Georg Lind

An Introduction to the
Moral Judment Test (MJT)
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Moral Judgment Test (MJT)

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1. Summary

The *Moral Judgment Test* (*MJT*) has been constructed to assess subjects' moral judgment competence as it has been defined by Lawrence Kohlberg: „the capacity to make decisions and judgments which are moral (i.e., based on internal principles) and to *act* in accordance with such judgments" (Kohlberg, 1964, p. 425; emphasis added).

One of the core moral principles of modern democracies is to solve behavioral problems or dilemmas through negotiations and discussions rather than through the use of power, force or violence. Obviously, a very important prerequisite for peaceful negotiations is the participants' ability to listen to eacher even though they are opponents or even enemies. If we want to find a moral basis for a just solution of a conflict, we must be able to *appreciate* arguments not only of people who support our position but also of those who *oppose* it. Such a competence, it seems, is most crucial for participating in a democratic, pluralistic society (Habermas, 1985, 1990; Kohlberg, 1984; Lind, 1987; Power et al., 1989).

Essentially, the MJT assesses moral judgement competence by recording how a subject deals with counter-arguments, that is, with arguments that oppose his or her position on a difficult problem. The *couner-arguments* arguments are the central feature of the *MJT*. They represent the *moral task* that the subjects has to cope with. More specifically, in the standard version of the MJT, the subject is confronted with two moral dilemmas and with arguments pro and contra the subject's opinion on solving each of them.

The main score, the *C-index*, of the *MJT* measures the degree to which a subject's judgments about *pro* and *con* arguments are determined by moral points of view rather than by non-moral considerations like opinion-agreement. It indicates, to use Piaget's terminology, the degree to which moral principles have become „necessary knowledge" (Lourenço & Machado, 1996, p. 154) for the respondent.

Besides this cognitive variable, the MJT lets us also measures subjects' moral ideals or *attitudes*, i.e., their attitudes toward each stage of moral reasoning as defined by Kohlberg (1958; 1984). In addition, the *MJT* can be scored for other aspects of a subject's moral judgment behavior like situational adequacy of moral judgment, extremity of judgment (Heidbrink, 1985), moral closed-mindedness, most preferred stages of reasoning and more (Lind, 1978; Lind & Wakenhut, 1985). In this brief introduction, only the *C-index* will be discussed, which is the most unique. It is in use since 1976, when the test was created.[1] For a discussion of other measures, see Heidbrink (1985), Lind (1978), and Lind and Wakenhut (1985).

2. An overview of the *MJT*

The standard version of the *MJT* contains two stories. Each deals with a person who is caught in a behavioral dilemma: whatever he or she decides to do, it will conflict with some rules of conduct. So the ‹quality' of the decision is important and not the decision itself. The goodness or badness of the decision depends on the reasons behind it. For many people, it makes a big difference whether somebody behaves well because she or he feels in the mood to do so, or expects to get a reward, or s/he was compelled to do so by outer forces, or because s/he wanted to comply with his or her moral conscience.

Subjects are asked to judge arguments for their acceptability. These arguments present different levels of moral reasoning, six supporting the decision that the protagonist in the story made, and six arguing against his or her decision. So for each dilemma, the respondent is to judge twelve arguments. In the standard version there are then 24 arguments to be rated.

Before judging the acceptability of the arguments presented in the *MJT*, the subject is asked to rate the rightness or wrongness of the protagonist's decision on a scale from "very wrong" to "very right" (see the appendix **A**). This rating plays no role in scoring a person's moral judgment competence, though it provides important information for designing a valid measure of moral judgment competence.

The scoring of the *MJT* takes into account the whole *pattern* of a subject's responses to the test rather than at single acts isolated from one another. We can tell the meaning of a single judgment by a respondent only when we also look at other judgments of that person as well. For examples, if someone judges moral conscience as a highly acceptable reason to commit mercy killing, we cannot be sure whether this judgment reflects a subject's high regard for moral conscience or his or her commitment in favor of mercy killing. In other words, our inferences from single judgments by a person's morality are mostly ambiguous. Only when we consider a person's judgment behavior comprehensively, we can make more unambiguous inferences on a person's morality. How this is achieved with the scoring algorithm is explained below. It should be noted here that the scoring of the *MJT* contrasts sharply with classical test construction. The latter approach presupposes that a person's judgments can be seen as pure repetitions of one another, masked only by some intervening random processes, which can be averaged out by multiple measurements.

Secondly, The *MJT* embodies a *moral task* and not merely a moral *attitude* or *value*. If, as we belief, morality has some strong *cognitive* or *competence* aspects, we should be able to define a *task* that can be used to test this competence (Lourenço & Machado, 1996). Many different tasks might come to mind testing moral competencies but only a few are feasible and/or valid. Some tasks may

seem suited but are unethical to be used in measurement, like many tests of moral temptation. For example, we must not seduce subjects to steal in order to test their resistance to temptation. Other tasks may seem feasible but lack validity, like the task to help a person in distress. Helping may be motivated by a sense of moral obligation but is not necessarily so. Some helping behavior is, but others may be motivated by a person's desire to dominate another person, by social pressure, by hope for high returns and so on.

An adequate task for testing moral judgment competence is, as experimental research (e.g., Keasey, 1974; Kohlberg, 1958; Walker, 1983; 1986) and moral philosophy (Habermas, 1985; 1990) suggest, to confront a person with counter-arguments. While subjects' reactions to arguments that favor their own opinion indicates the preferred level of moral reasoning for resolving the dilemma, their reactions to counter-arguments tell us something about their ability to use a particular moral level *consistently* when judging other people's behavior.

