

Measuring Moral Judgment: The Moral Judgment Interview or the Defining Issues Test?

Dawn R. Elm
James Weber

ABSTRACT. This paper compares and contrasts two distinct techniques for measuring moral judgment: The Moral Judgment Interview and the Defining Issues Test. The theoretical foundations, accompanying advantages and limitations, as well as appropriate usage of these methodologies are discussed. Adaptation and use of the instruments for business ethics research is given special attention.

Attention paid to moral judgment and reasoning in the business ethics literature has dramatically increased over the past decade (Trevino, 1992). Accompanying this emerging research focus is the increased usage of two dominant moral reasoning instruments: the Moral Judgment Interview (Colby and Kohlberg, 1987) and the Defining Issues Test (Rest, 1979). Each of these measures significantly differ in their theoretical foundation, what they are capable of measuring, how they are appropriately used, and their respective advantages and limitations as a research instrument. Confusion regarding these aspects of the instruments could lead researchers to improperly select the wrong measurement given the research objective, inaccurately administer the in-

strument, or incorrectly analyze the data collected. In an effort to guide future moral reasoning researchers, we discuss in this paper the underlying theories, objectives and capabilities, and advantages and limitations of the Moral Judgment Interview (MJI) and the Defining Issues Test (DIT). We believe that a clearer understanding of the instruments will enhance future business ethics research investigating moral reasoning.

Theoretical foundation

Lawrence Kohlberg

The moral development theory underlying both the MJI and the DIT was developed by Lawrence Kohlberg (1969, 1973, 1976, 1981, 1984), although James Rest expands beyond Kohlberg in developing the DIT. Kohlberg and his associates attempted to understand the moral development of individuals from childhood to adulthood by periodically assessing the highest stage of moral reasoning expressed by the subjects. These observations led Kohlberg to develop a six stage model of moral development. The critical perspective underlying Kohlberg's model is the identification of the *reasons given why* certain actions are perceived as morally just or preferred. As the subjects express distinctly different moral rationales, these rationales are captured in the different stages of moral development.

Kohlbergian research identifies three levels of moral development: preconventional, conventional, and postconventional (see Figure 1). Each level is comprised of two stages of reasoning. The second stage represents a more advanced and organized form of the first stage within each level. The three levels are briefly summarized below (for a more

Dawn Elm is currently an Assistant Professor of Management at the University of St. Thomas in St. Paul, Minnesota. Dr. Elm has written and published articles on ethical decision-making, moral reasoning, defining and measuring honesty, and women's studies and ethics. She also has research interests in socialization to work, gender bias imagery in teaching business, and parental leave policies.

James Weber is currently an Assistant Professor of Management at Marquette University. He has published articles focusing on managerial values and moral reasoning, teaching of ethics, and methodological issues in business ethics research in Research in Corporate Social Performance and Policy, Human Relations, Business Ethics Quarterly, and Journal of Business Ethics.

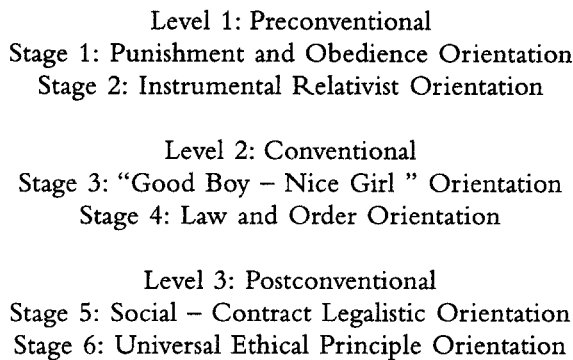


Fig. 1. Kohlberg's stages of moral development.

complete description of Kohlberg's stages of moral development see Colby and Kohlberg, 1987, particularly pp. 18–19).

Preconventional level

At this primary level, the individual understands notions of "right" and "wrong" in terms of consequences of action (punishment, rewards, exchange of favors) or the imposition of authoritarian power. At Stage 1 (Punishment and Obedience Orientation) the physical consequences of an action determine its goodness or badness. Avoidance of punishment and unquestioning deference to power are the key values. Right action is defined in Stage 2 (Instrumental Relativist Orientation) as that which satisfies one's own needs. Elements of fairness and equal sharing are interpreted in terms of the physical or pragmatic consequences upon the decision maker.

Conventional level

As an individual progresses to the conventional level, the maintenance of expectations imposed upon the decision maker by the family, group, or nation is perceived as valuable. Stage 3 ("Good Boy-Nice Girl" Orientation) emphasizes behavior that will please or help others, thus gaining approval from others for the decision maker. At this stage there is a significant emphasis upon conformity to stereotypical images of majority or acceptable behavior. At Stage 4 (Law and Order Orientation) the individual takes the perspective of a generalized member of society. This

perspective emphasizes adherence to a consistent set of societal, legal, or religious procedures that are applied impartially to all members of society.

Postconventional level

As the individual exhibits a postconventional level of moral maturity, there is a clear effort to define moral values and principles apart from various authoritarian figures and bodies. Generally with utilitarian overtones, Stage 5 (Social-Contract Legalistic Orientation) defines right action in terms of general individual rights and socially accepted standards. Rather than rigidly maintaining laws (reflective of Stage 4, law and order orientation), Stage 5 emphasizes the possibility of changing law based upon rational considerations of social unity. At Stage 6 (Universal Ethical Principle Orientation) right is defined by the decision-maker's conscience in accord with self-chosen ethical principles appealing to logical comprehensiveness, universality, and consistency. (It should be noted that as the stages are applied in a Kohlbergian empirical assessment of individuals, Stage 5 and Stage 6 are generally combined into a Stage 5 designation.)

Applying Kohlberg's theory

Kohlberg's stage theory has two basic applications for business ethics research. First, it can be used to *assess the level of moral development* of individuals over time. This reflects the original usage of the theory, basic to Kohlbergian research in moral education. Kohlberg and his associates found that moral reasoning follows a clear pattern of development. "Development is step by step, that is, the stages are invariant" (Kohlberg, 1981: 136–137). Hence, research has found that a Stage 2 person does not leap into Stage 4, but gradually moves from Stage 2 through Stage 3 on the way to Stage 4. In addition, research has found that individuals are attracted to reasoning at one stage higher than their predominant stage (Blatt and Kohlberg, 1975). Thus, a developmental assessment of moral reasoning would predict a gradual upward progression through the stages contained in Kohlberg's model.

Since business ethics research often focuses on the

moral reasoning of mature business school students or managers, another application of Kohlberg's stage theory is the *identification of moral principles being used*. Rather than assessing the development of reasoning over time, research can explore the stage of reasoning used at a point in time. Although developmental analysis has found that the individual progresses to higher stages of reasoning, people are also capable of expressing their moral decision-making rationale at lower stages as well. A Stage 4 reasoner does not lose the capability of assessing a situation from a Stage 2 or Stage 3 perspective. Research has focused on the influence exerted upon an individual's moral reasoning by the organization (Elm and Nichols 1993; Weber, 1990), intensity of moral issue (Jones, 1991), personal value orientation (Weber, 1993a), and other individual and organizational influences.

