Developing a Self-Scoring Comprehensive Instrument to Measure Rest’s Four-Component Model of Moral Behavior: The Moral Skills Inventory

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Abstract: One of the most extensively studied constructs in dental education is the four-component model of moral behavior proposed by James Rest and the set of instruments for measuring it developed by Rest, Muriel Bebeau, and others. Although significant associations have been identified between the four components Rest proposed (called here Moral Sensitivity, Moral Reasoning, Moral Integrity, and Moral Courage) and dental ethics courses and practitioners with disciplined licenses, there is no single instrument that measures all four components, and existing single component instruments require professional scoring. This article describes the development and validation of a short, self-scoring instrument, the Moral Skills Inventory, that measures all four components. Evidence of face validity, test/retest reliability, and concurrent convergent and divergent predictive validity are demonstrated in three populations: dental students, clinical dental faculty members, and regents and officers of the American College of Dentists. Significant issues remain in developing the Rest four-component model for use in dental education and practice. Specifically, further construct validation research is needed to understand the nature of the components. In particular, it remains undetermined whether moral constructs are characteristics of individuals that drive behavior in specific situations or whether particular patterns of moral behavior learned and used in response to individual circumstances are summarized by researchers and then imputed to practitioners.

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Ethics education in dental schools has progressed beyond making students familiar with codes and norms. Most courses engage students in discussions of issues at play in the schools and analysis of dilemmas. The latter are cases about representative dental practice situations in which several general ethical principles are involved and often point toward conflicting actions. Dental students are expected to identify complex ethical situations, analyze them in terms of a theoretical structure, recognize how their own values affect practice, and role-play sound ethical behavior. The latter is often taught by asking students to write out or deliver verbally the exact words they would use (“scripts”) to confront ethical issues—both in the role-play situation and, it is hoped, when similar difficulties arise in practice. (It should be noted that this article follows the convention of using the term “ethical” to refer to cognitive activities such as the study of right and wrong; the term “moral” is used when referring to conduct that is right or wrong.)

In addition to its pragmatic utility, this approach to teaching ethics has a theoretical grounding. The psychologist James Rest developed a four-component model of moral development.1-3 His work was based on Lawrence Kohlberg’s theory that describes ethical development using a stage model in which more or less complete “ethical systems” are replaced by better ones as individuals mature. Rest stimulated two related lines of research. A substantial body of research has been developed reworking Kohlberg’s stages of ethical reasoning. Rest’s approach involves three levels: preconventional, conventional, and postconventional. This work has resulted in development, validation, and use of the Defining Issues Test (DIT) to measure this dimension called ethical reasoning. Rest also proposed a four-component model of moral behavior, of which ethical reasoning is one component. Muriel Bebeau has published extensively on the DIT and Rest’s four-component model as applied to dental practice and dental education.4-10

The four components in Rest’s model could be labeled Moral Sensitivity, Moral Reasoning, Moral Integrity, and Moral Courage. (There are differences among authors, and even in the writings of Rest, on what each component should be called. This reflects
the empirical rather than theoretical nature of writing about these constructs, and different measurement instruments seem to highlight slightly different aspects of each component.)

**Moral Sensitivity.** Moral Sensitivity is awareness that ethical issues are a part of the situation, the skill of identifying when an ethical response is appropriate, or willingness to activate the moral apparatus. Sensitivity is awareness of how our actions affect others. Bebeau has given reasons why this component should be labeled “ethical” sensitivity, although later she prefers the term “moral” sensitivity. Presumably, the construct refers to both positive recognition and failure to recognize situations as morally relevant. Failure to report dentists responsible for gross or continual faulty treatment is a violation of the American Dental Association (ADA) Code of Professional Conduct and might be caused by low Moral Sensitivity. Most dental school ethics courses gainsay this first component by announcing to students that they are in a course on ethics and by providing standardized cases as stimuli that pretty clearly signal that at least the instructor feels a moral issue is at stake. Arguably, students and practitioners who fail to recognize a moral challenge will have difficulty living morally, regardless of their skills on the other three components.

**Moral Reasoning.** Also called “moral judgment” or “ethical development,” this skill is concerned with thinking through recognized moral challenges and determining a preferred course of action. This is the component of Rest’s work that has been most fully developed. Moral Reasoning is not synonymous with matching a recognized challenge with a rule or theory that defines the best solution. Rather, levels of ethical maturity have been suggested, and grounding of proposed action in any theoretical anchor at the higher levels is judged to represent a higher stage of moral development than grounding at a lower level. A higher level of ethical development is felt to exist when more mature systems of reasons are used as justifications for actions—even when engaging in the same action that could be justified by lower reasons. In Rest’s model, the lowest level is “preconventional” thinking, where the impact on the actor takes prominence. “I might get sued if I did this” or “I could lose a referral source” are examples of preconventional grounding that might explain why a practitioner declines to respond to a colleague who shows evidence of gross or continual defective treatment. The second level is called “conventional” moral reasoning, and the operational ethical structure involves internalization of group norms. “My colleagues would disapprove of this” is an example of conventional ethical reasoning. The highest level is “postconventional” reasoning, and here abstract ethical principles are the anchor. “Professionals are bound to place patients’ welfare above their own” is such an example. It may be noted that a single given ethical challenge can be analyzed at any of the three levels in Rest’s theory. There is abundant research evidence showing that these levels can be identified and that individuals generally move to higher levels as they mature (with development continuing through higher education) and that ethics education programs boost the level of moral reasoning.

