ETHICS & BEHAVIOR, *16*(3), 265–287

Moral Developmental Consistency? Investigating Differences and Relationships Among Academic Majors

Grace Livingstone
Research Experiences for Undergraduates Program
Department of Psychology
Western Kentucky University

W. Pitt Derryberry
Department of Psychology
Western Kentucky University

Amanda King and Michael Vendetti
Research Experiences for Undergraduates Program
Department of Psychology
Western Kentucky University

Previous study has asserted that education majors score lower on assessments of moral development than do other majors. However, important factors associated with moral development have been overlooked. This study investigated the degree to which moral developmental differences exist by accounting for some of the oversights observed in previous study. Samples of 51, 38, and 62 college students in education, psychology, and other majors were addressed in terms of their moral judgment development, moral sensitivity, nonprejudice, and attitudes about human rights and civil liberties. Although some minor trends are seen in favor of psychology majors, results support that moral developmental differences are not as dire as previous study portends. The authors recommend efforts to account for the individual, academic, and extracurricular experiences associated with majors and universities so that continued understanding of the moral development and functioning of their students can occur.

Correspondence should be addressed to W. Pitt Derryberry, Department of Psychology, Western Kentucky University, 1906 College Heights Blvd., No. 21030, Bowling Green, KY 42101. E-mail: pitt.derryberry@wku.edu

Keywords: moral development, academic majors, defining issues test

Moral judgment refers to the process of weighing choices and deciding what a person ought to do in a moral situation (Narvaez & Rest, 1995). Narvaez and Rest noted that a prominent approach to the consideration of moral judgment development is rooted in the cognitive-developmental tradition. This research perspective makes two general assumptions about moral judgment. First, people automatically think about their social experiences and then formulate beliefs and opinions in response to these experiences. Second, people develop more intricate perceptions of the social world and a more advanced understanding of the nature and role of these social systems. This change in understanding of social arrangements can be conceptualized as shifts in stages of moral judgment. According to Rest and Narvaez , each stage of moral judgment is seen as "an underlying general framework of assumptions about how people ought to act toward one another, how people ought to cooperate together" (p. 392).

Two prominent explanations of moral judgment development exist within the cognitive-developmental tradition. For Lawrence Kohlberg (Colby & Kohlberg, 1987), moral judgment progresses through three levels and six specific stages. During the Preconventional level, moral reasoning revolves around the self as moral judgments are made to avoid punishment (i.e., Stage 1) or benefit oneself (i.e., Stage 2). During the Conventional level, moral reasoning centers on the conventions of others. Thus, the rules, standards, or prescriptions of others are referenced in moral judgments as a means for pleasing others (i.e., Stage 3) or the rules and laws of society overall are emphasized in moral judgments (i.e., Stage 4). At the Postconventional level, individuals delve into the principles that conventions are meant to serve in making moral judgments that are based on principles guaranteed by social contracts (i.e., Stage 5) or principles of justice and fairness the individual has identified as universal (i.e., Stage 6).

James Rest (Rest, 1979, 1986; Rest, Narvaez, Bebeau, & Thoma, 1999) offered that moral judgment development transpires as individuals come to understand and operate from three different moral judgment schemata: the *Personal Interest schema* (akin to Kohlberg's Stages 2 and 3), the *Maintaining Norms schema* (akin to Kohlberg's Stage 4), and the *Postconventional schema* (akin to Kohlberg's Stages 5 and 6). In moving away from the hard stages as Kohlberg (Colby & Kohlberg, 1987) advocated, Rest maintains that any understood moral judgment schema can be referenced in making ethical decisions in conjunction with, instead of, or as a result of any other sociocognitive sources of information relevant to moral decision making. At the same time, however, Rest acknowledges a pattern of moral judgment developmental growth in which the Personal Interest schema is initially modal, followed by the Maintaining Norms schema and the Postconventional schema, respectively.