Over the years numerous criticisms have been lodged against Kohlberg's theory of moral development and scoring procedure. Kohlberg and his associates have responded to their major critics (see Kohlberg *et al.*, 1983), addressing numerous theoretical and methodological issues. In addition, challenges regarding the universality of Kohlberg's theory were critically reviewed by Snarey (1985). He reports substantial support for the cross-cultural universality of Kohlberg's theory. The criticisms voiced by Gilligan (1982) and others, challenging Kohlberg's theory with gender bias, have been explored by numerous researchers (see Lifton, 1985; Nunner-Winkler, 1984; Walker, 1984). Each of these studies provide general, empirical support for the application of Kohlberg's theory to both sexes. Finally, Cortese (1984) suggested inadequacies in Kohlberg's scoring methodology (e.g., standardization, researcher bias). The development of the Standard Issue Scoring method and manual (the third generation of a Kohlbergian scoring instrument) provides the scorer with clearer distinctions between moral stages and presents an abundance of additional examples of moral reasoning rationales representing each stage (Colby and Kohlberg, 1987). These improvements have minimized the frequency and probability of wide variations in scoring caused by researcher bias.

Additional criticisms have been leveled at moral judgment research regarding the relationship between moral reasoning and moral behavior (see Mischel and Mischel, 1976). Research reviewed by Blasi (1980), Higgins *et al.* (1984), and Rest *et al.*

(1986) suggests that moral reasoning is related to moral behavior, but it is not the only causal element in the process. Rest *et al.* (1986) discuss the relationship of moral reasoning to behavior as part of a four component model. Derry (1987), Higgins *et al.* (1984), and Trevino (1986) contend that moral behavior is a function of moral reasoning level in conjunction with the socio-moral environment in which the individual is embedded.

James Rest

Expanding on Kohlberg's theory, James Rest developed an adaptation of the developmental process of moral judgment. Rest's model of moral judgment differs from Kohlberg's in several important ways (Rest, 1979, 1983; Schlaefli *et al.*, 1985; Thoma, 1986).

Theoretically, Rest's model of moral reasoning differs from Kohlberg's in the core concept that defines the different stages, in the conceptualization of stage structures and in the means by which the cognitive structures are applied by an individual. Rest (1979) uses a slightly different conception of the morality of justice than Kohlberg. Although both theories define stages using a concept of justice, Kohlberg's theory defines stages primarily in formalistic terms (reversibility and universalizability imply that justice exists within the individual), while Rest's theory characterizes the concept of justice at each stage based on how different concepts of social cooperation can be organized (see Figure 2).

Conceptualization of justice

The theoretical foundation which underlies Rest's model of moral judgment begins with the idea of "social justice" (Rest, 1978: 18; Rawls, 1971). Individuals are born into associations of people and must *balance* their own interests with those of others in the association. Therefore, the problem of justice becomes one of balancing interests in social cooperation and achieving equilibrium through that balance. Thus moral thinking is based on assignment of rights and responsibilities in a social system to provide cooperation and stability.

In particular, Rest conceptualizes moral reasoning

Stage	Coordination of expectations about actions (how rules are known and shared)	Schemes of balance (how equilibrium is achieved)	General concept for determining moral rights and responsibilities
Stage 1	The caretaker makes known certain demands on the child's behavior.	The child does not share in making rules, but understands that obedience will bring freedom from punishment.	The morality of obedience: "Do what you're told."
Stage 2	Although each person is understood to have his own interests, an exchange of favors might be mutually decided.	If each party sees something to gain in an exchange, then both want to reciprocate.	The morality of instrumental egoism and simple exchange: "Let's make a deal."
Stage 3	Through reciprocal role taking, individuals attain a mutual understanding about each other and the on-going pattern of their interactions.	Friendship relationships establish a stabilized and enduring scheme of cooperation. Each party anticipates the feelings, needs and wants of the other and acts in the other's welfare.	The morality of interpersonal concordance: "Be considerate, nice, and kind, and you'll get along with people."
Stage 4	All members of society know what is expected of them through public institutionalized law.	Unless a society-wide system of cooperation is established and stabilized, no individual can really make plans. Each person should follow the law and do his particular job, anticipating that other people will also fulfill their responsibilities.	The morality of law and duty to the social order: "Everyone in society is obligated and protected by the law."
Stage 5	Formal procedures are institutionalized for making laws, which one anticipates rational people would accept.	Law-making procedures are devised so that they reflect the general 'will of the people, at the same time insuring certain basic rights to all. With each person having a say in the decision process, each will see that his interests are maximized while at the same time having a basis for making claims on other people.	The morality of societal consensus: "You are obligated by whatever arrangements are agreed to by due process procedures."
Stage 6	The logical requirements of non-arbitrary cooperation among rational, equal, and impartial people are taken as ideal criteria for social organization which one anticipates rational people would accept.	A scheme of cooperation that negates or neutralizes all arbitrary distribution of rights and responsibilities is the most equilibrated, for such system is maximizing the simultaneous benefit to each member so that any deviation from these rules would advantage some members at the expense of others.	The morality of non-arbitrary social cooperation: "How rational and impartial people would organize cooperation is moral."

Fig. 2. From Rest, J.R. *Development in Judging Moral Issues*. Minneapolis, University of Minnesota Press, 1979.

as a function of two major factors. First is the set of concepts an individual holds of how people form mutual expectations about the coordination of their behavior. This begins with rudimentary concepts of shared expectations (the norms and rules of a caretaker) and culminates in concepts of mutual expectations based on the logic of requirements for an ideal system of cooperation. The second factor is the individual's perception of the distribution of benefits and burdens; how various interests are balanced to achieve a just distribution. This begins with a balancing scheme of rules to be followed in stage one through a scheme based on maximizing the simultaneous benefit to every member of the social system in stage six (Rest, 1979: 19–20). Therefore, each of the stages in Rest's model has a distinct concept of morality as justice, with justice as *social cooperation* which underlies it. These two major factors which determine the central concept for determining moral rights and responsibilities for each stage of development are outlined in Figure 2.

This theoretical foundation is somewhat different from Kohlberg's in the conceptualization of morality as justice described earlier in this paper. Moral thinking, according to Rest, is formed on the basis of the social justice achieved through balancing different interests and assigning rights and responsibilities to provide cooperation. Kohlberg's concept of justice is similar, but has a slightly greater emphasis on rights and responsibilities assigned to an individual by others and by himself/herself. Thus, in Kohlberg's theory, justice exists within the individual. In Rest's theory, it does not.

