

# Principled Moral Reasoning of Students in Education and Counseling:

## Assessment and Intervention

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*The purpose of the present study was to (a) compare moral reasoning scores of education and counseling graduate students on the Defining Issues Test (DIT) with scores of a norm group of graduate students, and (b) test the effectiveness of two intervention approaches (instruction in Kohlberg's theory; instruction in Kohlberg's theory combined with discussion of moral dilemmas ) to advance DIT scores of graduate-level education and counseling students. Results were that graduate students in education and counseling scored lower than graduate students in general. In addition, interventions including (a) teaching Kohlberg's theory of moral development or (b) teaching Kohlberg's theory in combination with discussion of ethical and moral dilemmas resulted in significant gains in DIT scores while no gains were made by graduate students in two control groups.*

## INTRODUCTION

The professions of counseling and teaching have been described as moral enterprises requiring personal responsibility, personal insight, awareness of human interests and needs, and the ability to define moral problems and make sound moral decisions (Chang, 1994; Cohen & Cohen, 1999). These attributes are characteristic of individuals who apply principled moral reasoning to resolve ethical and moral dilemmas. For the purposes of

the present study, the term “principled moral reasoning” refers to Lawrence Kohlberg’s postconventional level of moral reasoning about justice issues. At the postconventional level, resolution of moral dilemmas requires the ability to think abstractly and logically, to take a multiplicity of perspectives, and to recognize and oppose standards or laws of society that conflict with basic human rights and freedoms (Kohlberg, 1981, 1987; Rest, Narvaez, Bebeau, & Thoma, 1999). Penn (1990) has argued “it is necessary to develop this human capacity for moral reasoning to its highest level in order to have rational individual and social direction in modern democratic and pluralistic societies” (p. 124)

Kohlberg’s theory has been criticized for its supposed gender bias (Gilligan, 1977, 1982). However, gender differences have not commonly been found on measures of moral reasoning based on Kohlberg’s work (Archer & Waterman, 1988; Cummings, Dyas, Maddux, & Kochman, 2001, Ford & Lowry, 1986; Forsyth, Nye, & Kelley, 1988; Friedman, Robinson, & Friedman, 1987). In addition, Thoma (1986) performed a meta-analysis of 56 studies involving over 6,000 participants using the Defining Issues Test (DIT) (Rest, 1979), a well-validated and widely used test of principled moral reasoning based on Kohlberg’s theory. This meta-analysis revealed that gender differences accounted for only .2% of the variance. Education, on the other hand, was over 250 times more powerful. Females also scored slightly higher than males at every educational level.

Sprinthall (1994) also comments on Gilligan’s suggested dichotomy between “Kohlbergian justice (the cold, Kantian, categorical imperative) and her own version of gender-specific empathy” (p. 96). He states that over the past 20 years, research on moral reasoning based on Kohlberg’s theory indicates that such a dichotomy is unnecessary because Kohlberg’s stages of moral development are invariantly sequential—higher stages incorporate lower stage reasoning. Thus, empathic reasoning, a characteristic of Kohlberg’s third stage, is consolidated within stages five and six—the postconventional stages.

In spite of criticisms of Kohlberg’s work, his theory continues to stimulate research on morality and moral development (Wygant & Williams, 1995). The theory has been described as “. . . the linchpin for studying morality from the inside, and it is the major work on moral judgment” (Rest, Thoma, & Edwards, 1997, p. 6).

### **The Structural-Developmental Nature of Moral Reasoning**

The skills associated with principled moral reasoning require the individual to actively think and reason about ethical and moral issues, engage in reflective self-awareness, consider an ethical or moral issue from a number of different perspectives, and be willing to commit a moral decision to action. These are cognitive skills that cannot be directly taught but are the result of advanced logical reasoning abilities; a strong sense of self; and a complex level of interpersonal understanding involving empathy, or social perspective taking. These abilities are considered by developmental theorists to be *structural-developmental* in nature (Kohlberg, 1981, 1987; Loevinger, 1976; Piaget, 1928, 1965/1997;

Selman, 1977, 1980). They develop through a sequence of stages, and each stage is qualitatively different from the previous stage but hierarchically related to it. That is, reasoning at a higher stage represents a reorganization of prior stage concepts into more adequate and inclusive ideas and concepts (Kohlberg, 1987; Selman, 1977).