Gibbs (1995) and Walker (1980) observed that the cognitive-developmental approach to moral development parallels cognitive development. Furthermore, McNeel (1994) pointed out that the cognitive-developmental approach to moral judgment fits well into an educational environment that emphasizes cognitive growth. Higher education has been recognized as important in facilitating moral judgment development. Level of education has been cited as accounting for up to 50% of the variance in moral judgment ability (Rest, Deemer, Barnett, Spickelmier, & Volker, 1986). Often, people who have had more years of college education will reason at higher levels than people with less education, as measured by Kohlberg's Moral Judgment Interview (MJI; Colby & Kohlberg, 1987) and Rest's Defining Issues Test (DIT; Rest et al., 1999). This seems to indicate that factors within the college experience can foster moral reasoning and resultant moral judgments. One possible explanation for why moral reasoning may increase among college-educated students is that they may attend classes in which discussion of moral issues takes place (Schlaefli, Rest, & Thoma, 1985). Another factor may be that people in college become involved in different social, academic, political, and cultural activities, which can all help to foster moral judgment skills (Pascarella & Terenzini, 1991; Rest, 1986).

Because the college experience varies among different students, one can expect higher education to have varying effects on moral judgment ability. It is reasonable, for example, to expect that different programs of study within an institution may yield students with different levels of moral judgment. For instance, McNeel (1994) asserted that liberal arts majors provide students with a broad knowledge base, expand students' viewpoints, and strengthen their role-taking abilities, thereby leading to growth in moral reasoning. On the other hand, McNeel maintained that education and business majors emphasize vocational and technical skills, which may have a lesser effect on reasoning ability. Differences may also occur due to the characteristics of students within certain programs of study. For example, the personal values or academic qualifications of the students across programs may differ (McNeel, 1994).

It is of interest to schools of education to promote moral judgment, particularly due to the moral nature of teaching (Chang, 1994) and the teaching profession in general (Goodlad, Soder, & Sirotnik, 1990). According to Chang, because teachers form close relationships with students and play a key role in the development of children, teachers are often considered moral models for their students. Chang also contended that moral judgment is important for teachers due to the types of decisions they must make on a daily basis, such as assigning grades, disciplining children, and allocating classroom resources. To maintain a fair and just classroom setting, teachers must be able to make appropriate moral judgments. Relationships with students have been shown to be affected by the teachers' moral judgment abilities (Chang, 1994). According to Chang, teachers who reason at higher levels of-

ten have a better understanding of a student's needs and are more respectful of students' rights.

A number of studies note that education majors score significantly lower on assessments of moral reasoning than do other college students. Strange (1977) showed that education majors scored relatively low in terms of moral reasoning as measured by Kohlberg's MJI. The findings showed that the majority of students in an introductory education level class reasoned at Kohlberg's Stage 3. Yeazell and Johnson (1988) showed education majors to have relatively low scores of moral judgment using Rest's DIT. In this study, the mean P-score (a commonly used DIT index that indicates the importance a person gives to postconventional reasoning) of the education majors was 37.8, which was considered low in comparison to other college samples that were cited (Rest, 1979; Thoma, 1986). Diessner (1991) reviewed 30 studies that described means or ranges of teacher's moral reasoning and found 13 studies that examined the DIT scores of education majors. Diessner reported that these studies found P-score means in the 30s and 40s, showing that these education majors preferred judgments based on the Maintaining Norms schema, or possibly even the Personal Interest schema, about two thirds of the time.

Lampe (1994) showed education majors to have significantly lower scores than other composite samples of college students. Lampe examined the moral reasoning of 373 beginning teacher education majors and 158 exit level teacher education majors (student teachers) using the DIT. The average P-score of the beginning education majors was 33.52 and the average P-score of the exit level education majors was 22.57, both of which were significantly lower than a composite sample of other college students compiled by Rest in 1979. On average, both groups of education students reasoned primarily according to the Maintaining Norms schema more so than the Postconventional schema. As noted by Lampe, average college students and college graduates predominately display postconventional abilities. A recent study by Cummings, Dyas, Maddux, and Kochman (2001) also showed education majors to have significantly lower scores than other composite samples of college students. In their sample of education majors the average P-score was 36.8, which was significantly lower than the composite samples of college students reported by Rest (1979) and Thoma (1986).