Stage structure

The above conceptual distinction, however, is not the largest difference between the two models. The major difference is in the architecture of the stage structure. Rest's model has the combination of the two elements (outlined in Columns 1 and 2 of Figure 2) of shared expectations and balancing schemes underlying each stage. All responses given by individuals in resolving moral dilemmas can be characterized as a function of these two elements even though the reasoning may be manifested differently in different contexts. Kohlberg's model has a much more elaborate stage structure. His

model suggests that every moral judgment can be viewed as an interaction between three factors: addressing a certain kind of moral question, using a particular type of justification, and emerging from a specific social institution. His model creates a logical grid for every type of response rather than accepting different manifestations of a stage of reasoning. This is due to the conceptual difference in the relationship between the content (the values and philosophical principles) of the reasoning process and the structure (cognitive organizational structures) of the process. Kohlberg considers stages of development as *independent* from the philosophical distinctions. Rest (1979: 45) suggests that such fine distinctions are not particularly psychologically meaningful. He argues that the most useful unit of analysis is the *kind of consideration an individual brings up* in resolving a moral problem. Such considerations may have both "content" and "structural" elements in them (according to Kohlberg). For Rest, an individual thinking of social cooperation in terms of one-to-one relationships is at a different stage than a person thinking in terms of a societal network of institutions. In Kohlberg's model, these differences represent content (specific belief) differences, and since his stages are structurally defined, would not represent different stages of moral development.

To summarize, Kohlberg considers every response to be distinctly, and separately, classified on the basis of the cognitive structures evoked; while Rest considers ranges in responses to represent different manifestations of the same types of reasoning. Stage 2 reasoning is manifested in many different ways, but involves the same concepts and organizing structures in Rest's model. In Kohlberg's model Stage 2A is not only different, it is lower than a response scored as Stage 2B, 2C, or Stage 3.

Application of cognitive structure

Rest's model of moral judgment employs a "soft-stage" concept in how cognitive structures are used by an individual (Rest, 1979). This model posits that an individual's level of moral reasoning is a composite of various types of thinking represented by several adjacent stages. Thus, an individual is never in or out of a given stage. Kohlberg's model suggests that individuals can be located in a particular time,

and that the reasoning structures appropriate to that stage will be consistent across situations. As such, in the Kohlbergian model the stages are discrete (“hard”), and no stage mixtures regarding a response to a particular moral question are possible unless it is the short “transition” phase as an individual passes onto the next stage. This is a different perspective from Rest’s regarding both the relationship between content and structure (discussed above) and the way reasoning structures are used.

For measurement of moral reasoning, then, Rest’s model assesses an individual’s propensity to use concepts of justice based on social cooperation in his or her moral thinking; while Kohlberg’s assesses an individual’s use of justice concepts focused more on exchange and individual interests. The difference in the conceptual foundation of the models, while not earth shattering, is sufficient to emphasize the fact that data and results obtained using these models and the instruments which correspond to each is *method specific*.

The larger implication for measurement of moral reasoning comes from the different conceptual relationship between content and structure, and thus the stage structure itself, as discussed above. If an individual is concerned about law in the sense of maintaining social order, that represents Stage 4 reasoning. If, however, an individual is concerned about law in the sense of worrying about going to jail, that is Stage 2 reasoning. Rest’s conceptualization of the stages of moral reasoning reflects this distinction without distinguishing between a multitude of kinds of concern for maintaining social order. Rest assumes the type of consideration brought up *is indicative of developmental level*. For Kohlberg, the consideration represents content that *is independent of developmental level* and structure. In addition, the use of discrete stage classifications in the Kohlberg’s model versus the composite of stages used in Rest’s model suggest considerably different interpretations of moral reasoning level.

Moral reasoning instruments: the MJI and the DIT

As mentioned earlier, the MJI and the DIT represent two primary methodologies for assessing the moral reasoning of individuals. Each is briefly described

below and a contrast of the MJI versus the DIT is shown in Figure 3.

Moral Judgment Interview (MJI)

In order to operationalize Kohlberg’s theory and stage of moral development, the Moral Judgment Interview was developed. The initial procedure involved interviewing a subject after being presented with a series of situations involving moral conflicts. For example, should Heinz steal a drug to save his dying wife if the only druggist able to provide the drug insists on a high price that Heinz cannot afford to pay? The conflict is between the value of preserving life and the value of upholding the law. After each dilemma is presented, the subject is asked a series of open-ended, probe questions designed to elicit information regarding the subject’s moral reasoning in resolving the dilemma.

Specifically, the MJI is designed to “elicit a subject’s (1) own construction of moral reasoning, (2) moral frame of reference or assumptions about right and wrong, and (3) the way these beliefs and assumptions are used to make and justify moral decisions” (Colby and Kohlberg, 1987: 61). Questions are explicitly prescriptive so as to draw out normative judgments about what one *should* do, rather than descriptive or predictive judgments about what one *would* do.

Coding of the subject’s responses has been problematic for Kohlberg and his associates over the years. The current scoring scheme evolved through distinct phases into the Standard Issue Scoring method (Colby *et al.*, 1983; Colby and Kohlberg, 1987). The current method is intended to overcome the limitations present in prior instruments. Inherent in the development of the new scoring method is the specification of clear and concrete stage criteria and an improved definition of the developmental sequences of the specific moral concepts within each stage.

Anne Colby and Lawrence Kohlberg (1987) outline and describe a 17-step process for coding the subject’s response into a stage score. The steps are divided into three sections: (1) breaking down the interview material into interview judgments (steps 1 through 6), (2) matching the new interview judgments with previous (standardized) interview judg-

	Moral Judgment Interview	Defining Issues Test
Conceptual foundation	<ul style="list-style-type: none"> - Justice as fairness - Hard stage concept - Structural stage definition 	<ul style="list-style-type: none"> - Balance for social equilibrium/Justice - Soft stage concept - Content/Structural stage definition
Demand characteristics	<ul style="list-style-type: none"> - Formulation or production task 	<ul style="list-style-type: none"> - Recognition task
Administration process	<ul style="list-style-type: none"> - Oral or written interview - Open-ended responses - Requires trained interviewer 	<ul style="list-style-type: none"> - Written survey - Likert scale responses - Does not require trained administrator
Data analysis	<ul style="list-style-type: none"> - Content analysis coding - Stage score 	<ul style="list-style-type: none"> - Mathematical calculation (percentage) - P score
Data configuration	<ul style="list-style-type: none"> - Discontinuous variable - Limited parametric statistical analysis - Correlated with external criterion variables, including action - Moderate prior research data 	<ul style="list-style-type: none"> - Continuous variable - Full parametric statistical analysis - Correlated with external criterion variables, including action - Extensive prior research data
Reliability validity	<ul style="list-style-type: none"> - Reliable and valid 	<ul style="list-style-type: none"> - Reliable and valid
Business application	<ul style="list-style-type: none"> - Adopted to business context 	<ul style="list-style-type: none"> - Not yet adapted to business context

Fig. 3. Comparison of the attributes of the MJJ and the DIT.

ments found in the scoring manual (steps 7 through 14), and (3) assigning stage scores (steps 15 through 17) (Colby and Kohlberg, 1987: 159–160). A review of the correlation reliability data for the Standard Issue Scoring method indicates that the instrument is well within the limits of acceptable reliability (Colby *et al.*, 1983: 25). A comparison with related measures (the Sentence Completion Test and the Defining Issues Test) also supports the contention of an acceptable measure (see Colby *et al.*, 1983 for a thorough discussion).