The scoring of the *MJT* follows this notion. A test-taker gets a high competence score only if his or her judgment of pro and contra arguments shows some moral consistency. If a subject lets his or her opinions on the "right" solution of the dilemma determine their ratings of counter-arguments (regardless of their moral quality), the subject will get a low moral judgment competence score on the MJT.

Note, first, that not all kinds of judgment *consistency* indicate moral judgment competence. Only consistency of a person's judgment *in regard to* moral concerns qualifies for this, not consistency in regard to other concerns (e.g., to shelter to one's opinion on a certain issue against a critique). So consistency of a person's judgments with his or her opinion on the workers' dilemma is not a valid indicator of moral judgment competence, sometimes rather the opposite, namely moral rigidity.

Second, note that the determination of a person's judgment behavior by moral concerns or principles may or may not be accompanied by a strong commitment for or against a certain solution of the dilemma at stake. Morality and commitment do not exclude one another nor do they necessarily imply each other (Lind, 1978; Lind et al., 1985).

3. The *C-Index* and other indices

The C-index (or *C-score* or just *C*) measures the degree to which s/he lets his or her judgment behavior be determined by moral concerns or principles rather than by other psychological forces like the human tendency to make arguments agree with one's opinion or decision about a certain issue. In other words, the *C-index* reflects a person's ability to judge arguments according to their moral quality (rather than their opinion agreement or other factors).

C ranges from 1 to 100. It indicates the percentage of an individual's total response variation due to a person's concern for the moral quality of given arguments or behavior. Following a proposal by Cohen (1988), the C is sometimes graded *low* (1-9), *medium* (10-29), *high* (30-49) and *very high* (above 50). For typical mean *C* of various groups of people, see Lind (1993/1998) and Lind (1995). How *C* is computed is explained on page 8.

Note that only because the *MJT* contains a *moral task* (see below), a person's moral judgment competence can be scored by the *C-index*. (Some authors have also used *C* with other tests. However, without a moral task, such an index is meaningless.)

While the *C* is the most often used index, other *cognitive-structural* properties of persons' moral judgment behavior can also be indexed. For example, the *MJT* can be designed to assess the degree to which a person's moral judgment differentiates according to the type of dilemma (Lind, 1978). This topic has been neglected for a long time but is now being pursued by many researchers (Krebs et al., 1990; Kurtines & Gewirtz, 1995).

As second set of indices, the *MJT* produces scores for a person's *attitudes* toward each of the six levels of moral reasoning that Kohlberg identified. An inspection of these attitudes tells us, for example, whether the preferences for the six stages form a hierarchical order as Kohlberg assumed, that is, which stage of moral reasoning a person prefers most and which least, and for which type of dilemma people prefer a reasoning on the highest level and for which dilemmas they belief a lower stage to be most adequate.

There is no necessary connection between the cognitive and affective dimensions of moral reasoning. Although many individuals prefer higher stage moral arguments, only those with more cognitive structures exhibit consistency or reversibility, i.e., the capacity to recognize the moral merit of opposing viewpoints. Invariably, most subjects prefer sophisticated moral arguments when assessing factors favorable to their own position, an outcome stemming from successful socialization to the language of democracy: civic responsibility, civil rights and justice. It is only when asked to evaluate a position contrary to one's own that the importance of cognitive structures emerges. One may prefer universal norms of justice (a high affective score) but be unable to use them consistently, particularly when evaluating the moral position of an adversary (a low competence score). Or, one may exhibit a preference for parochial moral norms (a low affective score) but use them consistently to judge competing moral positions (a high cognitive score).

4. The *dual aspect theory* of moral behavior and development

The simultaneous assessment of two aspects of moral judgement behavior, cognitive and affective aspects, is the most unique feature of the MJT. As Gross (1993) writes, this "offers a significant improvement over the single score interview technique which conflates these two elements" (p. 14).

This feature is rooted in the *dual aspect theory* of moral judgment behavior and moral development, as outlined by Jean Piaget, Lawrence Kohlberg and, in more detail, by Lind (1985a; 1985b; 1985c; 1993/1998; 1995). For Piaget (1976) "affective and cognitive mechanisms are inseparable, although distinct: the former depends on energy, and the latter depend on structure" (p. 71). Accordingly, Kohlberg meant his stage model of moral development to be a description of both the affective and the cognitive aspect of moral behavior (Kohlberg, 1958).

The dual aspect theory states that for a comprehensive description of moral behavior both affective as well as cognitive properties need to be considered. A full description of a person's moral behavior involves a) the moral ideals and principles that informs it and b) the cognitive capacities that a person has when applying these ideals and principles in his or her decision making processes.

In contrast, other theories state that affect and cognition represent separate *components* of the human mind, separated also from moral behavior. They state that there is an affective domain of moral behavior and a cognitive domain, which can be dealt with separately. These theories imply that there are purely affective, cognitive and behavioral responses that can also be assessed separately, for example by using different tests for both components, eliciting the respective type of behavior. "However," Higgins (1995) notes, "there are cognitive aspects to all [. . .] components, and Kohlberg's idea of a stage as a structured whole or a world view, cuts across [. . .] componential models" (p. 53).

5. The *MJT* as an multi-variate N=1 experiment

The *MJT* rests on modern, cognitive-structural approaches to psychological measurement (see, amongst others: Anderson, 1991; Broughton, 1978; Brunswik, 1955; Burisch, 1984; Cronbach & Meehl, 1955; Kohlberg, 1984; Lind, 1995; Loevinger, 1957; Lourenço & Machado, 1996; Mischel & Shoda, 1995; Pittel & Mendelsohn, 1966; Travers, 1951).