McNeel (1994) found that education majors scored significantly lower than those in liberal arts majors. In this study, seniors in education and business majors had a mean DIT P-score of 40.2, whereas seniors in liberal arts majors had a mean P-score of 49.4. However, a recent study by Derryberry, Wilson, Snyder, and Barger (2005) showed no differences in moral judgment scores between a sample of education majors and liberal arts majors, although correlations of differing relationships were seen in each group in how DIT scores related to human rights attitudes, which is an outcome relevant to moral development (Derryberry & Thoma,

2005a, 2005b; Rest et al., 1999). At the same time, however, Derryberry, et al. (2005) illustrated that the difference in magnitude of these relationships was not statistically different.

STATEMENT OF THE PROBLEM

The findings of the previously mentioned studies (Cummings et al., 2001; Derryberry et al., 2005; Diessner, 1991; Lampe, 1994; McNeel, 1994; Strange, 1977; Yeazell & Johnson, 1988) have not been favorable for education majors. However, there are some problems with these studies. For example, Lampe and Cummings et al. compared education majors to composite samples derived through moral judgment scores of students from a number of different colleges, not samples from other majors within the same institution. Pascarella and Terenzini (1991) conducted an analysis of DIT P-scores in samples from six major institution types, including public research oriented universities, public comprehensive universities, private universities, private liberal arts colleges, church-affiliated liberal arts colleges, and 2-year colleges. Pascarella and Terenzini found a correlation of .37 between the institution type and P-scores, which indicates that different institutional environments may have differing effects on the development of moral reasoning in college students. Therefore, the trends reported by the studies using composite samples from other colleges as comparisons to education majors at a specific college might have been due to institutional differences rather than differences in major. Also, in studies comparing education majors to other liberal arts majors (Derryberry et al., 2005; McNeel, 1994), the latter group was generally defined, which could have skewed the effect of major due to the composition of the liberal arts groups.

A second problem of previous research is the moral judgment index that was used. Yeazell and Johnson (1988), Diessner (1991), Lampe (1994), Cummings et al. (2001), McNeel (1994), and Derryberry et al. (2005) used the P-score, which is a measure of an individual's reference of postconventional reasoning, as a measure of moral judgment. Newer DIT indexes now exist that have proven to be more precise in measuring moral judgment. Because P-scores indicate only one's reference of postconventional items on the DIT, limited information is provided in terms of developmental differences among majors. For example, 2 participants' P-scores could be similar but the participants could be developmentally distinct. Such a predicament would occur if one participant's modal moral judgment schema was the Maintaining Norms schema and the other participant's modal moral judgment schema was the Personal Interest schema. In addition to this, the P-score does not acknowledge whether an individual is in a transitional or consolidated phase of moral judgment development (Thoma & Rest, 1999). According to Thoma and Rest, individuals that are in consolidated phases primarily emphasize a particular moral judgment schema in their moral reasoning and minimally refer to the other two. Although a

modal schema is apparent during transitional phases of moral judgment development, Thoma and Rest maintain that the utility of the modal schema is not as high and that the other two moral judgment schemas (as well as other sources of information) more strongly influence moral information processing (see Thoma & Rest, 1999, or Derryberry & Thoma, 2005a, for information about how consolidated and transitional phases are identified). Therefore, distinct P-score differences can be observed among those who are modal at the same moral judgment schema. For example, even though they are more developmentally advanced, individuals who are consolidated at the maintaining norms schema produce lower P-scores than do those who are transitioning toward this schema due to their focus on the maintaining norms criteria in their moral reasoning. Indeed, this may be the reason for the findings of Lampe. Rather than a decrease in moral judgment development from the freshman year to senior year, Lampe's findings may actually represent a progression in moral judgment development wherein the participants were initially transitioning toward the maintaining norms schema and ultimately consolidated on this schema. Another problem with P-scores is that they do not provide information on whether or not moral reasoning ability is likely to be used when making moral judgments.