In this article, the term “Moral Reasoning” has been retained despite the fact that reasoning is a difficult behavior to observe. “Ethical reasoning” is reserved for the work of philosophers and other professionals who reason about developing systems of right or wrong in the abstract, rather than using already formed ethical schemas to decide on right or wrong actions in specific cases.

**Moral Integrity.** This component is concerned with the extent to which the propensity for acting morally is an inherent part of one’s makeup. If a practitioner recognized that a colleague was grossly or continually providing faulty treatment and reasoned that this violates a principle such as nonmalfeasance, but nonetheless felt that this is not one’s own concern but perhaps a matter for somebody else, he or she would be regarded as possessing a low level of integrity. This third component in Rest’s model is often called “motivation” or “character,” or even “commitment.” Bebeau recently referred to this construct as “professional identity” or “identity formation.” Duckett and Ryden understand the construct as the process of prioritizing ethical values. The literature on moral identity in the fields of psychology and business is rich and diverse. The term “integrity” is used in this article to signal the importance of consistency in ethical structure and prominence of ethical over other (economic, legal, personal) values.

**Moral Courage.** Rest defines this component as the character elements of “ego strength, perseverance, backbone, toughness, strength of conviction, and courage” (p. 24). Duckett and Ryden call this fourth component “character” (a designation also given by some writers to the third component), while Bebeau refers to it as “character and competence” and as “implementation,” in order to emphasize executive control of situations. These are skills of effective moral action. Some practitioners may act...
effectively in dealing with the colleague who abuses patients; others may freeze up or make ambiguous gestures. Those with high moral courage have developed the skills of effective engagement in the moral life of their profession.

All four components are thought to be part of effective moral behavior. Some issues can be worked through in a step-wise fashion, engaging each component in turn; others may depend heavily on one or two components; while many involve looping and repetitions through the components.

Bebeau has developed and extensively used tests for each of the components as they appear in dental contexts. Her Dental Ethical Sensitivity Test (DEST) presents tape-recorded radio dramas that respondents summarize. Responses are transcribed and scored by a trained evaluator using a validated scoring manual. Rest’s most highly developed instrument, the Defining Issues Test (DIT), has been used in many disciplines to measure level of moral reasoning. It has been widely employed and extensively validated in the dental context. A version that uses dental prompts is called the Dental Ethics Reasoning and Judgment Test (DERJT). Both of these instruments are computer-scored for a fee. The Role Concept Essay (RCE) solicits respondents’ reflections on a series of open-ended questions having to do with one’s self-concept as a professional. This is a measure of Rest’s third component. There is a second instrument, the Professional Role Orientation Inventory (PROI), that measures some aspects of this component in a machine-scoreable format.

The instruments described above have, to varying degrees, been validated and their usefulness has been demonstrated in a range of research projects. Some of the instruments, however, require extensive use of judgment in scoring by trained evaluators, and there is no generally recognized measure for the fourth of Rest’s components. It would be useful to have a short, structured instrument that measures all four of Rest’s components at the same time, using dental examples. It would be even more valuable if such an instrument were self-scoreable.

## Materials and Methods

This article describes the development and validation of a short paper-and-pencil instrument that can be self-scored for use in dentistry to measure the elements of Rest’s four-component model of moral behavior. The research was approved as an exempt project by the Institutional Review Board at the University of the Pacific, #09-98.2.

A large number of draft items was prepared and reviewed by experts in dental ethics, and subsets were pilot tested on members of the Council on Ethics, By-laws, and Judicial Affairs and the Joint Subcommittee on Ethics of the ADA. Scale reliability statistics were used to reduce the pilot set to forty items, ten for each of the four components in Rest’s model. (See the Appendix.) The format for the questions includes a stem, describing a dental situation, and three alternative courses of action. This approach increases the concreteness and verisimilitude of the instrument. It also makes it possible to measure preconventional, conventional, and postconventional structures for the moral reasoning scale by including alternatives that reflect each of these types of moral grounding. The response structure of three concrete action alternatives differs from the more common approach of stating a theoretical position and asking respondents to indicate the degree to which they identify with the position: the so-called Likert format. The approach used gives a “grainier” distribution of scores, but one that is based on respondents’ intended concrete behavior rather than on abstract concepts.

In addition to selecting alternatives for the items measuring Rest’s four-component model, respondents in some settings were asked to nominate up to three individuals who were in the room with them at the time taking the same instrument who represented characteristic of sensitivity, reasoning, integrity, or courage in moral matters related to dentistry. This procedure produced datasets for each respondent containing their own responses on the items measured by the inventory and the number of nominations from colleagues as to whether they had a reputation for exhibiting these characteristics.