Developmental advances, or transitions, from one stage to the next occur as a result of an interaction between the individual's active thought pattern (structure or stage) and the pattern of social experiences. Kohlberg (1987) suggests the individual responds to the world and the world responds to the individual,

...with the pattern of interaction working toward balance or equilibrium. An attained pattern of balance is called a stage. This pattern or balance of a lower stage is disrupted by a lack of fit between the stage structure and experience, leading to a new pattern of action and reaction with the world, leading to a new stage, a new balance or equilibrium .

Kohlberg observed that this "lack of fit" produces a "moderate or optimal degree of conflict that constitutes the most effective experience for structural change" (p. 39). Sprinthall (1994) refers to this conflict as a problem of mismatching or constructive dissonance. According to Sprinthall, "developmental growth requires a person to give up the old way of problem solving, which is always painful; hence the need to challenge through a knowledge *"perturbation"* (p. 94).

In the realm of moral development, the required conflict or perturbation that is thought to produce advances in moral reasoning occurs when the individual engages in interpersonal experiences that force accommodation of diverse and conflicting viewpoints. Selman (1977) describes this process as "a feedback system in which interpersonal experience stimulates interpersonal reasoning which in turn stimulates and is itself stimulated by the restructuring of perspective-taking levels" (p. 4). Moral reasoning ability, the product of change in cognitive structure, cannot be directly taught. However, environmental interventions, such as challenging thinking through exposure to complex and thought-provoking intellectual material and/or stimulating discussion of ethical and moral issues, may produce interpersonal "perturbation" and thus advance moral reasoning. Such an approach may have the effect of changing thinking about moral and ethical issues as they relate to counselors and teachers, who should be able to define moral problems and make sound moral decisions in the course of their work. As Strike (1993) suggests, "As we formulate goals for the curriculum for aspirant teachers and administrators, we need to consider not only what kinds of people we need in schools but also what can be done in a teacher education program" (p. 107). Although Strike suggests that it may be difficult to accomplish changes in moral character over the duration of a semester, Rest and Narvaez (1998) suggest that interventions to change thinking about moral issues (moral reasoning) can produce significant gains on DIT scores if carried on for more than three weeks' duration.

### PRINCIPLED MORAL REASONING IN TEACHERS AND COUNSELORS

According to Schrader (1993), persons who are both principled moral thinkers and members of a profession should be able to:

1. Apply the guiding ethical principles of their profession to novel situations
2. Recognize, interpret, and act on moral issues and conflicts that arise in practice
3. Understand how their actions in moral situations relate to both the profession as a whole and their constituents as individuals
4. Develop into reflective professionals; that is, understand how reflection on actions and reflective awareness of one's own moral reasoning influences ethical choices and actions taken in professional practice (p. 98).

A number of studies have investigated the characteristics and behaviors of members of the counseling and teaching professions who reason at the principled level (Bernier, 1980; Chang, 1994; Kitchener, 1986; Sprinthall, 1994). Counselors who demonstrate high levels of principled moral reasoning have a developed sense of responsibility to act in an ethically responsible manner and can tolerate ambiguity involved in ethical decision making (Kitchener, 1986). They show moral concern through awareness of how their behaviors affect others; their attitudes toward others are based on moral principles of respect, fairness and freedom (Tennyson & Strom, 1986); and their "...beliefs, attitudes, and actions are grounded in reasons that are openly examined through critical reflection" (Tennyson & Strom, 1986, p. 302). In short, the counselor who is a principled moral thinker is "one who conforms not to the conventions of society, nor to the urgings of his or her idiosyncratic inclinations, but to the dictates of moral reason" (Cochrane, 1975, p. 239, cited in Tennyson & Strom, 1986).