The basic approach we started out with coincides with Kohlberg's: „In order to arrive at the underlying structure of a response, one must construct a test, [. . .] so that the questions and the responses to them allow for an unambiguous inference to be drawn as to underlying structure. [. . .] The test constructor must postulate structure from the start, as opposed to inductively finding structure in content after the test is made. [. . .] If a test is to yield stage structure, a concept of that

structure must be built into the initial act of observation, test construction, and scoring" (1984, p. 401-402).

We felt that the best ways of fulfilling this postulate was to design the *MJT* as a multi-variate N=1 experiment because that way we can make sure that all relevant aspects of a moral task are present in the test and that these aspects are uncorrelated and thus can be clearly identified. As modern psychology reveals, individuals do not only differ in regard to certain moral preferences, attitudes or values but are *structurally* different. Therefore, we must base the measurement of psychological properties (such as moral judgment competence), on the assessment of *individual* pattern of behavior rather than on the behavioral pattern of a *sample* of persons (as is usually done). Otherwise we would commit an *ecological fallacy*, that is, we would falsely hypothesize that the structure of behavioral data in a sample if individuals is identical with that of each individual. Such a hypothesis, however, is hardly tenable (see Mischel & Shoda, 1995).

Because the function of this experiment is not to test the effects of some treatment but to describe the nature and development of behavioral properties, we call it an *ideographic* experiment. This special function entails some special kinds of experimental analysis. The *independent* variables (or *factors*) are varied in order to study the functioning of the individual's mind but not to assess ‹general' effects of these factors. Modern cognitive-structural research found that these effects differ much from one person to another depending on their level of development (Lind, 1978; 1985a; 1985c; 1993/1998; Krebs et al., 1990).

The *dependent* variable is represented by the subject's judgment behavior, that is, by his or her rating of the arguments on a scale from -4 to +4. (Note that this scale may also range from -2 to +2 for subjects that have difficulties with such a fine-graded scale.)

The moral factor determining subjects' judgment behavior is represented by the moral quality of the arguments. With the *MJT*, moral quality was defined using Kohlberg's six stages of moral reasoning (Kohlberg, 1958; 1984).

The task factor, opinion agreement or disagreement, is represented by the implication of the argument pro or contra the subject's opinion about the decision of the story's protagonist. The pro-arguments indicate which ideal level of moral discourse the subject prefers; the contra arguments indicate how much the subject let this moral ideal determine his or her judgment of arguments in the presence of other powerful psychological forces.

Finally, the different dilemmas contained in the *MJT* represent different *moral demand structures*. In the standard version these differences are small yet noticeable. While the mercy-killing dilemma (taken from Kohlberg's *Moral Judgment Interview*) is to *pull* the highest level of moral

reasoning on Kohlberg's stage six, the worker's dilemma (adapted from the novel "Stellenweise Glatteis" by Max von der Grün) is thought to pull more Stage 5 reasoning (Lind, 1985a).

In sum, the *MJT* is designed as a multi-variate experiment, with a 6 x 2 x 2 dependent (or multi-variate) design, whereby the three design-factors are orthogonal or non-correlated. Its main index, the *C-score*, is computed by a MANOVA-like method, namely by partitioning sum of squares.

Because of its rationale and its design, the *MJT* must be viewed as a behavioral experiment rather than a classical psychometric test (Lumsden, 1976). Hence, response consistency and inconsistency indicate properties of a person's moral-cognitive structure, rather than properties of the instrument like "measurement error" or "unreliability" (see Lind, 1995).

In the validation process two type of validity have been of central concern: a) theoretical validity (that is, the degree to which the test actually measures what the theory supposes), and b) communicative validity (that is, the degree to which the subjects understand the test in the same way as the test constructor). To optimize theoretical validity, the construction of the MJT has been based on a) an expensive review of literature and interview material from studies using Kohlberg's *Moral Judgment Interview* (Colby et al., 1987a; 1987b), and b) several rounds of items writing and expert ratings[2]. To secure communicative validity (and also cross-cultural validity of new-language versions), the MJT was submitted to several empirical tests: c) tests of small groups of subjects, who were speaking aloud while filling out the *MJT*, and d) several rigorous empirical validation checks as described in the section below.

Note that the *MJT* was not submitted to traditional „item analysis." That is, no items were selected to increase the correlation of the *C-index* with empirical criteria like age, political attitudes, or higher education. This fact guarantees that the *MJT* is not biased in favor or against certain predictions like stability of rank orders among people, age-correlation, or invariant sequence. Most important, the items were not screened either to maximize stability of scores ("reliability") at the expense of the test's sensitivity for education-induced change, or to maximize sensitivity for change at the expense of theoretical validity.

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[2] For their expert ratings to, and valuable critique of, the original MJT and subsequent revisions and alternate version, I wish to thank Tino Bargel, Ralf Briechle, Helen Haste, Thomas Krämer-Badoni, Horst Heidbrink, Cristina Moreno, Gertrud Nunner-Winkler, Gerhard Portele, Ernst-Heinrich Schiebe, José Trechera, Roland Wakenhut, Thomas Wren.

6. Computing the *MJT's C-index*

The *C-index* is computed analogously to multi-variate analysis of variance (MANOVA). It can be computed 'by hand' using a pocket calculator. For larger data sets, though, the use of a computer is strongly recommended. In most cases some programming is required because most commercial packages do not provide ready methods for analyzing data individually. However, most packages (like SAS, SPSS, STATISTICA) have a programming language module included that lets you quickly write a program that calculates scores for individual response pattern. The *coding scheme* for the standard version and a sample program for STATISTICA, version 4.x can be requested from the author. A scoring service is also available.

For calculation by hand, a sample calculation is given in Appendix **B**. To assign the *MJT*-items to the six stages, the *coding scheme* is needed.