Data were collected from 106 second-year dental students in six sessions of the ethics course taught at the University of the Pacific. A second sample consisted of forty-four clinical faculty members at the same school, with the testing performed as part of the quarterly faculty in-service education program. A third sample consisted of nineteen regents and officers of the American College of Dentists and members of its journal’s editorial board. Respondents in this group completed the instrument twice, separated by an average interval of 21.6 days, in order to gauge test-retest reliability of the instrument. The American College of Dentists group did not nominate colleagues with reputations for the four moral skills. Following each testing session, scores and norms for
comparison were given to respondents, and a discussion was held regarding Rest’s four-component model and its application to dental ethics.

Self-scoring was made available to respondents. Attention was called to the fact that each item has three alternatives. For the section measuring Moral Sensitivity, two points are to be awarded for each item where alternative “a” is chosen. One point is awarded for each item where the middle alternative “b” is selected. The same scoring pattern is used for scoring the section on Moral Integrity. For the sections on Moral Reasoning and Moral Courage, the order of responses is reversed so that two points are to be awarded for the “c” alternative and one point again for the middle alternative. The score for each section is the total points (ranging from 0 to 20 on the long, forty-item version of the instrument and 0 to 8 on the short, sixteen-item version).

The first item in each of the four sections differs from the others in the rest of the section. The first item is general in nature, essentially asking respondents to characterize their behavior patterns generally, and not embedded in a specific dental context. Other items in each section are concrete and particular in nature. For example, the first question in the Moral Sensitivity section is “In general: (a) I tend to see almost every aspect of dentistry as involving an ethical dimension, (b) I am pretty sensitive to ethical matters, or (c) When ethical issues are clear, I am prepared to do my part.” An example of a particular item would be “Access to care is: (a) Clearly an ethical issue, (b) A complex issue with some ethical components, (c) Not really an ethical issue.” It is believed that the first item in each section of the Moral Skills Inventory is a measure of the extent to which respondents identify with the general characteristics of Moral Sensitivity, Moral Reasoning, Moral Integrity, or Moral Courage, while the remaining items are specific examples illustrating these general characteristics.

### Results

The Moral Skills Inventory (MSI) is displayed in the Appendix. In the long version of the test, ten items are used to measure each component; the short version of the MSI consists of the first four items from each section of the test.

Table 1 displays the mean scores (divided by the number of items in order to facilitate comparison between the short and long versions of the instrument), standard deviations, and Cronbach alpha values. Alpha is a measure ranging between 0.0 and 1.0, analogous to the correlation coefficient, that measures consistency within a set of items. Average scores and standard deviations were not statistically significantly different across samples or across sections of the inventory. Alpha values were moderately high. The alphas for the ten-item version were slightly higher than for the four-item version, as would be expected because test reliability is a function of test

<table>
<thead>
<tr>
<th></th>
<th>ACD (N=19)</th>
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<th>Faculty (N=41)</th>
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<th>Students (N=106)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Avg (SD)</td>
<td>α</td>
<td>Avg (SD)</td>
<td>α</td>
<td>Avg (SD)</td>
<td>α</td>
</tr>
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<td></td>
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<td></td>
<td></td>
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<tr>
<td>Short</td>
<td>1.33 (.33)</td>
<td>.704</td>
<td>1.23 (.46)</td>
<td>.332</td>
<td>1.26 (.42)</td>
<td>.376</td>
</tr>
<tr>
<td>Long</td>
<td>1.46 (.19)</td>
<td>.716</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reasoning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short</td>
<td>1.48 (.21)</td>
<td>.574</td>
<td>1.52 (.26)</td>
<td>.417</td>
<td>1.43 (.30)</td>
<td>.461</td>
</tr>
<tr>
<td>Long</td>
<td>1.57 (.26)</td>
<td>.627</td>
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<tr>
<td>Integrity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short</td>
<td>1.31 (.39)</td>
<td>.546</td>
<td>1.36 (.36)</td>
<td>.503</td>
<td>1.26 (.36)</td>
<td>.432</td>
</tr>
<tr>
<td>Long</td>
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<tr>
<td>Courage</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Short</td>
<td>1.41 (.40)</td>
<td>.647</td>
<td>1.38 (.17)</td>
<td>.507</td>
<td>1.38 (.20)</td>
<td>.501</td>
</tr>
<tr>
<td>Long</td>
<td>1.48 (.30)</td>
<td>.691</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

*Note: Average and standard deviation values are expressed on per-item bases rather than out of a possible total of 8 for the short versions and 20 for the long versions of the inventory. ACD=American College of Dentists.*
length. The test-retest values for the four sections were Moral Sensitivity=.747, Moral Reasoning=.668, Moral Integrity=.688, and Moral Courage=.900.

Concurrent and discriminate validity was established by comparing correlations among scores on the four sections. If the inventory measures a global and undifferentiated construct “moralness” rather than the four distinct components in Rest’s model, the correlations across components would be as large as the correlations within components. In Table 2, the diagonals display the correlations within components (alpha values), and the off-diagonals represent correlations across components. All of the alpha values were highly significant, while the diagonal associations showed scattered lower correlations. In no case were the correlations within components smaller than the correlations across components, thus providing evidence for the MSI’s measuring four distinct constructs rather than a single global one.