James Weber (1991) found the elaborate scoring process to be somewhat cumbersome and developed a more streamlined, yet reliable, variation of the original model. Central to Weber's adaptation is the development of an Abbreviated Scoring Guide to provide a simpler, yet reliable, method to code moral reasoning responses into Kohlberg's moral development stages (focusing upon the original steps 7 through 14 in the Standard Issue Scoring procedure). A comparison of Weber's results using the Abbreviated Scoring Guide with the original lengthier

method revealed high correlations, well within the commonly accepted limits (see Weber, 1991: 304).

To summarize, the MJJ attempts to elicit the stage of moral reasoning predominantly formulated by the individual in response to a series of open-ended, probe questions presented at the end of each moral dilemma. These responses enable the researchers to identify a single or combination of stages of moral reasoning used by the individual to explain the reasons why a particular action should be taken in resolving the moral dilemma. The open-ended format embodied in the followup, probe questions possesses both advantages and limitations for the researcher using this measure, as discussed later in the paper.

Defining Issues Test (DIT)

Based on his adaptation of Kohlberg's model, Rest (1979) developed a non-interview measurement instrument called The Defining Issues Test (DIT) to assess moral reasoning without relying on the

verbal skills of the individual. This test contains six hypothetical dilemmas, three of them Kohlbergian dilemmas, that can be used to determine an individual's moral reasoning skills. As noted, the dilemmas comprise a variety of social moral issues, ranging from stealing a drug to saving a life to discontinuing a school newspaper for its disturbing influence. None of the dilemmas in the DIT are directly related to a business context. Subjects respond to the dilemmas by rating and ranking the importance of a series of statements prototypical of the different stages of moral reasoning. Requiring both the rating and ranking tasks allows for a consistency check for individuals who might check at random through the instrument. Researchers can choose between the initial version of the DIT containing six dilemmas or an abbreviated version containing only three.

Measurement of an individual's moral reasoning level is accomplished through the calculation of a weighted index of the percentage of stage five and six reasoning used to resolve the dilemmas. The resulting score is called a P score or P index. A D score or D index can also be obtained. (The D index is an empirically weighted sum of responses based on double centered item ratings. See Davison, 1979 for further calculation information). The percentage of Stage 5 and 6 reasoning used is determined by the analysis of the representative stage level of the four top ranked statements chosen by the individual regarding what to consider in resolving the dilemmas presented. The actual score is calculated by summing the weights for the top ranked statements and dividing by the appropriate total possible for the version of the instrument being used (see Rest, 1979: 100–102 for further explanation).

A potential difficulty using a non-interview assessment method is an individual's capability to inflate his or her moral reasoning score by choosing statements which sound pretentious. (This is not a concern with the MJI since subjects are required to formulate a response without a set of prototypical statements available.) Rest (1979) presented evidence to show that individuals are unable to "fake upward" on the DIT. This is due to the inclusion of statements that sound lofty and philosophical, but actually have no meaning. Subjects are informed that such statements are included in the instrument in the instructions. An individual who consistently chooses these nonsense statements as important is

given an "M" score, signifying an attempt to artificially inflate his or her moral reasoning level. Disregarding the responses of individuals with high M scores insures that the reasoning skills used by the subjects are accurately represented by scores on the DIT.

The reliability and validity of the DIT has been well established (Davison, 1979; Davison and Robbins, 1978). Numerous studies using the instrument have reported reliabilities in the 0.70 to 0.80 range, depending on the use of the abbreviated (three dilemma) or original (six dilemma) version (see Blasi, 1980; Rest, 1979; Snarey, 1985).

Kay (1982) criticized cross-sectional and longitudinal studies using the DIT on conceptual and methodological grounds. He argued that most of the studies employed a quasi-experimental or correlational design rather than a true experimental design. As a result, Kay hypothesized that the DIT actually measures educational achievement, direct moral training, intellectual skills, and social values rather than a distinct developmental process. This hypothesis is not supported by previous studies as described in Rest (1979), Blasi (1980), and Snarey (1985). However, quasi-experimental designs were used in a majority of studies in moral reasoning in order to assess certain cohort differences (e.g., the relationship between age or educational level and moral judgment).

Comparing and contrasting the MJI and the DIT

The MJI, or an adaptation of the original procedure, has been used in business ethics research to assess the moral reasoning of business students (Brabeck, 1984; Stratton *et al.*, 1981; Weber and Green, 1991) and business managers (Derry, 1987; Weber, 1990). Similarly, the DIT has also been used by a variety of business ethics researchers to measure the moral judgment of managers (see Elm, 1989; Elm and Nichols, 1993; Poneman and Glazer, 1990). There are a number of advantages that have contributed, and continue to contribute, to the use of these methods in measuring moral reasoning. A comparison and contrast between the two methods follows and is outlined in Figure 3.

Administration of the instrument

Although correlations between the MJI and the DIT are consistently found to be highly reliable (McGraw and Bloomfield, 1987), the two approaches differ methodologically in a number of ways. One crucial difference is that the MJI presents subjects with a *production task*. The subject must *formulate a moral response* without prompting from the researcher or the instrument. Rather than presenting illustrations of possible moral responses (as present in the DIT), the MJI allows the subject "free reign" in constructing the moral rationale to resolve the dilemma. While this also embodies some serious research challenges, the *formulation* of moral reasoning may be a more fair (unbiased) assessment of the subject's moral reasoning process.

Alternatively, the DIT presents subjects with a *recognition task*. Subjects using the DIT are presented with the hypothetical dilemma, as well as series of statements representing various stages of reasoning. They need only *rate* (and later rank) *the statements* in terms of their importance in considering how to resolve the dilemma. Since the recognition task is easier (and does not require any verbal capabilities by the individual), it is likely that the DIT credits subjects with more advanced reasoning than Kohlberg's method does (Rest, 1979). This phenomenon has been consistently demonstrated in the large number of studies which have used the instruments. Kohlbergian subjects do not tend to show reasoning capability at stages five and six, while DIT subjects can. In fact, as noted previously, the more recent scoring manuals for the Moral Judgment Interview no longer include stage six judgments. Again, this means researchers must be cautious about comparing results obtained with the different methods. If subjects reasoned at stage four using the MJI, they might well have had a P score representing stage five with the DIT. No direct comparison is possible since the DIT does not generate a stage score as the MJI does. This refers to the "soft" stage concept discussed earlier. Rest has cautioned that ". . . all data should be regarded as method specific unless proven otherwise" (1979: 68).