A third problem of previous research is that only one aspect of moral development is addressed, moral judgment. However, Rest (1986) recognized four components of moral development: moral sensitivity, moral judgment, moral motivation, and moral implementation. Deficits in one of these areas can be compensated for by advances in other areas. As Rest's four-component model attests, it should not be presumed that a deficit in moral judgment would necessarily result in impaired moral functioning—particularly if other components considered in the model are heightened. When one is considering moral developmental differences among majors, then, a variety of components should be examined to make the most accurate inferences about their moral development and functioning overall.

Previous study of moral developmental differences among majors also failed to distinguish between micromorality and macromorality. "Macromorality concerns the formal structure of society as defined by institutions, rules, and roles. Micromorality concerns the particular face-to-face relations that people have in every day life" (Rest et al., 1999, p. 293). To date, only areas of macromorality have been addressed, whereas little is known about differences in micromorality among majors. When considering the types of moral understanding required by teachers (Chang, 1994), micromoral functioning may be more pertinent to teacher requirements within the classroom.

PURPOSE OF THIS STUDY

The purpose of this study is to comprehensively explore moral developmental differences among education, psychology, and other majors from the same institu-

tion. Chang (1994), McNeel (1994), and Pascarella and Terenzini (1991) noted variations in the way different majors approached their programs of study, which could result in moral developmental distinctions. This study compares students with education majors to those with psychology majors while also accounting for class year and age. A third group of students belonging to majors other than education and psychology is also considered.

In evaluating differences in moral judgment among majors, three types of scores from the Defining Issues Test-2 (DIT-2) are considered: the N2 score, Type score, and the U-score. These scores are better indicators of moral judgment than the P-score alone, because the P-score indicates only the reference of postconventional items. The N2 score indicates when higher levels of moral reasoning are used and when lower levels of reasoning are rejected. The Type score provides developmental information about a person's modal moral judgment schema and whether the individual is in a consolidated or transitional phase of moral judgment development. The U-score, or utilizer dimension, indexes the likelihood of the utilization of moral judgment ability.

Differences in moral sensitivity among majors are also addressed using the Racial and Ethical Sensitivity Test Compact Disk (REST-CD; Sirin, Brabeck, Satiani, & Rogers-Sirin, 2003). On the REST-CD, participants are asked to make sense of various situations in educational environments in which ethical infractions occur. Commentary provided serves as a useful means for assessing their ethical sensitivity in educational contexts. This is an area of research that has yet to be explored in moral developmental comparisons among majors.

Micromorality is also addressed. Moral sensitivity, as measured with the REST-CD, is considered a measure of micromorality in this study due to its focus on interactions in specific educational contexts. Micromorality is also explored in the context of nonprejudice. Nonprejudice is the "universal orientation in interpersonal relations whereby perceivers selectively attend to, accentuate, and interpret similarities rather than differences between the self and others" (Phillips & Ziller, 1997, p. 420). Individuals who exhibit nonprejudice view people as being more similar than different. Monroe and Epperson (1994) showed that people who did not distinguish between groups tended to be more helpful and had characteristics of moral exemplars. Therefore, nonprejudice could be an important consideration relevant to moral development and, potentially, teacher education because this universal orientation could affect how teachers view students, which in turn might determine how teachers treat their students.