Chang (1994) has described a number of characteristics of teachers who demonstrate principled moral reasoning. These teachers consider and accommodate different viewpoints, and they help students understand and reason about rules from different perspectives. Teachers who reason at principled levels also hold humanistic-democratic views of student discipline (Conroy, 1987), and they view their roles as democratic and facilitative (Johnston & Lubomudrov, 1987). Finally, teachers who are principled thinkers maintain good relationships with their students (Johnston & Lubomudrov, 1987), they create a classroom climate that is intellectual and characterized by reciprocity and mutual respect (Holt, Kauchak & Person, 1980), and they understand educational concepts both from the perspective of individual students and in terms of the broader social implications (Chang, 1994). According to Chang (1994)

...teachers with advanced moral reasoning can be more empathic to students' needs and more willing to facilitate students' growth, respect students' rights, avoid taking students' challenges personally, and be more objective when dealing with problems caused by students. Consequently, teachers with high levels of moral reasoning can be more student-centered and perform more humanely, democratically, and professionally. (p. 76)

### **Research on Moral Reasoning of Inservice and Preservice Teachers**

Unfortunately, some evidence suggests that moral reasoning scores of many inservice and preservice teachers are not at the principled level. In a review of 30 studies investigating moral reasoning of preservice and inservice teachers, Diessner (cited in Chang, 1994) reported that most inservice teachers reasoned only at the conventional level. Diessner further reported that most inservice teachers received DIT P-scores in the 40s and reasoned at the principled level only 30% to 50% of the time. In summarizing these findings, Chang (1994) stated that "although teaching is moral by nature and teachers make moral decisions continuously, teachers do not seem to be well prepared for this aspect of their jobs" (p. 72).

Results of the few studies that have investigated principled moral reasoning in preservice teacher education students indicate that (a) their moral reasoning scores are lower than those of college students majoring in other disciplines, (b) their moral reasoning scores do not appear to increase from freshman to senior year, and (c) moral reasoning scores of seniors in education are more like those of college freshmen with other majors (Cummings, et. al, 2001; McNeel, 1994; Yeazell & Johnson, 1988).

McNeel (1994) considers that the lower moral reasoning scores of education majors are "of great potential significance" (p. 35) because of the importance of the teaching profession to the "community life of the nation" (p. 35). Other researchers have expressed similar concerns. Yeazell and Johnson (1988) worry that teacher education students may become teachers whose moral judgment is no higher than that of their students. The authors also state that lower moral reasoning abilities of education students

Not only . . . raise serious doubts about the ability of this group to understand and teach democratic and ethical principles and to facilitate the development of their own students' moral reasoning, it also raises serious questions about how they will make decisions in their daily classroom activities regarding moral situations such as fairness, use of scarce time and resources, due process, and classroom discipline. (p. 69)

### **Research on Moral Reasoning of Members of the Counseling Profession**

Although a great deal has been written about the need for counselors to reason at the principled level, a review of the literature revealed no studies that had examined the moral reasoning of counselor educators. However, because counseling students often receive their training in colleges of education and take many of the same or similar courses as education students, it is possible that moral reasoning scores of many counselor educators may not be at the principled level.

### **INTERVENTION STUDIES TO ADVANCE MORAL REASONING IN COUNSELORS AND TEACHERS**

We have described the professions of teaching and counseling as moral enterprises that require principled levels of moral reasoning. It seems obvious, then, that preservice counseling and teaching programs should incorporate interventions that stimulate principled moral reasoning in students.