If you do the calculation of *C* by hand, this is a good way to do it: First, calculate the *Mean Sum of Square* (SS_M). Add up all raw data for the arguments (24 items; "Óx" means that all raw data *x's* are to be added up); then square the sum and divide the sum by the number of items which constitute the *mean* (here the correct numerical are 24, the number of items of the standard version of the *MJT*). The result *is* the *Mean Sum of Squares*, which is roughly equivalent to the arithmetic mean.

Second, calculate the (adjusted) *Total Deviation Sum of Squares* (SS_{Dev}): Square all raw data *x* ➔ x^2. This is called the unadjusted total sum of squares. Then add up all x^2 and subtract from this the *Means Sum of Squares*. This is the SS_{Total}.

Third, calculate the (adjusted) *Stage Sum of Squares* (SS_{Stage}): Add up all four items that belong to a particular stage and square the sum. For example, for stage 1, the squared sum is:

$(x_{1,worker,pro} + x_{1,worker,con} + x_{1,doctor, pro} + x_{1,doctor,con})^2$.

Repeat this for all six stages. Then add up these six squared sums and divide the result by four (the number of repeated measurement for each stage), which gives you the (unadjusted) stage sum of squares. After subtracting the *Mean Sum of Squares* from this number, you have the (adjusted) *Stage Sum of Squares*. [Note that before this, you need to sort the items according to the stages that they represent. The stage coding can be requested from the author.]

Now you have all information needed to calculate the *C-index*: first, divide the *Stage Sum of Squares* by the *Total Deviation Sum of Squares: SS_{Stage} / SS_{Dev}*. This is the *coefficient of determination r^2*. Multiply this number by 100, to get *C*.

There are several ways to check whether your calculation is correct, and they should all be considered to make sure that the calculations are technically correct:

   • Recalculate everything once more. This should always be done if you do the calculation by hand or table calculator.

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7. Criteria for evaluating the *MJT*: Validity and Utility

The *Moral Judgment Test* is to serve two purposes: it should allow us to test modern theories of moral development and education, and it should allow us to evaluate educational methods as to their power to enhance moral competencies. For these two purposes, we sought to make the *MJT* as *theoretically valid* and *educationally useful* as possible.

In psychology as in most other sciences, tests and measuring devices are made to provide data. With these data we want to test the empirical truth of theories (or of hypotheses derived from those theories), or to evaluate the effects of certain methods or interventions, or both at the same time. If we use the measuring device to test theories, this device needs to be *theoretically valid*, that is, it must really measure what it is supposed to measure. Otherwise, the data produced by this device are *irrelevant* for the theory to be evaluated, and thus useless (Cronbach & Meehl, 1955; Popper, 1979). If we use a measuring device to evaluate methods of education or psychotherapy, a measuring device must be *educationally useful*, that is, it must measure exactly the aspects of human behavior and development that we wish to educate or cure.

Currently, in the field of moral psychology and moral education, there is a particular need for a theoretically valid measure of *moral judgement competence*. The idea that moral behavior and development has a *cognitive* aspect, is rather new and still very controversial. Eminent scholars like Jean Piaget and Lawrence Kohlberg maintain that morality has a strong cognitive component. Yet, does such a component or aspect really exist, that is, can it be measured and shown to be relevant for human behavior? Does it develop in the way that we think it does? What causes its development and

its erosion? To answer these questions we need a test that really measures the competence aspect of moral judgment behavior rather than other aspects like moral attitudes and values.

The educational utility of a test of moral judgment competence requires a test not only to be theoretically valid. To evaluate educational or therapeutic interventions, a test needs also to be transparent and credible for everybody involved in the education process: teachers, students, school administrators, and taxpayer. A test's transparency and credibility are severely restricted, a) if the test's design provides no means for choosing between competing interpretations of the test scores, b) if different aspects of morality are confounded in one score, and c) if the scoring is based on subjective ratings rather than objective algorithms. In other words, a test of moral behavior and development should be designed to facilitate unambiguous and unconfounded scores, and the scoring procedure should be traceable.

8. Evaluating the validity of the *MJT's* C-index

The original (German) version of the *MJT* was validated in respect to several analytical and empirical criteria. The *analytical* criteria of validation included a strictly theory-based test-construction (in contrast to a test construction that seeks to maximize certain statistical coefficients), and an extensive expert rating of the test items. Half a dozen experts of Kohlberg's stage model of moral development commented on the theoretical adequacy of the arguments in the *MJT* (see above).

The *empirical* criteria included four predictions derived from cognitive-developmental theory that seemed to be supported by Kohlbergian research (Kohlberg, 1958; Rest, 1979; Walker, 1986; an empirical example will be given in the section 9 below):

1. *The order of preferences*: In a truly moral dilemma, subjects should prefer the stages of moral reasoning in the order of their number, with highest preference for stage six-reasoning and lowest preference for stage-one-reasoning. To my knowledge, all *MJT*-studies have found such a preference order.

2. *Quasi-simplex structure*: The correlation between the preferences of neighboring stages (like four and five) should be higher than the correlation between more distant stages (like four and six). On other words, in the correlation matrix of all stages, the coefficients should decrease monotonously from the diagonal toward the corners of the matrix. This can be tested in several ways. For example, it can be tested through computer programs that sort the correlation coefficients to optimize quasi-simplex structure (like the TAM program of the KOSTAS package by

W. Nagl et al., 1986). If the program finds no better structure of coefficients than the one found, the finding can be regarded as an optimal fit though minor deviations may have occurred. Most, if not all, *MJT*-studies have produced such an optimal quasi-simplex-structure much clearer than the original study by Kohlberg (1958).