Table 3 displays the correlations between respondents’ self-perceptions of the four components in Rest’s model (as measured by the Moral Skills Inventory) and the scores obtained by counting the number of nominations from peers on the same component. High concurrent validity (two independent measures of the same characteristic) would be demonstrated by high correlations on the diagonals and weak or no correlations on the off-diagonal values. This pattern is observed in Table 3, with all but one diagonal value (self-report and peer nominations on each of the four components) being statistically significant and only two off-diagonal correlations being significant. The most problematic component was Moral Reasoning—the least publicly observable of the moral behavior components.

A difference in “degree of fit” was observed between the first, Likert-type, general item in each section and the remaining items in the section. Part-whole correlations were calculated for measures of association between an individual item and the average of all items. The part-whole correlations for the lead general items were Moral Sensitivity=.243, Moral Reasoning=.405, Moral Integrity=.078, and Moral Courage=.360. The part-whole correlations for the average of the particular items in specific dental contexts were Moral Sensitivity=.474, Moral Reasoning=.275, Moral Integrity=.267, and Moral Courage=.409. With the exception of Reasoning, the averages of the particular items were more consistent measures of the overall nature of the four components than were the general items measuring these same constructs.

Table 2. Convergent/divergent validity for the four-item version of the Moral Skills Inventory in three samples of respondents

<table>
<thead>
<tr>
<th>Component</th>
<th>Sensitivity</th>
<th>Reasoning</th>
<th>Integrity</th>
<th>Courage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitivity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACD</td>
<td>.704***</td>
<td>.312</td>
<td>.528**</td>
<td>.443*</td>
</tr>
<tr>
<td>Faculty</td>
<td>.332*</td>
<td>.211</td>
<td>.187</td>
<td>.241*</td>
</tr>
<tr>
<td>Students</td>
<td>.376***</td>
<td>.019</td>
<td>.193*</td>
<td>.033</td>
</tr>
<tr>
<td>Reasoning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACD</td>
<td>.574**</td>
<td>.441*</td>
<td>.419*</td>
<td></td>
</tr>
<tr>
<td>Faculty</td>
<td>.417**</td>
<td>.052</td>
<td>.220</td>
<td></td>
</tr>
<tr>
<td>Students</td>
<td>.461***</td>
<td>.168*</td>
<td>.167*</td>
<td></td>
</tr>
<tr>
<td>Integrity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACD</td>
<td>.548**</td>
<td>.518**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faculty</td>
<td>.503***</td>
<td>.231</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students</td>
<td>.432***</td>
<td>-.017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Courage</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>ACD</td>
<td></td>
<td></td>
<td>.647***</td>
<td></td>
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<tr>
<td>Faculty</td>
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</tr>
<tr>
<td>Students</td>
<td></td>
<td></td>
<td>.501***</td>
<td></td>
</tr>
</tbody>
</table>

Note: Internal consistencies (Cronbach alpha values) are shown on diagonals; correlations across components (Pearson r-values) are shown off diagonal. ACD=American College of Dentists.
*p<.05, **p<.01, ***p<.001
Discussion

The evidence reported in this article supports the use of the short version of the Moral Skills Inventory as a preliminary measure of the dimensions of Rest's four-component model of moral behavior. Having a validated, quickly administered, self-scoring inventory makes it possible to extend the reach of ethics testing to practitioners, to dental students as an introduction to a unit on ethics, and in any other application in which a trained measurement expert for scoring is not available or the use of one would be inconvenient.

Validation of the MSI

Four types of validity have been demonstrated in this research.\textsuperscript{19} Face validity involves the appearance of measuring what is intended to be measured. Testing with American College of Dentists (ACD) regents and officers and ADA committee members, with dental students, and with clinical faculty members, especially in the discussions following testing in which results were reported and discussed, demonstrated that subjects could readily understand their scores and participate in meaningful explorations of the Rest four-component model. Test-retest reliability was demonstrated in the ACD sample, in which, over a three-week period, test-retest correlations ranged from .660 to .900 across the four components. Convergent and discriminant validity was demonstrated by larger, statistically significant internal correlations among items within components compared with smaller and rarely significant correlations across components. Finally, concurrent validity was demonstrated with modest and, in three of four cases, statistically significant correlations between self-reports based on the Moral Skills Inventory and nominations from peers of individuals who were felt to demonstrate these characteristics in their behavior.