The second difference between the two methods emphasizes the form in which the measure is administered. As initially suggested by Colby and Kohlberg (1987), the MJI is to be administered by a trained

researcher in a face-to-face, oral interview with the subject. This technique has often been avoided by moral development researchers. The face-to-face, oral interview technique requires a significant time commitment from both the researcher and the subject, and/or may be difficult to administer due to demanding interviewing skills required of the researcher. However, a comparison of two similar groups of managers, one group was administered an oral interview procedure and the other group a written interview (pen-and-paper) application, was conducted by Weber (1991). He concludes that "there is no difference between the two groups of managers' stage of moral reasoning" (1991: 307). While additional research to confirm Weber's initial findings should be undertaken, it does offer the possibility that the MJI could be administered through a pen-and-paper procedure, rather than the lengthier and more difficult oral interview structure. If it is found that the MJI can be administered through a written survey, researchers may find this moral reasoning instrument more attractive than previously believed. This adaptation of the MJI more closely mirrors the administration of the DIT.

However, even if the pen-and-paper version of the MJI is administered, the demands place upon the subjects are more severe than with the DIT. The subjects are asked to formulate responses to a series of open-ended questions which requires more effort and time than simply placing a series of marks on a Likert-scale grid. Also, use of the oral MJI may confound the measure of an individual's cognitive skills with his or her verbal skills, since the individual must be capable of verbalizing his or her reasoning process.

Proponents of the DIT have always emphasized its ease of administration. Since subjects are presented with written scenarios and prototypical statements to rate and rank in resolving the dilemmas, researchers can confidently administer the instrument without significant training in interviewing techniques or in reliably applying coding schemes. This creates a situation of efficient data obtainment for later analysis.

Data analysis

The coding of an open-ended response from the MJI

into a defined stage structure can be quite difficult and demanding upon the researcher. As mentioned earlier, Colby and Kohlberg (1987) outline a 17-step procedure to successfully accomplish this task. Weber (1991) attempts to address and minimize this cumbersome operation by developing an Abbreviated Scoring Guide. Nonetheless, the commitment of time and learning by the researcher to understand Kohlberg's stage theory and code responses into verifiable stage designations are serious challenges when using the MJI. In contrast to the DIT's mathematical calculations to arrive at a percentage of principled moral reasoning (described earlier), the content analysis procedure of scoring the MJI data may be less attractive to researchers.

Although less complex than the scoring process of the MJI, the DIT still requires that a subject consistently respond to all dilemmas presented to enable calculation of the P score. If a subject misunderstands the instructions or leaves one of the presented dilemmas incomplete (e.g., does not rank order the most important statements in resolving the dilemma), a score cannot be calculated for that individual. This can present problems for researchers who do not have samples large enough to withstand some shrinkage in available data.

Another difference between the measures is the way moral reasoning level is indexed. This refers to the content/structure relationship discussed previously. The MJI uses complex procedures to assign subjects to a moral reasoning stage. DIT research has shown that the P score works best in theoretically correlating with other psychological variables (Rest, 1979, 1983; Schlaefli *et al.*, 1985; Thoma, 1986). The MJI produces a stage score for an individual, while the P score produces a percentage measure of later reasoning stages used. The stage score allows for direct assessment of the specific cognitive structures being used to resolve the dilemmas. The P score measures the individual's tendency toward using primarily postconventional reasoning.

The subject's responses to the dilemmas in the MJI are presented as discrete, ranked data; that is, particular stage scores associated with a normative hierarchy of stage categories. The problems of statistical analysis of such discontinuous data are more significant than if the data were continuous. Researchers should be aware of the limited number

of statistical procedures available to assess this type of data.

Since the DIT measures moral reasoning level as a weighted average index (P score) or an empirically weighted sum (D score), it provides researchers with a continuous variable at the interval level of measurement. That means it can be used in analysis of variance, regression, or other parametric statistical analyses without violation of the assumption that the dependent variable is continuous (an assumption very commonly violated by many studies in business ethics, as reported by Randall and Gibson, 1990).

Data base comparisons

It should be reiterated that the results gleaned from the MJI (stage scores) are not directly comparable to results from administering the DIT (P and D scores). Since the larger body of previous collected moral reasoning data is from utilizing the DIT, researchers using the MJI have a more limited opportunity to compare their results with others using the MJI.

An additional advantage of the DIT is its excellent correlation to numerous external criterion variables. Since 1979, the DIT has been used in thousands of studies in countries all over the world (see Rest *et al.*, 1986; Snarey, 1985). The correlation of moral reasoning as measured by the DIT to a large number of external criterion variables has provided the advantage of theoretical confidence. Researchers know that the DIT measures the cognitive reasoning skills an individual uses to resolve moral dilemmas. This can be advantageous when studying the relationship between moral reasoning and moral behavior. While the exact form of this relationship is unclear, there is evidence to suggest moral reasoning is part of the process of behaving ethically. (For a more in-depth discussion of this relationship and the accompanying arguments, see Blasi, 1980; Elm and Nichols, 1993; Jones, 1991; Rest, 1979; Rest *et al.*, 1986). Confidence in the construct validity of the DIT can be a significant advantage when doing research in an area in which definitional and relationship issues are not trivial.

Researchers utilizing the MJI measure to assess moral reasoning will also find a substantial data base of studies in the moral education literature (as

reviewed by Blasi, 1980, and noted in Colby *et al.*, 1983), although not as extensive as with the DIT. Studies using the MJI have assessed a wide variety of subjects based on cultural (Snarey, 1985), gender (Walker, 1984) and/or age (Colby and Kohlberg, 1987) variations. There is an evolving data base of studies using the MJI with managers of business school students as subjects, as referenced earlier in this paper.

Reliability and validity

The reliability and validity of the MJI and the DIT have been very well established (see Colby and Kohlberg, 1987; Rest, 1979). As discussed earlier, the MJI's Standard Issue Scoring method has consistently demonstrated correlation reliability data well within the limits of commonly accepted levels (Colby *et al.*, 1983: 25). Numerous studies have reported internal consistency and test-retest reliabilities with various populations of the DIT in very acceptable ranges. The construct (concurrent) validity of the instrument from related conceptual variables of moral reasoning has also been demonstrated (see Blasi, 1980; Rest, 1979; Snarey, 1985).