3. *Cognitive-affective parallelism*: If subjects present their own moral attitudes (rather than faked or socially desired attitudes), these scores should be systematically correlated with their moral competence score, with high negative correlations between the *C*-score on the one hand, and attitude scores for stages 1 and 2, on the other, and moderate correlations between *C* and attitudes to stages 3 and 4, and substantial positive correlations between *C* and attitudes to stages 5 and 6 (Lind, 1985a). Most, if not all, *MJT*-studies found a marked pattern of correlations between these two aspects of moral judgment behavior, corroborating Piaget´s *parallelism* theorem.

4. *Equivalence* of pro and con arguments: The arguments in favor of a certain solution of a moral dilemma should be equivalent to the arguments of against it, that is, subjects agreeing with the given solution of a dilemma should be confronted with arguments of approximately the same quality as subjects disagreeing with this solution. In his dissertation, Lind (not cited) found this hypothesis clearly supported.

5. *A difficult moral task*. The claim that the *MJT* represents a moral *task* and that its *C-index* is a measure of moral *competencies* (rather than of moral *attitude*), has been corroborated in two crucial experiments. In these experiment, subjects were instructed to *simulate* a score that is above their own (see Emler et al., 1983). While subjects could simulate higher scores with other tests of moral development, subjects were not able to simulate a higher *C-score* when responding to the *MJT* (Lind, 1993/1998; Wasel, 1994). Obviously, the other instruments measured moral *attitudes* rather than moral *competence*.

The effect of simulation was tested by letting the subjects fill out a test twice, one time with the regular instruction to fill out the questionnaire or test. At second time, the subjects were instructed to fill out the test again, but this time to fill it out as if one were another person. Specifically, subjects were first divided into two groups on the basis of their political orientation. Because political orientation is consistently correlated with scores of moral development tests, the two groups also differed: those who described themselves as left wingers (liberals) had higher scores than right wingers (conservatives). So left wingers were instructed to fill out the test as if they were right wingers, and right

wingers were instructed to fill it out as if they were left wingers. It was hypothesized that, while leftists should have no difficulty simulating the (lower) scores, the latter group should not be able to simulate the (higher) scores of their counterparts, if the test really measures competence. If not, both groups should be equally able to simulate the test scores according to the instruction.

In a first series of experiments, the *Defining Issues Test* (Rest, 1979) and the *Survey of Ethical Attitudes* by Hogan were benchmarked. The results of these experiments were that the scores could be simulated in either direction, that is, that subjects could fake their scores upward (Emler et al., 1983; Markoulis, 1989; Barnett, Evens, & Rest, 1995; see also Lind, 1995), and that, therefore, these instruments seem to assess moral *attitude* rather than moral *competence*.

Using the same setting and the same type of subjects as Emler et al. (1983), Lind (1995) found that subjects who were asked to fill out the *MJT* as a "leftist" would, were not able to fake their *C-scores* upward. Wasel (1994) showed that the instruction to simulate the moral reasoning of colleagues who had a higher *C* than oneself, did not increase the subject's score. Yet in both experiments, subjects with high *C-index* could be instructed to simulate lower scores than their own.

The competence nature of *C-index* is also supported by the fact that, in longitudinal studies, upward changes were always gradual rather than abrupt (Lind, 1993/1998; 1995). Gradual changes are typical for the acquisition of abilities but not for the change of attitudes, which may sometimes be very abrupt and dramatic when people change their social context.

Finally, moral competence only erodes slowly. The forgetting curve of subjects' *C-score* is negatively accelerated, that is, the longer subjects do not practice their moral abilities, the faster they lose them (Lind, 1993/1998; 1995).

So the *C-index* of the *MJT* meets all four criteria of a competence-index (moral task, non-fakability, gradual learning curve and smooth forgetting curve). Moreover, it is calculated so that it is logically independent from a person's moral *attitudes* (Lind, 1993; 1995; Wasel, 1994). It can be high or low regardless of a person's like or dislike for moral principles. Therefore, we call *C* a *pure* index of moral competence, in contrast to other, which are compound scores of moral cognition and moral attitudes (for a discussion, see Lind & Wakenhut, 1983; Lind, 1995). This fact makes the *MJT* less dependent on irrelevant empirical criteria and on criteria which would bias the test toward some theories.

Note again that the *MJT* was constructed solely on the basis of theoretical considerations rather than on empirical criteria. Empirical criteria, deduced from theoretical propositions, are used only to check new (or translated) versions of the *MJT* for theoretical or cultural equivalence with the original version (see below). Hence, it should not be benchmarked against other tests by mere empirical

means. Without reference to the theory and research underpinning the *MJT*, we cannot know whether the MJT lacks validity or the criterion, if the correlation comes out low.

Empirical evidence from research of more than 15,000 subjects of different culture, age, gender, socioeconomic status and level of education, has shown that the *MJT* fulfills well these five validity criteria that we have discussed above (Lind, 1993/1998; 1995).

9.   Validating new and translated versions of the *MJT*

Because any inference that we base on data depends heavily on the quality of those data and, therefore, on the validity of the measurement process, careful validation procedures of a measurement instrument are very important. In cross-cultural research they are even more important as we may falsely interpret methodological differences between cultures as substantial ones. Only if the translation of the test has been carefully done (including backward translation) and if the empirical data agree fairly well with those four indicators, one can assume that a newly created version of the *MJT* is fairly valid and equivalent to the original (German) version, which is a necessary condition for comparing findings across countries. If cultural validity is low or unknown, we have no way to attribute difference in data to any substantial variable.