The psychometric properties of the Moral Skills Inventory are comparable to statistics reported in the literature for other instruments measuring elements of Rest's model. Bebeau reported overall Cronbach alpha values of .61 for freshman students and .78 for junior students on her DEST test of ethical sensitivity.\textsuperscript{10} The DIT instrument has been studied extensively, and reports of internal consistency in the high .70s and to low .80s are typical.\textsuperscript{2,3} Ongoing work in establishing the validity of this instrument is summarized by Bebeau.\textsuperscript{5} Much of what has been reported as validation studies of Rest's model have been investigations of whether inventories such as the Defining Issues Test (Moral Reasoning) produce different scores for men or women, college graduates compared with those who had less formal education, or those who have taken ethics courses.\textsuperscript{2,3} Ongoing work in establishing the validity of this instrument is summarized by Bebeau.\textsuperscript{5}

<table>
<thead>
<tr>
<th>Nominations</th>
<th>Sensitivity</th>
<th>Reasoning</th>
<th>Integrity</th>
<th>Courage</th>
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<tr>
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<td>.329**</td>
<td>.412**</td>
<td>.161</td>
<td>.104</td>
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<td>Students</td>
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<td>.075</td>
<td>.086</td>
<td>-.248</td>
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<tr>
<td>Reasoning</td>
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<td>-.037</td>
<td>-.126</td>
<td>.263**</td>
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<tr>
<td>Students</td>
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<td>-.226</td>
<td>.263**</td>
<td></td>
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<tr>
<td>Integrity</td>
<td></td>
<td></td>
<td>.382**</td>
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<tr>
<td>Students</td>
<td></td>
<td></td>
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<tr>
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<td>.435**</td>
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<tr>
<td>Students</td>
<td></td>
<td></td>
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<td>.313***</td>
</tr>
</tbody>
</table>

\*p<.05, **p<.01, ***p<.001
The MSI was designed for convenience in estimating moral skills on all four of Rest’s four-component model, primarily as a means of introducing the concept to dental students and practitioners. Although the levels of internal consistency and evidence of validity are similar to other instruments that have been used for research purposes, further development work is needed before it could be recommended that this instrument be used for making decisions about individuals. (By contrast, the Dental Admission Test has been shown to have no better than an r=.300 predictive validity for nonclinical coursework in dental schools and an even lower validity for clinical performance. Yet this test is routinely used for critical individual decisions about admission to dental school.20–23)

Theoretical Issues: Thin Theory

Research in the field of Rest’s four-component model has been largely driven by measurement rather than theory. While there is much to celebrate in this “scientific” empiricism, there are reservations about how much further Rest’s model can be developed without a substantially expanded theoretical grounding. The peculiarity of substantial disagreement over the names of the four components has already been mentioned. It is likely that this reflects shifting interpretations of the nature of the components, perhaps in response to features of the measurement inventories.

Moral education would be advanced if scholarship could produce richer and more precisely centered definitions of the four components. It would also help to have more fully developed understanding of the relationships among the components and especially of the ways in which each component is activated in context and what work it carries out. It is not entirely clear whether the components are distinct, trainable skills, like speaking French and playing tennis, or dimensions of overall character development. Brede- meier and Shields,24 for example, have expanded the four components into twelve. Duckett and Ryden11 identified a fifth component: implementation. There have also been suggestions that the third component, Moral Integrity or “character” or “motivation” toward moral behavior, is really a combination or result of the other three or an overarching component.

In addition to the theory building that must go on to develop a useful understanding of the elements in the model, more empirical work is needed along the lines of connecting the elements with real-world factors. It is not known, for example, whether the Moral Sensitivity, Moral Integrity, and Moral Courage components can be enhanced and, if so, how. There is also a paucity of evidence addressing the basic predictive validity question of whether individuals who score high on any or all of the components actually lead more moral lives. For both the theory building and the empirical outcomes questions, there is justifiable belief that Rest’s four-component model is promising and the work done so far on measuring these components is useful. But we need to go much further in the theory and application directions. The importance of construct validation generally—research clarifying the exact nature of what is being measured—was recently highlighted in a theme issue of Educational Researcher, the publication of the American Educational Research Association.25

Theoretical Issues: The Deep Structure of Morality

Having demonstrated that the Moral Skills Inventory is a plausibly validated instrument for preliminary measurement of Rest’s four components of moral behavior, this article concludes with a necessary challenge to the fundamental assumption that we are in fact measuring moral constructs.

The MSI and most of Bebeau’s instruments and the DIT are designed to call out respondents’ self-reported preferred options from among a set of actions offered by the researcher. The options are arranged to reflect the theoretical structure imposed by the researcher, and they call for discrete choices rather than indication of level of agreement on a scale for a theoretical construct. On the MSI and other instruments, respondents select from among concrete, contextually situated, and mutually exclusive options. The instruments used to measure Rest’s model also tend to be deeply embedded in professional cultures, such as dentistry.

The “graininess” of the customary approach to structuring items measuring Rest components is not the primary concern, although it is likely that validation measures of internal consistency will be artificially lowered in this approach, as compared with scores from instruments designed to measure endorsement of theoretical constructs. For example, Bebeau et al. reported on the DEST that overall reliability of the instrument ranged between .61 and .78.10 However, the average correlation between scores on the three cases she used was only .234. This means
that there was a high degree of interaction between individuals and various complex stimuli and inconsist-

sistency within individuals across various dental
situations. The same phenomenon was observed in
the case of the MSI. Across the four components,
part-whole correlations among concrete items de-
signed to measure the same component ranged from
.267 to .474.

