arguments" /></td>
</tr>
</tbody>
</table>

C-score: \(92.2\)
Range: 0 to 100
Modal moral orientation: Type 6

Note: The “Types” correspond to the six Kohlbergian Stage-Orientations

Nine Steps for Scoring of the MCT: C-score and Six Indices of Moral Orientation

- First, write the values of X into the correct grey fields. Second, calculate the bold boxes: Square Xs, then continue with steps ①, ②... ⑧

<table>
<thead>
<tr>
<th>Dilemma:</th>
<th>Workers’ Dilemma (A)</th>
<th>Doctor’s Dilemma (D)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opinion:</td>
<td>disagree (-3 to -1)</td>
<td>agree (0 to +3)</td>
</tr>
<tr>
<td></td>
<td>disagree (-3 to -1)</td>
<td>agree (0 to +3)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Orientation Type (X)</th>
<th>Pro</th>
<th>Contra</th>
<th>Pro</th>
<th>Contra</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>X_{11}</td>
<td>(X_{11})^2</td>
<td>X_{12}</td>
<td>(X_{12})^2</td>
</tr>
<tr>
<td>2</td>
<td>X_{21}</td>
<td>(X_{21})^2</td>
<td>X_{22}</td>
<td>(X_{22})^2</td>
</tr>
<tr>
<td>3</td>
<td>X_{31}</td>
<td>(X_{31})^2</td>
<td>X_{32}</td>
<td>(X_{32})^2</td>
</tr>
<tr>
<td>4</td>
<td>X_{41}</td>
<td>(X_{41})^2</td>
<td>X_{42}</td>
<td>(X_{42})^2</td>
</tr>
<tr>
<td>5</td>
<td>X_{51}</td>
<td>(X_{51})^2</td>
<td>X_{52}</td>
<td>(X_{52})^2</td>
</tr>
<tr>
<td>6</td>
<td>X_{61}</td>
<td>(X_{61})^2</td>
<td>X_{62}</td>
<td>(X_{62})^2</td>
</tr>
</tbody>
</table>

① Sum up the four arguments for each Stage (grey fields)
② Square the numbers on the left

∑ \frac{X}{X_{1-4}}
(∑ X_{1-4})^2

⑧ C-index:
100 * \frac{SS_{Shw}}{SS_{Dev}}

Optional
\frac{SS_{FC}}{SS_{Dev}} = \frac{SS_{ProCon}}{SS_{Dev}}

Optional
\frac{SS_{Rel}}{SS_{Dev}} = \frac{SS_{Ag}}{SS_{Dev}}

Optional
\frac{SS_{C}}{SS_{Dev}} = \frac{SS_{Ag}}{SS_{Dev}}

* These calculations are optional. If used, Pro and Con are to be scored according to the subject’s opinion. Rule: if the subject agrees in one story with the decision in one story AND disagrees with the decision in the other story, then the columns must be added like this: A + D and B + C.
The *Moral Competence Test* as a multi-variate N=1 experiment

P A competence test requires a moral task
  ▪ Rating supportive and counter-arguments in regard to their moral quality instead their opinion-agreement

P 6 x 2 x 2 multivariate, experimental design
  ▪ a. The moral quality of arguments (6 types of orientations)
  ▪ b. The opinion-agreement of arguments (pro and contra)
  ▪ c. The dilemma-context of argument (two dilemma stories)

P Structural scoring (structure of manifest items)
  ▪ Multivariate Analysis of Variance; Index = C-score
  ▪ Seven sources of variance: Many more scores are possible

P Internal standards of scoring (own moral orientations)
Meaning of the Moral Competence Score (C-score)

P Cannot distinguish between ‘arguments’ and ‘opinions’
- The participant says his/her opinion but refuses to rate the arguments

P Uses arguments only as justification for her opinion (“rationalization”) but would not let to a re-consideration of his/her opinion.
- The participant strongly accepts all arguments supporting own opinion, and strongly rejects all arguments opposing it.

P Distinguishes the moral quality of arguments regardless of their opinion-agreement (“rationality”)
- The participant rejects inadequate arguments even when they support his/her opinion, and accepts good arguments even when they disagree

P Uses counter-arguments as a source of own knowing and reflection
- The participant rates counter-arguments high if they express a shared moral principle

C-Score

0-

100
Criteria of Theoretical Validity:
Four Universal Characteristics of Moral Behavior

P Moral orientations form a hierarchical preference order
  ▶ Hypothesis: Participants prefer the six moral orientations in the very order in which the normative theory ranks them (Rest, 1969; Kohlberg, 1984; Helkama, 2004).