This theory-based empirical validation procedure requires more time and funding than is typically thought necessary. However, it pays well in terms of more trustworthy, meaningful and comparable data. This procedure provides validity criteria independent from the research for which it will be subsequently used, making circular conclusions and tautologies less likely and findings more credible. A careful cultural validation process, is demonstrated in the cross-cultural studies by Michael Gross, who investigated the relationship between moral development and political involvement in Israel, France, the Netherlands, and the United States (Gross, 1994; 1995a; 1995b).

Studies that omit this validation process because it consumes considerable time and money, usually pay for this omission by producing ambiguous, if not useless data. They do not, as the authors of those studies claim, warrant any substantial interpretation other than that the data are not valid.

The requirement of validity applies not only to the original test but also to new sub-test (dilemmas) and to foreign language versions. In the following we summarize a procedure for securing the validity of new sub-tests and foreign language versions of the *MJT*, which employs the empirical criteria discussed above and one additional criterion. These four criteria have been found very effective for detecting and curing serious flaws in new or translated versions.

The first step of validating any foreign version of a test, is to translate that version backward into the original language. There are a German and an English version of the *MJT* that can be used for backward translation and checking the equivalence of the new version. Many flaws can be already detected this way.

The second step in validating new *MJT* versions involves a small empirical validation study ($N \geq 60$) with a group of subjects representing different levels of education, e.g., 9th graders, 12th graders, undergraduate college students, and graduate students. Such a study provides all validity checks that we have discussed above. I will illustrate this by the findings of the first validation study of the Brazilian version of the MJT by Patricia U. Bataglia, Sao Paulo, Brazil.

Box-Plots: Means, Standard Erros and 1,96*StdError
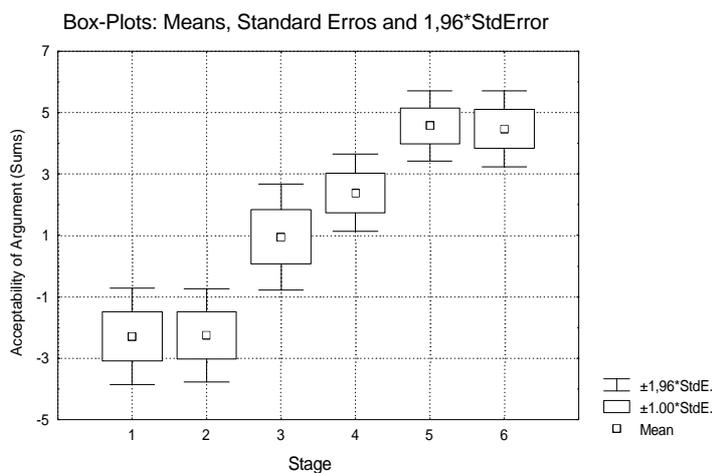
! **Preference hierarchy**: The preferences for the six Kohlbergian stages of moral reasoning should be ordered as theoretically predicted, with stage 6 preferred most, stage 5 second most etc. (see the figure on the left). Some small inversions of stage preferences (especially between stages 1 and 2, as well as between stages 5 and 6) may occur, and do not invalidate the new test version. Cross-cultural research supports this hypothesis quite well (Lind, 1986; Gross, 1996).

Correlations

Stage	1	2	3	4	5
2	,45				
3	,51	,47			
4	,11	,41	,31		
5	,21	,27	,22	,12	
6	,01	,14	,24	,14	,16

Paired exclusion of missing data
First Validation Study with the Brazilian MJT, N=60
Director: Patricia U. Bataglia

! **Quasi-simplex structure** of stage preference inter-correlations: Neighboring stages (for example, stages 5 and 6) should correlate higher than more distant stages (for example, stages 4 and 6), that is, the correlations should monotonously decrease from the diagonal to the left lower corner of the correlation matrix.

This criterion can be tested in two ways: a) in a main-component factor analysis with varimax-rotation, two factors should be produced and the factor loadings for the preference scores for the six stages should be orderly located on a simplex curve between the two (see graph); b) attempts to

Factor Loadings of the Preference Scores for Six Stages

First Validation Study with the Brasilan MJT (Director: Patricia U. Bataglia)
Sample: Lower and Upper Secondary School and College Students; N = 60
Rotation: Simple Varimax; Extraction: Main Components
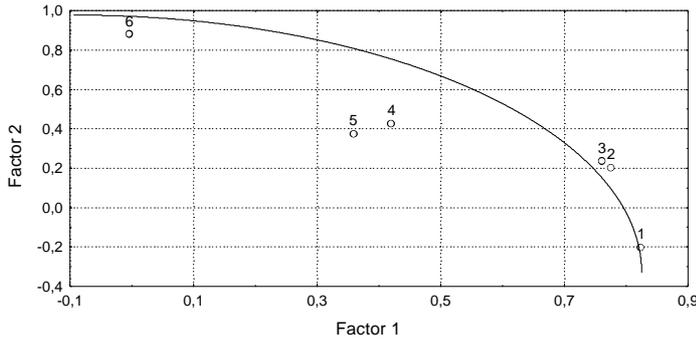
Correlations between C-score and Preferences for the Six Stages

Source: First Brasilian Validation Study of the MJT by P. Bataglia
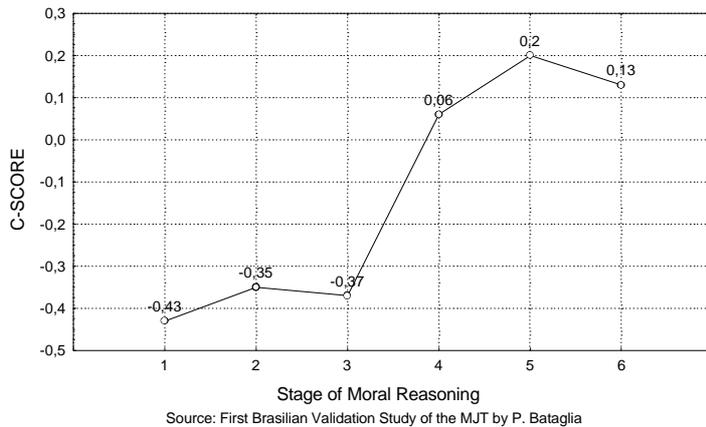
bring the matrix of the inter-correlations between the preferences for the six stages into a more simplex-like order should not result in a re-ordering of the six stages.