The deeper issue is whether moral behavior is
an expression of a personal characteristic, disposi-
tion, or level of skill that individuals possess across
most circumstances or, alternatively, whether it is
a descriptive generalization imposed by a test or
researcher based on scanning a sample of moral
responses in a structured situation. This is only sec-
condarily a measurement question; fundamentally,
there are (at least) two views of how to characterize an
individual as being moral or not. The traditional view
holds that individuals have some level of “moral-
ness.” This general character dimension is held to be
measured, taught, and used to predict responses in a
wide variety of situations. Alternatively, individuals
may master a repertoire of appropriate responses to
individual concrete situations. An experienced prac-
titioner, for example, might have mastered a pattern
of moral behaviors involving conflicts with patients
or colleagues, yet be a moral cripple in his or her
personal life or matters of social policy. A dentist
might reason at the postconventional level with regard
to the large issues that face the profession generally,
such as access, but see many individual conflicts in
the office in terms of personal advantage—pre-
conventional moral justification. Measuring moral
development on this view would consist of sampling
many concrete, individual response patterns and
characterizing them according to some theoretical
structure. On this conception of the issue, individuals
may have similar “scores” despite their dispositions
to respond in diametrically opposite ways in certain
specific situations. This alternative approach to con-
ceptualizing morality places the general theory in the
mind of the researcher or the colleague and observer
and not in the moral agent.

The evidence in this study, and possibly other
research on dimensions of moral development, is at
least consistent with the interpretation that general-
izations about patterns of moral behavior are charac-
teristics of the researcher rather than the practitioner.
The part-whole correlations for the four general items
ranged from .078 to .405 (as compared with the .267
to .474 range for particular items). There is some

further support for this view when reflecting on the
apparent inconsistencies in dentists’ preferred actions
in challenging moral situations and their natural
refuge in the argument that “It depends.”

Classical moral philosophy is divided here. 26
Consequentialists, contractarians, and norm-based
approaches are silent on the issue, confining their
analyses to attempting to decide whether the behavior
itself (not the agent) is ethical. Alternatively, virtue
ethicists advance various characteristics of individu-
als, such as wisdom, promise-keeping, and loyalty, as
desirable personal attributes. Virtue ethicists believe
that character can be trained, or at least the purity of
the group can be preserved by shunning those who
do not exhibit character traits favored by the group.

In the first book of the Nicomachean Ethics, Aristotle
notes that moral “conduct has to do with particulars.”
The American pragmatist John Dewey might be regar-
ded as favoring the primacy of the particular
in ethics over the general, with his discussion of
“supremacy of the individual case.” 27 The clearest
current voice for the view that moral behavior is a
pattern of behavior that promotes ethical conditions
(that exist as general characteristics only in the minds
of observers) is Jonathan Dancy. 28 This branch of
moral philosophy is called Particularism. 29

Just because an individual chooses an action that
others could characterize as having been the result of a certain moral skill does not mean that such
a skill was actually operational in the choice. Just be-
cause an individual can label a moral choice with an
attractive rationale does not mean that other motives
were actually decisive. The contrast between moral
dimensions as characteristics of agents that drive pat-
terns of behavior or as patterns of particular effective
moral behaviors that can be characterized by others
is important for how we teach ethics in dental educa-
tion. On the first view, what matters is identification
of principles, theories, and character dimensions that
are then taught. This is the dominant view in dental
education and current discussions of professional
ethics. We label individuals as having (perhaps some
inappropriate level of) ethical development and la-
fament that practice exigencies sometimes erode the
moral fiber of individuals. On the alternative view,
we would manage the opportunities in which students
and practitioners acquire their collection of specific
moral responses to all the ethical challenges they face
and coach them in building a full and appropriate rep-
ertoire of moral response patterns. The focus would
be on moral behaviors rather than ethical character.
Conclusion

A validated, short, self-scoring instrument has been described as a preliminary measure of Rest’s four-component model of moral behavior. It extends the work of Bebeau and others in measuring important dimensions in ethical behavior in the dental context. Perhaps because so much work has been done in this area, we can now see the need for further research elucidating the theoretical structure of moral behavior.

REFERENCES

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APPENDIX

Moral Skills Inventory

Items 1–10 represent the Moral Sensitivity Component; items 11–20 the Moral Reasoning Component; items 21–30 the Moral Integrity Component; and items 31–40 the Moral Courage Component. All 40 items comprise the long form of the MSI; the first four items for each component comprise the short form. The first item in each component represents a general or abstract measure, while the remaining items are concrete and particular. The scoring system involves two points for each “a” response and one point for each “b” response on items 1–10 and items 21–30 and two points for each “c” response and one point for each “b” response for items 11–20 and 31–40. The score for Moral Sensitivity is the total of points (0 through 8 for the short version or 0 through 20 for the long version) for items 1–4 or 1–10; the score for Moral Reasoning is the total of points for items 11–14 or 11–20, etc.

In each of the situations below, select the response or reason that would be most characteristic of you. It will be of help if you reflect back over the past six months to recollect what you have actually done in similar situations. There are no right or wrong answers. You will be scored on four dimensions in a way that describes your ethical type rather than judging you as ethical or not ethical.