Regarding the issue of face validity, the MJI has been adapted for use in a business setting, providing a unique advantage for business ethics researchers. Weber (1991) developed two moral dilemmas in a business context to compliment the Heinz dilemma in assessing managers' moral reasoning. In addition, he incorporated key organizational values into the followup, probe questions asked of the subjects. The face validity of Weber's dilemmas needs to be assessed, but it is an initial effort at developing a business-oriented MJI.

There is currently a lack of face validity regarding the hypothetical dilemmas in the DIT when utilized to assess managers' moral reasoning, since none of the dilemmas presented are related to a business context. This lack of face validity of the dilemmas could cause subjects to abandon their managerial role in favor of the role of a person in society at large. As a result, we might expect the dilemmas related to a business context to result in different moral reasoning levels than those that contain more broad socio-moral dilemmas.

A related concern involves the possibility of "story pull," which suggests that individuals use different levels of reasoning depending on their familiarity and experience with a particular scenario (Freeman and Giebink, 1979; Magowan and Lee, 1970; Weber, 1990). Both the DIT and the MJI share this weakness. As discussed more fully in the following section of the paper, the influence of "story pull" could account for significant variations in the subjects' responses to the moral dilemmas posed depending upon their ability to associate with the character in the dilemma or fully comprehend the conflict of the moral dilemmas posed, possibly due to the occurrence (or lack) of a similar personal experience.

Conclusions and implications

Theoretical implications

There are two major theoretical implications for using the MJI or the DIT to measure moral reasoning. The first concerns the inadequate recognition of the conceptual differences which underlie the two methods. The second focuses on the use of a formulation or production task versus a recognition task to assess moral reasoning. We have attempted to point out the differences between the theoretical foundations of the MJI and the DIT to provide a basis for conducting better research in business ethics using the concept of moral judgment. While the differences between the two models are not phenomenal, they are sufficient to suggest that researchers need to be aware of the framework in which the instrument they choose was developed. It is likely that each instrument could be matched with specific research objectives for the most accurate interpretation of the results. For example, the MJI may be more appropriate for assessing the moral reasoning of public speeches or statements of managers or CEOs, while the DIT might be useful for assessing the reasoning of the listening audience. If the theoretical issues are not fully understood, an accurate interpretation of the results is limited. In particular, as will be discussed further, researchers need to consider the implications for the conceptual differences regarding content and structure in stage definitions, as well as

those for utilizing a model and instrument based on hard or soft stage concepts.

The fact that the two instruments provide subjects with two different types of tasks has significant implications for data interpretation and comparison. Researchers must be aware of the potential biases of the instrument used and consider the potential limitations when drawing conclusions. The recognition task of the DIT will provide the researcher with results that may be slightly skewed toward the higher end of moral reasoning levels, while the production task of the MJI may confound the measurement of cognitive skills with the individual's verbal capabilities. In addition, researchers must understand that the results provided by the two techniques are not directly comparable. Stage scores do not compare directly with P scores. More care in reporting results appropriately for the method used is desirable.

Research implications

To measure moral reasoning the DIT assesses an individual's propensity to use concepts of justice based on social cooperation in his or her moral thinking; while the MJI assesses an individual's use of justice concepts focused more on exchange and/or a reliance on universal and irreversible ethical principles. This difference in the conceptual foundation is sufficient to emphasize the fact that data and results obtained using these instruments is *method specific*. Rest (1979: 68) discusses this problem in the context of both the kinds of tasks to be performed by subjects and the specific test stimuli, materials and content (different dilemmas). He suggests that both the type of task (production, recognition, etc.) and the test materials affect the cognitive structures that are manifested. The concern with different organizing structures for different dilemmas ("story pull") will be discussed later in this section.

A significant implication for measurement of moral reasoning comes from the different conceptual relationship between the content and structure, and the stage structure itself, as discussed previously. If an individual is concerned about law for the maintenance of social order, that represents Stage 4 reasoning. If, however, he or she is concerned about law because of a possible jail sentence, that is Stage 2

reasoning. The DIT statements reflect this distinction through considerations raised rather than the more sophisticated, and numerous, types of concern for adhering to ethical principles as assessed by the MJI. The DIT relies on considerations comprised of both philosophical values and beliefs and cognitive organizing structures (content and structure), while the MJI separates the two. Further, the MJI classifies an individual's reasoning into a discrete stage, evidenced by a predominant stage score; while the DIT uses a composite of stages as suggested by the calculation of the P score. This re-emphasizes the need to match research objectives with the appropriate model and instrument.

A critical advantage of both the MJI and the DIT is one that is not shared with numerous methodologies used in business ethics research, that is, well established reliability and construct validity of the instruments. Randall and Gibson, in their survey of empirical studies on ethical beliefs and behavior, found that business ethics researchers have "little concern for the reliability and validity of their instruments" (1990: 462). In the past ten years, numerous studies have been conducted with instruments that have been developed by the researchers without pre-testing or regard for the reliability or validity of their instrument. Neither the MJI nor the DIT have this problem since the reliability and validity of both instruments to measure moral reasoning is very well established (see Colby and Kohlberg, 1987; Davison, 1979; Rest, 1979).

In addition, both instruments positively compare to other measures assessing moral reasoning as well as numerous external criterion variables. Weber's (1991) adaptation of the MJI also appears to be reliable, although further validation of this method is needed. However, the face validity of the two measures for business differs. Business ethics researchers who would prefer to minimize face validity concerns might find the use of Weber's adaptation of the MJI to be the most fruitful approach. In additional research, business contextual dilemmas need to be developed for the DIT. This would allow business ethics researchers to take advantage of the large data base of DIT studies at the Center for the Study of Ethical Development at the University of Minnesota, where instruments can be obtained, scored, recorded, and compared to existing data.

Using hypothetical scenarios represents a limita-

tion for doing research with both the MJI and the DIT. This is due to the fact that such situations can potentially prime or cue a specific response. Different stage scores for different dilemmas is a well-known phenomenon in moral judgment research. Straughan (1985) suggested that hypothetical dilemmas lack immediacy for subjects, and Randall and Gibson (1990) outlined several reasons why hypothetical scenarios should be used with care. On the other hand, Damon (1977) found no difference between children's behavior and their responses to hypothetical scenarios in his study.

Rest (1979) describes a variety of inconsistencies in moral judgment scores due to test characteristics including the work of Medinnus (1959) who found children exhibited different moral reasoning levels with different Piagetian stories and suggested that their familiarity with the story made a difference. This is supported by both Freeman and Giebink (1979) and Magowan and Lee (1970), who also found that higher levels of moral reasoning were associated with higher levels of familiarity with the story presented. Lieberman (1971) also demonstrated "story pull" with various dilemmas in the Kohlbergian scheme such that certain stories pulled out or cued certain stages of reasoning.