! **Affective-cognitive parallelism**: The stage preferences should correlate in a predicted manner with the *MJT's* C-index of moral judgment competence, i.e., while the preference for the highest stages should correlate highly positively with the competence score, the preferences for the lowest stages should correlate highly negatively with that score, and the other *MJT* preference indices should show correlations in between these extremes.

! **Correlation with education**. Given the above described sample, *C* should correlate highly positive ($r > 0.40$) with amount and quality of education of the subjects. Correlation of *C* with Ss' age should be small or close to zero when level of education is hold constant. In the first validation study of the Brazilian MJT, the correlation between C-score and level of education was $r = 0.40$.

! **No upward simulation of the *C-index***. As shown above, the *MJT* has been constructed to assess the cognitive, or competence aspect of moral judgment behavior rather than merely moral attitudes. When submitted to experimental setting like that used by Emler et al. (1983), the *C-score* of a newly constructed MJT version should show no upward change. (This criterion is optional.)

Note that these findings do not only support the cross-cultural validity of the Brazilian version of the *MJT* by Patricia U. Bataglia, but also the universal validity of the cognitive-developmental theory of moral behavior and development.

10. The utility of the *MJT's* C-index for evaluation studies

The utility for evaluation studies of the *MJT* is manifold:

a) The *MJT* it is theoretically valid; therefore the *C*-score can be easily interpreted in terms of the theory on which it is based;

b) the *MJT's C*-score cannot be faked upward, hence positive effects of an educational program can be attributed unambiguously to the quality of the program rather than to social desirability or so-called Hawthorn effects;

c) the *MJT* has shown to be sensitive to educational effects which could not be detected with other tests (Lind, 1993/1998);

d) because the *MJT* is short, it can be administered in studies in which several hundreds of subjects must be studies and resources (time, money) are scarce.

I believe that the first point is the most important feature of the *MJT*, namely the fact that the construction of the *MJT* is based on theory and research, and is *not* item-selected or keyed to produce high correlations with some arbitrary criteria like age, stability or philosophical sophistication. Because of this, the *C*-score does not need to be newly standardized for every sample studied. This makes comparison of findings across different studies and samples much less ambiguous, and the use of the *MJT* in evaluation studies very useful.

11. Summary

The *MJT* can be used *to test predictions* derived from theories of moral development because, on the basis of almost twenty years of research summarized in a series of publications (e.g., Lind, 1985 a/b/c; 1993/1998; 1995). It has shown to be highly *valid*. Moreover, because the *MJT* is short and easy to score by computer, it can be used to evaluate educational programs and other conditions of moral development that involve *large* samples of persons. The *MJT* has shown to be sensitive to educational treatments but not to instructions to fake scores high.

12. Words of caution

The *MJT* was not designed for and should not be used to make decisions about individual persons. A person´s moral judgment behavior depends considerably on situational factors -- like fatigue, involvement, prior experience. Therefore, an instrument for assessing an individuals' degree of moral judgment competence must have build-in safeguards against misinterpretations, which the *MJT* does

not have. However, when doing basic research or evaluations studies with *groups* of people, such situational factors mostly cancel out so that the average *C*-scores can be reliably interpreted as "true" level of moral judgment competence.

The *MJT* is not, as stated in some textbooks, another version of the DIT. Neither is it a psycho-metric test in the classical sense. It is a multi-variate, N=1 experiment, with one of the variate being a moral task. C-scores with other tests that do not contain a moral task, are not meaningful.

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Note

1. In former publications, I also used other names for the *C-index*: "DetStufe" (German) and "DetStage" (English), which is an abbreviation for the degree of determination of the individual's judgment behavior by the experimental factor „stage of reasoning."

Excerpt of the Moral Judgment Test (Standard Version)

A complete copy of the *MJT* in German, English, Dutch, French and Spanish can be ordered for free from the author. See address on the front page.

I. Workers' Dilemma

Due to some seemingly unfounded dismissals, some factory workers suspect the managers of eavesdropping on their employees through an intercom and using this information against them. The managers officially and emphatically deny this accusation. The union declares that it will only take steps against the company when proof has been found that confirms these suspicions. Two workers then break into the administrative offices and take tape transcripts that prove the allegation of eavesdropping.

Would you disagree or agree with the workers' behavior?

I strongly   **I strongly**
*dis*agree   agree

-3	-2	-1	0	+1	+2	+3

How acceptable do you find the following arguments *in favor* of the two workers' behavior? Suppose someone argued they were right . . . .

I find the argument . . .
completely   completely
*un*acceptable   acceptable

1. because they didn't cause much damage to the company. . . . .

-4	-3	-2	-1	0	+1	+2	+3	+4

2. because due to the company's disregard for the law, the means used by the two workers were permissible to restore law and order. . . . .

-4	-3	-2	-1	0	+1	+2	+3	+4

3. because most of the workers would approve of their deed and many of them would be happy about it. . . . .

-4	-3	-2	-1	0	+1	+2	+3	+4

4. because trust between people and individual dignity count more than the firm's best . . . .