1. In general,
   [ ] a I tend to see almost every aspect of dentistry as involving an ethical dimension.
   [ ] b I am pretty sensitive to ethical matters.
   [ ] c When ethical issues are clear, I am prepared to do my part.

2. Technical quality of dental procedures is
   [ ] a An ethical issue in every single case.
   [ ] b An ethical issue when the average level of skill is close enough to the minimal standard that it might cause a problem.
   [ ] c Clearly an ethical issue if below standard.

3. One of your practice partners teaches part-time at a dental school and wants to participate in a multisite research project. There is a handsome “finder’s fee.” You would consider enrolling some of your patients in the study if
   [ ] a The university and its ethics review board have approved the study.
   [ ] b You can present the study to patients in a way they can agree to.
   [ ] c Your review of available information shows that the product is potentially very helpful in practice.

4. Access to care is
   [ ] a Clearly an ethical issue.
   [ ] b A complex issue with some ethical components.
   [ ] c Not really an ethical issue.

5. Where should you locate your office (what part of the country, what town, what part of town)?
   [ ] a This decision has ethical overtones.
   [ ] b This is a one-time decision that is now behind me.
   [ ] c Ethics is not part of such decisions.

6. A patient wants to waive informed consent in a complex case.
   [ ] a This is a set-up for an ethical problem.
   [ ] b This is only an ethical issue if you might have deeply hidden questionable motives.
   [ ] c This is standard operating procedure in a lot of cases.

7. Compared with my close friends and colleagues, I believe I am
   [ ] a Extremely sensitive to the wide range of injustices I see in the world.
   [ ] b Aware of injustice.
   [ ] c Sensitive to injustice, especially where it affects those around me or where I can take positive action.

8. A few mothers of Medicaid child patients who have extensive caries are slow to follow through with appointments for care or simply do not come for appointments. This is
   [ ] a An ethical issue that might involve engagement of Child Protective Services.
   [ ] b A tough decision requiring the dentist to act as a judge of the circumstances.
   [ ] c A tragedy usually calling for discussion, but parental rights must be respected.

(Date)
9. Dating one of your patients is
   [ ] a Inherently ethically questionable; the patient should be referred to another dentist if the relationship is to continue.
   [ ] b Potentially an issue, but one that can be managed among mature individuals.
   [ ] c A personal matter among consenting adults.

10. A patient has several remaining decayed teeth. Prior to presenting your treatment options, the patient intimates that she wants all teeth removed so she “doesn’t ever have to worry about dentistry in the future.” You decide to tailor your case presentation to
   [ ] a Present all options, including endodontics and crowns, knowing that the patient is likely to make the unhealthy choice.
   [ ] b Stress the importance of endodontics and crowns in hopes of leading her to the right choice.
   [ ] c Mention only endodontics and crowns because that is clearly the best available alternative.

11. I tend to decide problematic situations that arise in dentistry
   [ ] a Based on what gives me the best outcome in each case.
   [ ] b With a pretty careful eye to what others are doing.
   [ ] c On principle.

12. A colleague calls requesting the chart of a patient on whom you have completed a fair bit of work but have yet to receive about $3000 in payment. You consider informing the patient that you cannot release a copy of the chart until you receive at least some of the payment owed. Eventually you decide against this approach because
   [ ] a It might be illegal.
   [ ] b It casts a shadow of “commercial interest” on the entire profession.
   [ ] c It stands in the way of the patient receiving oral health care.

13. Restricting procedures performed to those you like and can do well is perhaps unethical if
   [ ] a Market segmentation draws the attention of the Federal Trade Commission.
   [ ] b That is not the custom in the community where you practice.
   [ ] c All patients count on you to provide comprehensive care.

14. On a state or national policy level, the most appropriate approach to Medicaid is as
   [ ] a An economic matter, especially considering “no show” rates.
   [ ] b A political issue involving understanding between the ADA and government groups.
   [ ] c A matter of distributive justice (people getting their fair share).

15. Good ethical reasoning places greatest emphasis on
   [ ] a Legal foundations.
   [ ] b What others have a right to expect of you.
   [ ] c Universal principles that transcend personal or group interests.

16. Volunteering for on-call emergency coverage for the component society is good because
   [ ] a It avoids other problems such as a dues increase to pay for someone to provide coverage.
   [ ] b That is what is expected among professional colleagues.
   [ ] c It is indicated by ethical considerations such as beneficence.

17. Realistically, my decision about what work to refer that I am competent to provide is determined by
   [ ] a Patient flow and economic conditions.
   [ ] b Relations with specialists.
   [ ] c Best interests of the patient.

18. Using new procedures or materials before checking their efficacy and safety in the literature is a risky business because
   [ ] a You run the danger of exposure to malpractice.
   [ ] b It would be difficult to defend this practice to your colleagues.
   [ ] c It is inherently unethical to imply your endorsement of an unproven approach.