In business ethics, several researchers have suggested that managers seem to use different reasoning when the problem is related to business than they do when it is a broader, societal issue. As mentioned previously, Weber has adapted dilemmas in the MJI for business contexts. This has not been done with the DIT. As a result, the face validity of the DIT dilemmas to managers in their role as agents of the organization is low. This could suggest a serious limitation to the use of the DIT, particularly in conjunction with the difference in story pull between dilemmas of different content.

For example, Robert Jackall (1988) chronicled this phenomenon in his description of corporate managers in United States businesses. He suggests that what is morally acceptable at work is not acceptable at home or outside the corporation. He argues that corporate bureaucracies create their own sets of internal rules that supersede the moral rules of society at large. Managers follows the bureaucratic rules when at the office, but not outside.

Elm and Nichols (1993) found that older, more experienced managers reasoned at lower levels on

the DIT than younger, less experienced managers in their study. In addition, Weber (1990) found that managers reasoned at different levels for two business related dilemmas of his own design (mean stage scores of 3.22 and 3.35) than on a broader moral dilemma (the Kohlbergian "Heinz" dilemma, mean stage score of 3.84). He suggested that the nature of the moral issue or organizational context factors could have contributed to these differences in reasoning. Interestingly, this research is not consistent with the work of Magowan and Lee (1970), since the moral reasoning levels of these managers is lower when resolving dilemmas that could be more familiar to them (business related) than the more unfamiliar social dilemma of Heinz.

Jones (1991) took this further to present a theoretical model that suggests that ethical decision making (and moral reasoning) is issue dependent. He argues that ethical decision making of managers in organizations is a function of the moral intensity of the issue being considered. Moral intensity is described as a multidimensional construct that involves characteristics of the issue such as the magnitude of the consequences, the societal consensus regarding it, the probability of effect, and others. This model is the first in business ethics research to attempt to characterize the dimensions that distinguish one moral dilemma from another. For business ethics researchers an interesting question becomes "Do business-oriented dilemmas pull out lower level (stage three and four) reasoning?" Jones' focus upon moral intensity provides several avenues for further investigation of this question as a start for future research (see Weber, 1993b for an initial empirical exploration of this question).

Additional avenues for further research using these methodologies has begun in exploring the degree of influence of a variety of variables on moral reasoning. For example, Trevino (1986) suggests individual and job context factors, while Elm and Nichols (1993) examine the influence of organizational climate, self-monitoring, and organizational tenure on moral reasoning. Weber (1990) investigates the size of the organization, while Barnett and Karson (1987) consider the type of situation presented. Dukerich *et al.* (1990) focus upon the impact of group interaction and leadership on moral reasoning in groups. A wide variety of studies contribute to our understanding of moral reasoning using both the MJI and the DIT.

Moreover, the use of these methodologies appeals to researchers interested in exploring the relationship between moral reasoning and moral action. As Blasi (1980) discovered in his comparative assessment of moral judgment research, considerable support exists for a moderate statistical relationship between moral reasoning and moral action. This relationship is borne out by the research exploring students' tendency toward ethical whistleblowing and principled moral reasoning (Brabeck, 1984) and the selection of the ethically correct decision (Weber and Green, 1991).

In conclusion, we have attempted to present an accurate comparison of the two primary means of assessing moral reasoning used today. In comparing and contrasting the methods we have pointed out advantages and limitations to each, as well as discussed some implications of the choice of method for research in business ethics. A great deal of research in business ethics involves the concept of moral judgment, and care must be taken to appropriately use and interpret results of our studies to further our understanding of ethical decision making and ethical behavior.

References

- Barnett, J. H. and M. J. Karson: 1987, 'Personal Values and Business Decisions: An Exploratory Investigation', *Journal of Business Ethics* **6**, 371–382.
- Blasi, A.: 1980, 'Bridging Moral Cognition and Moral Action: A Critical Review of the Literature', *Psychological Bulletin* **88**, 1–45.
- Blatt, M. M. and L. Kohlberg: 1975, 'The Effects of Classroom Moral Education Upon Childrens' Moral Judgment', *Journal of Moral Education* **4**(2), 129–161.
- Brabeck, M.: 1984, 'Ethical Characteristics of Whistle Blowers', *Journal of Research in Personality* **18**, 41–53.
- Colby, A. and L. Kohlberg: 1987, *The Measurement of Moral Judgment: Theoretical Foundations and Research Validations*, vol. 1 (Cambridge University Press, Cambridge, MA).
- Colby, A., L. Kohlberg, J. Gibbs and M. Lieberman: 1983, 'A Longitudinal Study of Moral Development', *Monographs of the Society for Research in Child Development*, Series No. 200, **48**(1 & 2), 1–107.
- Cortese, A. J.: 1984, 'Standard Issue Scoring of Moral Reasoning: A Critique', *Merrill-Palmer Quarterly* **30**(3), 227–246.
- Damon, W.: 1977, *The Social World of a Child* (Jossey-Bass, San Francisco).
- Davison, M. L.: 1979, 'The Internal Structure and the Psychometric Properties of the Defining Issues Test', in J. R. Rest (ed.), *Development in Judging Moral Issues* (University of Minnesota Press, Minneapolis), pp. 223–245.
- Davison, M. L. and S. Robbins: 1978, 'The Reliability and Validity of Objective Indices of Moral Development', *Applied Psychological Measurement* **2**(3), 391–403.
- Derry, R.: 1987, 'Moral Reasoning in Work-Related Conflicts', in W. C. Frederick (ed.), *Research in Corporate Social Performance and Policy: Empirical Studies of Business Ethics and Values*, vol. 9 (JAI Press, Greenwich, CT), pp. 25–50.
- Dukerich, J. M., M. L. Nichols, D. R. Elm and D. A. Vollrath: 1990, 'Moral Reasoning in Groups: Leaders Make a Difference', *Human Relations* **43**(5), 473–493.
- Elm, D. R.: 1989, 'Managers Reasoning About Ethical Issues: The Impact of Ethical Climate and Self-Monitoring', unpublished doctoral dissertation (University of Minnesota, Minneapolis).
- Elm, D. R. and M. L. Nichols: 1993, 'An Investigation of the Moral Reasoning of Managers', *Journal of Business Ethics*, in press.
- Freeman, S. J. M. and J. W. Giebink: 1979, 'Moral Judgment as a Function of Age, Sex and Stimulus', *The Journal of Psychology* **102**, 43–47.
- Gilligan, C.: 1982, *In a Different Voice* (Harvard University Press, Cambridge, MA).
- Higgins, A., C. Power and L. Kohlberg: 1984, 'The Relationships of Moral Atmosphere to Judgments of Responsibility', in W. Kurtines and J. Gewirtz (eds.), *Morality, Moral Behavior, and Moral Development* (Wiley, New York), pp. 74–106.
- Jackall, R.: 1988, *Moral Mazes* (Oxford University Press, New York).
- Jones, T. M.: 1991, 'Ethical Decision Making by Individuals in Organizations: An Issue Contingent Model', *Academy of Management Review* **16**(2), 366–395.
- Kay, S. R.: 1982, 'Kohlberg's Theory of Moral Development: Critical Analysis of Validation Studies with the Defining Issues Test', *International Journal of Psychology* **17**, 27–42.
- Kohlberg, L.: 1969, 'Stage and Sequence: The Cognitive-Developmental Approach to Socialization', in D. Goslin (ed.), *Handbook of Socialization Theory and Research* (Rand McNally, Chicago), pp. 347–480.
- Kohlberg, L.: 1973, *Collected Papers on Moral Development and Moral Education* (Laboratory of Human Development, Harvard University, Cambridge, MA).
- Kohlberg, L.: 1976, 'Moral Stages and Moralization', in T. Lickona (ed.), *Moral Development and Behavior* (Holt, Rinehart & Winston, New York), pp. 31–53.
- Kohlberg, L.: 1981, *Essays in Moral Development, Volume I: The Philosophy of Moral Development* (Harper and Row, New York).
- Kohlberg, L.: 1984, *Essays in Moral Development, Volume II: The*