Review of the literature revealed a few studies examining the efficacy of intervention to advance moral reasoning in counseling and education students. Bernier (1980) found significant gains in moral reasoning after teaching cognitive and moral development theory and counseling skills (counseling/interviewing skills, supervision skills, and behavioral self-management) to 18 graduate students in counseling and teacher education. Sprinthall and Bernier (1979) attempted to enhance moral development in **inservice** teachers by teaching activities such as individualizing instruction, interviewing skills, and self-directed behavior modification. Only modest gains were found. Other researchers (Oja & Sprintall, 1978; Reiman & Thies-Sprinthall, 1993; Thies-Sprinthall, 1980, 1984) have used guided reflection to enhance social role-taking, moral reasoning, and conceptual complexity in mentor teachers working with student teachers. Significant gains were found. The authors suggested the necessity for more theory-based teacher education programs that apply developmental concepts to increase principled moral reasoning in education students.

Schlaefli, Rest and Thoma (1985) conducted a meta-analysis of 55 studies of education interventions designed to stimulate development in moral reasoning. Various participant groups were involved (junior and high school students, college and graduate students, adults) with significant effect sizes obtained for all groups. The meta-analysis included only one intervention study with preservice teachers (Shafer, 1978) and two with inservice teachers (Wong, 1977; Oja & Sprinthall, 1978). No studies were conducted with counseling students. Principal findings of the meta-analysis indicated that interventions involving presentation of Kohlberg's theory of moral development or discussions of interpersonal dilemmas produced moderate effect sizes. However, the combination of instruction in theory with dilemma discussion produced the largest effect sizes. Also, treatments of 3 to 12 weeks were ideal, and larger effect sizes were found with adult participants than with children.

The purpose of the present study was to (a) compare moral reasoning scores of education and counseling graduate students with scores of a norm group of graduate students reported by Rest (1993), and (b) test the effectiveness of two intervention approaches (exposure to and explanation of Kohlberg's theory; exposure to and explanation of Kohlberg's theory combined with discussion of moral dilemmas ) to advance moral reasoning in graduate-level education and counseling students. This study will attempt to address the following research hypotheses:

1. Principled moral reasoning scores of graduate education and counseling students will differ from scores of a norm group of graduate students;
2. Principled moral reasoning scores of students who receive instruction in a theory of cognitive-moral development will increase significantly;
3. Principled moral reasoning scores of students who receive instruction in Kohlberg's theory of cognitive-moral development in combination with in-class discussion of moral dilemmas related to the theory will increase significantly;

4. Significant differences in gains of principled moral reasoning scores will occur among (a) students exposed to instruction in cognitive-moral development theory only, (b) students exposed to instruction in cognitive-moral development theory in combination with in-class peer discussion of related moral dilemmas, and (c) students enrolled in counseling courses in Law and Ethics and Multicultural Counseling who discuss ethical and moral issues but are not explicitly taught Kohlberg's cognitive-moral development theory nor engage in discussions about dilemmas that relate to the theory.

## **METHOD**

### **Participants**

Participants were volunteers from four intact groups of graduate students in a College of Education in a western Land Grant institution enrolled in two sections of a course in Advanced Human Growth and Development (n=19, n=18), a course in Law and Ethics in Counseling (n=16), and a course in Multicultural Counseling (n=12). The total of 65 participants included 33 counseling students (11 males, 22 females) and 32 teacher education students (5 males, 27 females). The mean age of participants was 33.0 years with a range of 23 to 55 years, and the median age was 31.0 years.

### **Materials**

Participants completed the Defining Issues Test (DIT) (Rest, 1979), as a pretest/posttest measure of principled moral reasoning. The DIT is based on Lawrence Kohlberg's theory of cognitive-moral development. The instrument is a pencil-and-paper test consisting of six hypothetical moral dilemmas. Each dilemma is followed by 12 items presenting an "issue" for consideration in resolving the dilemma. The participant's task is to rate each statement according to its importance in making a decision about what the protagonist should do. After rating the 12 items, the participant is asked to consider all items simultaneously and to rank the four most important in making the decision. Ratings and rankings of the items are used to derive a participant's score. The assumption is that people define the most important issue of a dilemma in different ways, and that the selection of items indicates a person's level of principled moral reasoning.