19. Full disclosure of speakers’ interests in products they mention in CE presentations is common practice because
   [ ] a Contracts for speakers are becoming increasingly scrutinized.
   [ ] b It has become a custom, demonstrating professionalism on the speakers’ parts.
   [ ] c It shows respect for the audience.

20. You observe faulty restorations in the mouth of a patient who has recently been referred to you. Which principle has the highest priority?
   [ ] a Do not disparage your colleague’s work to the patient.
   [ ] b Report gross and continuous faulty work as appropriate.
   [ ] c Inform the patient of his or her present oral condition.

21. I place high value on
   [ ] a Projecting my (ethical) character into what I do on all occasions.
   [ ] b Learning from each ethical situation and taking a broad perspective.
   [ ] c Making certain I am within my rights.
22. Because dentistry necessarily involves conflicting circumstances and multiple goals, the best policy is usually to

   a. Be guided by a single standard of integrity in all situations.
   b. Match each action to the particular situation.
   c. Respond to others’ expectations of you.

23. I admire dentists who

   a. Place principle above success—always.
   b. Blend principle and success.
   c. Selectively succeed as long as this does not compromise principle.

24. The reason I value my professional standards is that they

   a. Anchor my identity and focus my action.
   b. Ensure my standing in the professional community.
   c. Create realistic expectations among colleagues and patients.

25. A patient requests extraction of all his teeth for a denture. Some are sound and you choose to reason with the patient because

   a. It is part of your practice philosophy to preserve healthy teeth.
   b. This is the standard of care suggested in the ADA Code of Ethics.
   c. The patient seems as though he can be convinced of the better alternative.

26. You insist that the front desk not submit insurance claims, even for work done, if the documentation is not standard because

   a. Expediency in one area leads to erosion of moral standards generally.
   b. It is in the patient’s best interest in this case.
   c. You have been burned so many times.

27. When you hear others talk about “moral heroes in dentistry”—someone who consistently makes sacrifices for the profession—you think

   a. I am embarrassed that I have not done more myself.
   b. I admire that person and am glad to be in the same profession.
   c. Everyone chooses his or her own goals and sources of satisfaction.

28. You make an exception and let a staff member take vacation contrary to policy because

   a. There are larger issues of fairness at stake.
   b. The particular rule in question always seemed arbitrary to you.
   c. It is easy to explain this away if questioned by other staff.

29. What would others say about you?

   a. Almost everyone would agree there is conspicuous evidence that I always center on doing what is right.
   b. Those who really know me realize that integrity is important in my life.
   c. I do not make a “big deal” out of appearing to be ethical.

30. The purpose of a dental practice is to

   a. Do good in the world (service).
   b. Do right by your community according to professional standards.
   c. Maximize your own potential (self-actualization), but always without hurting others.

31. When I see something that does not look fair,

   a. I am reluctant to get involved because I know I should not stick my nose in other people’s business.
   b. I may speak up if the case is obvious and straightforward.
   c. I tend to take the initiative to find out what is going on and to try to set things straight.

32. Two separate patients have come to you with questionable work performed by a colleague in your community. You do not disparage your colleague to your patients but you would be willing to talk with your colleague

   a. If you could be certain there are no extenuating circumstances.
   b. If a few more similar patients appear.
   c. Right now.

33. You and a good friend have been talking for years about taking Medicaid patients. You are willing to do so

   a. When the numbers seem good enough to sustain the viability of this change.
   b. If your friend does so as well.
   c. Because you are convinced that the service is needed in your community.

34. Debating anti-fluoridationists is

   a. A waste of time, generally.
   b. Appropriate for those who have such skills.
   c. A professional responsibility.

35. What should be done about “commercialism” in dentistry?

   a. Probably nothing for now as this is the profession’s response to what the public seems to want.
   b. The ADA is in the best position to establish balanced policy.
   c. You should publicly challenge colleagues who brag about it.
36. Staff says a patient involved in a large case is well behind in payments and is an all-around annoyance to them. You should
   [ ] a Help the staff accept this since the patient is in treatment and abandonment is an issue.
   [ ] b Request further documentation from staff and consult with an advisor about means for dismissing the patient legally.
   [ ] c Explain the problem the patient is causing you and the staff when you see the patient.

37. Speaking out on moral issues is
   [ ] a Best left to those who have the proper training.
   [ ] b A major challenge for me, but I have done it.
   [ ] c One of the skills professionals such as I come to develop.

38. You think the dean at the dental school is wrong in opening a student clinic very near your office. What is the best strategy for handling this?
   [ ] a Make your views known to colleagues.
   [ ] b Gather evidence for your position.
   [ ] c Meet with the dean: lay your arguments on the table, and be prepared to hear that your view is incomplete.

39. I typically speak up when I see something that may not be right if
   [ ] a There is a reasonable chance that no one (including myself) will be worse off for my speaking up.
   [ ] b I have the facts to back my position.
   [ ] c There is a chance to help someone.

40. A dentist who finds himself or herself in disagreement with the ADA's position on an important issue such as access should
   [ ] a Resign.
   [ ] b Get more information to support his or her position.
   [ ] c Talk with ADA officers.