- Philosophy of Moral Development* (Harper and Row, New York).
- Kohlberg, L., C. Levine and A. Hewer: 1983, *Moral Stages: A Current Formulation and a Response to Critics* (Karger, New York).
- Lieberman, M.: 1971, 'Estimation of a Moral Judgment Level Using Items Whose Alternatives Form A Graded Scale', Unpublished Doctoral Dissertation, University of Chicago.
- Lifton, P. D.: 1985, 'Individual Differences in Moral Development the Relation of Sex, Gender, and Personality to Morality', *Journal of Personality* **53**(2), 306–334.
- Magowan, S. A. and T. Lee: 1970, 'Some Sources of Error in the Use of the Projective Method for the Assessment of Moral Judgment', *British Journal of Psychology* **61**, 535–543.
- McGraw, K. M. and J. Bloomfield: 1987, 'Social Influence on Group Moral Decisions: The Interactive Effects of Moral Reasoning and Sex Role Orientation', *Journal of Personality and Social Psychology* **53**(6), 1080–1087.
- Medinnus, G. R.: 1959, 'Immanent Justice in Children: A Review of the Literature and Additional Data', *Journal of Genetic Psychology* **94**, 253–262.
- Mischel, W. and H. N. Mischel: 1976, 'A Cognitive Social Learning Approach to Morality and Self-Regulation', in T. Lickona (ed.), *Moral Development and Behavior* (Holt, Rinehart & Winston, New York), pp. 84–107.
- Nunner-Winkler, G.: 1984, 'Two Moralities? A Critical Discussion of an Ethic of Care and Responsibility versus an Ethic of Rights and Justice', in W. M. Kurtines and J. L. Gewirtz (eds.), *Morality, Moral Behavior and Moral Development* (Wiley, New York), pp. 348–361.
- Poneman, L. A. and A. Glazer: 1990, 'Accounting Education and Ethical Development: The Influence of Liberal Learning on Students and Alumni in Accounting Practice', *Issues in Accounting Education*, Fall, 195–208.
- Randall, D. M. and A. M. Gibson: 1990, 'Methodology in Business Ethics Research: A Review and Critical Assessment', *Journal of Business Ethics* **9**, 457–472.
- Rawls, J.: 1971, *A Theory of Justice* (Harvard University Press, Cambridge, MA).
- Rest, J. R.: 1979, *Development in Judging Moral Issues* (University of Minnesota Press, Minneapolis).
- Rest, J. R.: 1983, 'Morality', in P. Musson (gen. ed.) and J. Flavell and E. Markman (eds.), *Manual of Child Psychology, Vol. III: Cognitive Development* (Wiley, New York), pp. 556–629.
- Rest, J. R., R. Barnett, M. Bebeau, D. Deemer, I. Getz, Y. Moon, J. Spickelmier, S. Thoma and J. Volker: 1986, *Moral Development: Advances in Research and Theory* (Praeger, New York).
- Schlaefli, A., J. Rest and S. Thoma: 1985, 'Does Moral Education Improve Moral Judgment: A Meta-Analysis of Intervention Studies Using the Defining Issues Test', *Review of Educational Research* **55**(3), 319–352.
- Snarey, J. R.: 1985, 'Cross-Cultural University of Socio-Moral Development: A Critical Review of Kohlbergian Research', *Psychological Bulletin* **97**, 202–232.
- Stratton, W. E., W. R. Flynn and G. A. Johnson: 1981, 'Moral Development and Decision Making: A Study of Student Ethics', *Journal of Enterprise Management* **3**, 35–41.
- Straughan, R.: 1985, 'Why Act on Kohlberg's Moral Judgments?', in S. Modgil and C. Modgil (eds.), *Lawrence Kohlberg: Consensus and Controversy* (Fulmer Press, Philadelphia), pp. 149–161.
- Thoma, S. J.: 1986, 'Estimating Gender Differences in the Comprehension and Preference of Moral Issues', *Developmental Review* **6**, 165–180.
- Trevino, L. K.: 1986, 'Ethical Decision Making in Organizations: A Person-Situation Interactionist Model', *Academy of Management Review* **11**(3), 601–617.
- Trevino L. K.: 1992, 'Moral Reasoning and Business Ethics: Implications for Research, Education, and Management', *Journal of Business Ethics* **11**, 445–459.
- Walker, L.: 1984, 'Sex Differences in the Development of Moral Reasoning: A Critical Review', *Child Development* **55**, 677–691.
- Weber, J.: 1984, 'Managers' Moral Reasoning: Assessing their Response to Three Moral Dilemmas', *Human Relations* **43**(7), 687–702.
- Weber, J.: 1991, 'Adapting Kohlberg to Enhance the Assessment of Managers' Moral Reasoning', *Business Ethics Quarterly* **1**(3), 293–318.
- Weber, J.: 1993a, 'Exploring the Relationship Between Personal Values and Moral Reasoning', *Human Relations*, in press.
- Weber, J.: 1993b, 'Just the Facts, Ma'am: The Influence of the Moral Issue and Its Intensity', *1993 International Association for Business and Society Proceedings*, in press.
- Weber, J. and S. Green: 1991, 'Principled Moral Reasoning: Is It a Viable Approach to Promote Ethical Integrity?', *Journal of Business Ethics* **10**, 325–333.

University of St. Thomas,
Management Department,
St. Paul, MN 55105,
U.S.A.

Marquette University,
Department of Management,
Milwaukee, WI 53233,
U.S.A.