The most frequently used index of the DIT is the P% index, a measure of principled moral reasoning ranging from 0 to 95. A high number indicates a high level of principled moral reasoning. A score of 95, for example, indicates that 95% of the person's reasoning is at the postconventional level. Also available is a new index, the N2 index, which is described by Rest and Narvaez (1998) as "generally the most valid single score" (p. 8) although the two indexes are highly correlated. Rest, Thoma, Narvaez, & Bebeau (1997a) found that the N2 score is more sensitive to educational interventions and produces greater longitudinal gains than the P% score:

Why does a hybrid index work better than a simple index? Two explanations occur to us. One is the relatively straightforward explanation that N2 uses more information than P: It uses both ranking and rating data; hence in effect it makes a longer test (more bits go into the aggregate). A longer test is generally more accurate than a shorter test; the redundancy gives error factors more chance to cancel themselves out. . . . The second explanation advances the idea that there is something “synergistic” about the interaction between the two specific elements of N2. That is, the two kinds of information interact with each other: One part boosts the score when the other information source underestimates the score, and decreases the score when the other information source overestimates it. Each information source contributes something that the other lacks and serves as a correction to the other. (p. 506)

In addition to improved validity, N2 scores have slightly better Cronbach alpha internal reliability (Rest, Narvaez, Bebeau & Thoma, 1999).

Both test-retest correlation of the DIT (over a period of several weeks) and internal reliability (Cronbach’s Alpha) of the DIT average in the .80s (Rest, 1994). Scoring for the DIT incorporates five subject reliability checks that guard against bogus responses. Subjects who do not pass all five checks are eliminated as having unreliable scores (2 subjects were purged in the present study). The DIT has been used extensively since the 1970s. Currently, the number of studies using the DIT totals well over 1,000; the total of subjects taking the DIT numbers in the hundreds of thousands; the DIT has been used in over 40 countries; and the published literature on the test is extensive, with about 150 new studies each year (Rest, 1994).

### **Design and Procedure**

Graduate students in teacher education and counseling enrolled in four different classes volunteered to participate in the study. Classes included two sections of a course in human growth and development (HGD1, HGD2), one section of a course in law and ethics in counseling (LEC), and one section of a course in multicultural counseling (MC).

Students enrolled in HGD1 were provided with exposure to Kohlberg’s theory of cognitive-moral development. Students enrolled in HGD2 were provided with exposure to Kohlberg’s theory and in-class peer discussion of real-life moral dilemmas. These dilemmas were developed by the researchers and dealt with issues requiring participants to consider a number of different perspectives before arriving at a resolution. Students enrolled in LEC and MC classes served as control groups. Although students in these classes participated in discussion of ethical issues in counseling, they were not taught Kohlberg’s theory and did not engage in peer discussions about dilemmas.

In both sections of the HGD courses, the DIT was administered as a pretest immediately before instruction in moral development theory began and as a posttest upon completion of instruction and discussion of moral dilemmas. In the control groups, pre- and post-test administration of the DIT occurred at the same times as with the intervention groups.



**Data analysis**

Students in all four groups were collapsed into one group and the mean P% score was compared with the mean P% score of a norm group of graduate students reported by Rest (1993) (no normative scores have been published for the N2 index).

DIT P% and N2 pre- and posttest scores were each subjected to a 2 X 4 (test by group) factorial analysis of variance with repeated measures across the test factor.

**RESULTS**

Table 1 presents the means and standard deviations for P% and N2 scores for all four groups. Both sets of summary scores were included in this study because the P% score is the most widely used index of principled moral reasoning, but the N2 score is considered to be the most valid score (Rest & Narvaez, 1998).