-4	-3	-2	-1	0	+1	+2	+3	+4

5. because since the company had committed an injustice first, the two workers were justified in breaking into the offices . . . .

-4	-3	-2	-1	0	+1	+2	+3	+4

6. because the two workers saw no legal means of revealing the company's misuse of confidence, and therefore chose what they considered the lesser evil. . . . .

-4	-3	-2	-1	0	+1	+2	+3	+4

Appendix B:

Scoring Algorithm for the C-Index
and for the Indices for Moral Attitudes of the MJT

Opinion:	Workers´ Dilemma		Doctor´s Dilemma		x_{1-4}	$(x_{1-4})^2$
	Pro*	*Con**	*Pro**	*Con**		
Stage 1	1**	12	4	10		
Stage 2	5	9	3	11		
Stage 3	3	11	6	7		
Stage 4	2	7	5	12		
Stage 5	6	10	2	8		
Stage 6	4	8	1	9		
$\sum\limits_{1}^{6} x =$					$SS_{Tot} = \sum x^2 =$	
	$\sum\limits_{i=1}^{6} x_{i,pro} =$		$\sum\limits_{i=1}^{6} x_{i,con} =$		**C-index** $= r^2 * 100$ $r_{Stage}^2 = \dfrac{SS_{Stage}}{SS_{Dev}} =$	

$SS_{Deviation} = SS_{Tot} - SS_{Mean} =$

$SS_{Stage} = \sum\limits_{St=1}^{6} (\sum\limits_{j=1}^{4} x_{ij})^2 / 4 - SS_M =$

$SS_{Mean} = (Óx)^2 / 24 =$

$SS_{PC} = \sum\limits_{j=Pro}^{Con} (\sum\limits_{i=1}^{12} x_{ij})^2 / 12 - SS_M =$

$r_{PC}^2 = \dfrac{SS_{ProCon}}{SS_{Dev}} =$

$S_{Dil} = \sum\limits_{j=Work}^{Doc} (\sum\limits_{i=1}^{12} x_{ij})^2 / 12 - SS_M$

$r_{Dil}^2 = \dfrac{SS_{Dil}}{SS_{Dev}} =$

C⁺ Index: $= \dfrac{SS_S}{SS_{Dev} - SS_{Dil}} =$

The **C⁺-index** has been suggested by Lind (1978) to make up for the fact that variance due to the factor „dilemma-context" should not be counted against moral judgment competence. Correlation studies showed that, however, the empirical differences between *C* and *C⁺* are very small. Therefore, the latter have hardly been used.

Notes

* Pro and Con are to be scored according to the subject´s *opinion*. For example, if the subject says, s/he thinks the workers were *wrong* in breaking into the firm, then their answers to the pro-arguments in the worker-dilemma must be scored as *con* and their answers to the con arguments must be scores as *pro*.

** Item numbers in the standard version of the MJT.

An Example for Scoring the MJT:
C-Index and Attitude Indices

	Workers´ Dilemma		Doctor´s Dilemma		Attitude indices[3]	
Opinion:	-2		-3		$x_{1\text{-}4}$	$(x_{1\text{-}4})^2$
	Pro*	*Con**	*Pro**	*Con**		
Stage 1	*-1*	*-4*	*-2*	*-3*	-10	100
Stage 2	*-2*	*-4*	*-3*	*-4*	-13	169
Stage 3	*1*	*-4*	*1*	*-4*	-6	36
Stage 4	*2*	*-2*	*0*	*-2*	-2	4
Stage 5	*4*	*2*	*3*	*-1*	8	64
Stage 6	*3*	*3*	*4*	*-1*	9	81
$\overset{\circ}{\underset{1}{\sum}} x =$	7	-9	3	-15	$\overset{\circ}{\underset{1}{\sum}} x^2 =$	454

	$(\sum_{i=1}^{6} x_{i,pro})^2 =$	100.0	$(\sum_{i=1}^{6} x_{i,con})^2 =$	576.0	676	
SS Dev= $\acute{O}(x^2)$-SS$_{Mean}$=	177.8	$SS_{Stage} = \sum_{St=1}^{6} (\sum_{j=1}^{4} x_{ij})^2/4 - SS_M =$	105.3	$r_{Stage}^2 = \dfrac{SS_{Stage}}{SS_{Dev}} =$	**0.59**	
SS$_{Mean}$= $(\acute{O}x)^2/24=$	8.2	$SS_{PC} = \sum_{j=Pro}^{Con} (\sum_{i=1}^{12} x_{ij})^2/12 - SS_M =$	48.2	$r_{PC}^2 = \dfrac{SS_{ProCon}}{SS_{Dev}} =$	0.27	
		$SS_{Dil} = \sum_{j=Work}^{Doc} (\sum_{i=1}^{12} x_{ij})^2/12 - SS_M =$	4.2	$r_{Dil}^2 = \dfrac{SS_{Dil}}{SS_{Dev}} =$	0.02	
		C⁺ **Index:** $= \dfrac{SS_S}{SS_{Dev} - SS_{Dil}} =$	0.61			
112.0	74.0					

Interpretation: This is a hypothetical response pattern. The resulting *C-index* of 0.59 is very high when compared to the response pattern of real persons (see Lind, 1993/1998; Lind, 1995).

Note: If you load this file into Corel WordPerfcect for Windows version 6.x and higher, you can use this spreadsheet as a table calculator to score an individual response pattern on the *Moral Judgment Test*. Please remember that the items need first to be put into the correct order. The ordering key can be obtained for free from the author.

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[3] The attitude scores are usually computed by dividing the summated rating by 4 and subtracting -4 in order to get numbers in the range of the original response scale of the items: from -4 to +4.