P Moral orientations’ intercorrelate to form a simplex structure
  ▶ Hypothesis: Preferences for adjacent types of moral orientations are correlated more strongly with each other than more distant stages (Kohlberg, 1958).

P Morality is (also) a competence
  ▶ Hypothesis: Moral competence cannot be simulated upward (Emler et al., 1983).

P Affective-cognitive parallelism
  ▶ Hypothesis: Moral orientations and moral competence correlate systematically. The higher the moral competence, the more clearly are higher forms of moral orientations accepted and are lower forms rejected (Piaget, 1983).
“I include in my approach a normative component. [...] That is, I assumed the need to define philosophically the entity we study, moral judgment, and to give a philosophic rationale for why a higher stage is a better stage.” (p. 400).

Hierarchy of Moral Orientations:
Clear order, no Change

Universal Preference Hierarchy

Type of moral orientation (Kohlberg)

Same Moral Orientations: West and East European

Sample:
1st semester university students; MCT only doctor dilemma-story.

Source
Same Moral Orientations: Morocco, China

Morocco (Aghbal, 2003)

China (Zhao, 2003)

Sources: Personal communications.
P "The relevant rationale seemed to be suggested by the thinking of L. Guttman. [...] If certain tests or items or dimensions stand in a developmental sequence, with regard to one another, then a certain pattern of associations should hold between them." (p. 82-83)

P "If the matrix of these correlations were arranged in this developmental order, the correlations would decrease in any direction moving away from the main diagonal." (p. 84)

Simplex-Structure

Ideal Pattern
Simplex-structure: Ideal pattern with fictitious data

Real Pattern
Moral Judgment Interview, Kohlberg, 1958; re-analysis by G. Lind

(c) 2015 by Georg Lind
Simplex: *Moral Competence Test*

German University Students, 1st Semester, N=746
Principle Components; Varimax Rotation
Morality is a Competence: It Cannot be Simulated Upward like Moral Orientations

Moral orientation
The Emler-experiment (DIT)

Moral competence
The Lind-experiment (MCT)


#4 Affective-Cognitive Parallelism

P "Affective and cognitive mechanisms are inseparable, although distinct: the former depend on energy, and the latter depend on structure." ①

P “The two aspects, affective and cognitive, are at the same time inseparable and irreducible." ③

P "[...] even though intelligence and affectivity are not separable in concrete conduct, they are different in nature." ②

P Prediction: "... correlations between cognitive and affective stages." ①


Affective-Cognitive Parallelism: MCT data

German Univ Students
N = 2098,
FORM-Project, 1977

Groups:
Level of Moral Competence
- 0-9
- 10-19
- 20-29
- 30-39
- 40-49
- 50-59
- 60-69
- 70-79
- 80-100

Type of Moral Orientation (Kohlberg)

Strongly accept

Strongly reject


Parallelism: Thailand

Parallelism
Sanguan Lerkiatbundit, 2003, N=159, Thailand

Correlation with C-score

Attitude toward Kohlbergian Stage
Conclusions: Theory

The MCT has been used for nearly 40 years of research and educational evaluation with an uncountable number of research participants.

Rigorous validation studies have shown that the MCT is a theoretically valid measure of moral judgment competence.

All findings unanimously support four core assumptions of cognitive-developmental theory:

- Morality is not only a matter of attitudes and orientations but also of competence.
- The six types of moral orientations defined by Kohlberg form a universally accepted preference hierarchy.
- Moral orientations (or preferences) and moral judgment competence are parallel, that is, they correlate in a predictable manner.
- Moral competence cannot be simulated, but must be educated.
Conclusion: Practical Implications

The Moral Competence Test is a theoretically valid instrument for evaluating the effects of methods and programs of moral and character education.

- With the MCT, the outcomes of education programs can be clearly interpreted in the light of psychological knowledge about the nature of moral behavior and development.
The *Moral Competence Test* (MCT)

- **Purpose**: Instrument for research and for the evaluation of educational methods and programs
- **Restriction**: Not allowed for high-stakes testing & selection
- **Theory**: The MCT is based on the Dual Aspect model of moral judgment behavior by Lind (1978; 1985; 2002; 2015)
- **Special Feature**: Allows simultaneous measurement of moral orientations and moral judgment competence
- **Standard version**: Two dilemma-stories (workers; doctor); one more story available by Patricia Bataglia.
- **Age-range**: from 8 years onward (young may need assistence)
- **Cross-cultural validation**: Certified versions in 39 languages (German, English, Spanish, Portuguese, Chinese, Arab etc.)
- **More information**: [http://www.uni-konstanz.de/ag-moral/](http://www.uni-konstanz.de/ag-moral/)
References