The mean P% pretest score for all participants ( $M = 45.59$ ,  $SD = 14.62$ ,  $n = 65$ ) was compared to the graduate student norm group mean of 61.89 using a one-sample t-test. The result indicates that education and counseling graduate students' mean score is significantly lower than that of the norm group ( $t(64) = 8.99$ ,  $p < .001$ ). Separate analyses were not conducted for education and counseling students because no significant differences were found between these groups on pretest or posttest scores.

**Table 1: DIT P% and N2 Pretest and Posttest Means and Standard Deviations for Two Intervention Groups (Theory Only-HGD1/Theory Plus Dilemma-HGD2) and Two Control Groups (Law And Ethics-LEC/Multicultural Counseling-MC)**

Class	P% Scores						
	Pretest			Posttest			
	M	SD	n	M	SD	n	
HGD1	45.44	13.56	19	49.12	13.37	19	
HGD2	46.39	14.25	18	52.13	18.09	18	
LEC	48.96	14.79	16	50.42	17.84	16	
MC	40.14	16.75	12	41.53	17.03	12	
<b>Total</b>	<b>45.59</b>	<b>14.62</b>	<b>65</b>	<b>48.87</b>	<b>16.6</b>	<b>65</b>	
	N2 Scores						
	HGD1	46.92	14.25	19	53.74	12.04	19
	HGD2	49.44	14.99	18	56.2	15.45	18
	LEC	50.73	14.09	16	53.55	14.44	16
	MC	42.1	15.63	12	44.53	16.24	12
	<b>Total</b>	<b>47.67</b>	<b>14.65</b>	<b>65</b>	<b>52.67</b>	<b>14.66</b>	<b>65</b>

Results of the 2 X 4 repeated measures analyses of variance yielded similar results for P% and N2 scores. Significance was found for the within-subjects factor (pretest versus posttest) on the P% scores (pretest:  $M = 45.59$ ,  $SD = 14.62$ ; posttest:  $M = 48.87$ ,  $SD = 16.60$ ;  $F(1,61) = 5.34$ ,  $p = .02$ ,  $\eta^2 = .08$ ) and on the N2 scores (pretest:  $M = 47.67$ ,  $SD = 14.65$ ; posttest:  $M = 52.67$ ,  $SD = 14.66$  ( $F(1,61) = 18.35$ ,  $p < .001$ ,  $\eta^2 = .23$ ). There was no significance found for the between-subjects factor (class) nor for the interaction of test and class on either the P% scores or the N2 scores. Thus, although pretest/posttest gains were detected (with moderate effect size for P% scores and strong effect size for N2 scores), there were no differences found across the four groups.

Separate paired-sample t-tests were conducted to analyze simple main effects for P% and N2 scores, pretest versus posttest at each of the four levels of class (HGD1, HGD2, LEC, and MC). Both P% and N2 posttest scores (P%:  $M = 49.13$ ,  $SD = 13.37$ ; N2:  $M = 53.74$ ,  $SD = 12.04$ ) were significantly higher than pretest scores (P%:  $M = 45.44$ ,  $SD = 13.56$ ; N2:  $M = 46.92$ ,  $SD = 14.25$ ) at both the theory level (P%:  $t(18) = 2.13$ ,  $p < .05$ ,  $d = .49$ ; N2:  $t(18) = 5.29$ ,  $p < .01$ ,  $d = .75$ ) and the theory plus dilemma level (P%:  $t(17) = 2.40$ ,  $p < .05$ ,  $d = .57$ ; N2:  $t(17) = 3.36$ ,  $p < .01$ ,  $d = .79$ ). No pretest/posttest differences were found for the two control groups.

Results of the statistical analyses provide support for research hypotheses one, two and three, but not for research hypothesis four. With regard to hypothesis one, pretest P% scores of graduate students in education and counseling are significantly lower than scores of a norm group of graduate students. With regard to hypothesis two, after Kohlberg's theory of moral development was taught to graduate students (HGD1), P% and N2 scores improved significantly with a moderate effect size for P% scores and strong effect size for N2 scores. With regard to hypothesis three, after Kohlberg's theory was taught to students (HGD2) in combination with discussion of moral dilemmas, significant improvements in P% and N2 scores also were found with a moderate effect size for P% scores and strong effect size for N2 scores. With regard to research hypothesis four, no differences were found in gains in principled moral reasoning scores across the four groups.

## DISCUSSION

Results of this study found that principled moral reasoning scores of graduate students in education and counseling are significantly lower than scores of graduate students in general. This finding supports earlier studies that indicate lower moral reasoning scores of inservice and preservice teachers. This may occur for a number of reasons. Factors inherent in the teacher education and counselor education curricula, including failure to integrate instruction in moral and ethical issues and/or emphasis on skill-oriented courses rather than more challenging courses with theoretical content that require critical reflection (Beyer, 1997; Cummings, Dyas, Maddux, & Kochman, 2001; Goodlad, 1994; McNeel, 1994). Student-related factors also may play a role, including personal qualities of students (such as, academic qualifications, personal values, or intelligence) (Chang,

1994; McNeel, 1994). In view of the findings of this and other studies, the need for research on the efficacy of intervention strategies to raise moral reasoning scores seems obvious.

Another finding of the study was that moral reasoning scores can be increased both through exposure to Kohlberg's theory of moral development and through exposure to Kohlberg's theory combined with discussion of moral dilemmas. For both groups, moderate effect sizes were found for P% scores and strong effect sizes for N2 scores. This finding supports results of the meta-analysis reported in Schlaefli, Rest and Thoma (1985). Those researchers reported an effect size of .41 (number of samples=23) for the dilemma discussion intervention only and an effect size of .56 (number of samples=12) for exposure to Kohlberg's theory only. The present study found larger effect sizes of .57 (P% scores) and .79 (for N2 scores) for the intervention that combined exposure to Kohlberg's theory combined with dilemma discussion. These effect sizes were slightly higher than those for the intervention that employed exposure to the theory only (P% = .49; N2 = .75). A possible explanation for higher effect sizes in the present study might be that exposure to Kohlberg's theory accompanied dilemma discussion. Unlike the present study, studies in the meta-analysis that included dilemma discussion interventions did not include exposure to Kohlberg's theory.

In the past, some have argued that exposure to Kohlberg's theory amounts to "teaching to the test." This is one explanation for gains in DIT scores. However, as Schlaefli, et al. (1985) suggest:

The impact of this exposure might be explained in two ways. One explanation is that reading the stage descriptions in effect instructs the subject how to perform on a test of moral judgment. A subject learns how to make a favorable impression by learning the theory. And so exposure to the theory contaminates the posttesting. On the other hand, it might be argued that exposure to the theory is a powerful educational tool for actually changing a person's moral thinking. In this view, the theory facilitates restructuring of thinking, and the increase in posttest scores is not an artifact of an invalidated test, but a true indication of development. At this point, we cannot say which explanation is correct, and the issue deserves further research. (pp. 343-344)

### **Limitations of the Study**

Limitations of the study include the following: (a) the possibility that increases in DIT scores represent contamination because of "teaching to the test;" (b) the failure to investigate the effects of a "dilemma discussion only" intervention group; (c) lack of a delayed posttest to determine if gains held across time, which would provide evidence for actual cognitive structural change.

### **CONCLUSIONS**

Results of this study provide evidence that educational interventions can raise moral reasoning scores of education and counseling students. Because teachers and counselors play a critical role in working with children and troubled individuals, it seems imperative

that they take on responsibilities of moral leadership. Thus, if it is possible to design effective moral interventions, then such interventions should be incorporated into the curricula of teacher and counselor education programs.

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