Last, this study addresses the attitudes of participants regarding human rights and civil liberties, a construct that has been recognized as having a strong relationship with a variety of different moral developmental indexes. With the exception of Cummings et al. (2001) and Derryberry et al. (2005), few studies considering differences among majors have addressed how the moral development of majors relates to relevant outcomes. Although notable relationships have been reported be-

tween moral judgment indexes and human rights attitudes (Crowson, 2004; Derryberry & Thoma, 2005a; Rest et al., 1999), Derryberry et al. found that the moral judgment development of education majors accounted for less variance (R^2 = .09) in human rights attitudes than did the moral judgment development of liberal arts majors (R^2 = .25). It may be, then, that the human rights attitudes of education majors may more readily relate to other more micromoral factors relevant to moral development, such as moral sensitivity and nonprejudice. Indeed, there is support for this possibility in the research of Hart and Fegley (1995), Monroe and Epperson (1994), and Colby and Damon (1992). For example, Hart and Fegley illustrated that what distinguished designated "care exemplars" (e.g., those with a propensity for moral behaviors in the form of caring for and concern about the rights of others) from others had more to do with specific associations and representations between self and others than moral reasoning. For both Monroe and Epperson and Colby and Damon, negligible differences in terms of moral judgment ability were seen in comparing moral exemplars (i.e., those who went to great lengths in standing up for the rights of others) to controls. What distinguished the moral exemplars in these accounts was their sensitivity to the experiences of others along with their tendency to view humanity as alike rather than distinct. Thus, an important aspect of this study will be to account for whether micromoral factors relevant to moral development and similar to those addressed in previous study account for variance in attitudes regarding human rights.

METHOD

Participants

Participants were 151 college undergraduate students, including 51 education majors, 38 psychology majors, and 62 participants from other majors (henceforth "other"). This latter group comprised those from the following majors: accounting, anthropology communications, dental hygiene, English, general studies, marketing, nursing, prephysical therapy, public relations, recreation, sociology, and theater. Participants were recruited from psychology classes from a large regional public comprehensive university in the Southeast during the 2004 summer and fall terms and received extra credit in their courses for participating in the study.

Among education majors, there were 10 males and 41 females. In regard to ethnicity, 46 were White, 4 were African American, and 1 was classified as other. Mean age was 21.25 (SD = 5.3). Among psychology majors, there were 12 males and 26 females. Regarding ethnicity, 34 were White, 1 was African American, and 3 designated other. Mean age was 21.42 (SD = 2.9). Among other majors, there were 25 freshmen, 6 sophomores, 10 juniors, and 21 seniors. There were 15 males and 47 females. Regarding ethnicity, 53 were White, 3 were African American, and 6 designated other. Mean age was 20.94 (SD = 4.1).

Materials

Moral judgment. The DIT-2 (Rest, Thoma, & Edwards, 1997) was used to measure moral judgment development. On the DIT-2, participants read 5 scenarios where the main character faces a moral dilemma and then make an action choice of what the main character should do. Participants then rate and rank 12 issues in terms of importance in making the action choice. These responses provided indexes including N2, Type, and U-scores.

The N2 score ranges from 0 to 95 and measures the extent to which a person gives importance to postconventional items and rejects items reflecting lower levels of reasoning. Thus, high scores are indicative of strong reference to the Postconventional schema and minimal emphasis of the prior schemata in making moral judgments.

Type scores refer to positioning at a particular moral judgment schema and is more precise in documenting moral judgment development. If a person primarily references DIT items pertaining to one moral judgment schema relative to others, he or she is considered to be in a consolidated phase of moral judgment development. If a person does not strongly emphasize DIT items belonging to a particular moral judgment schema relative to other schemata, he or she is considered in a transitional phase of moral judgment development. Type scores range from 1 to 7. Type 1 reflects a person consolidated at the Personal Interest schema. At Type 2, the Personal Interest schema remains modal, although the individual is beginning to transition towards the Maintaining Norms schema. Type 3 also indicates a transitional phase, although a modal shift has occurred favoring the Maintaining Norms schema. Type 4 is indicative of consolidation at the Maintaining Norms schema. Type 5 suggests that a person is transitioning away from the Maintaining Norms schema, although this schema is still modal. Type 6 is a transitional phase where a modal shift from the Maintaining Norms to the Postconventional schema has occurred. Type 7 is reflective of a person consolidated at the Postconventional schema.

According to Thoma, Rest, and Davison (1991), the DIT U-score, or utilizer dimension, serves as an important moderator of moral action in that those with high U-scores are more likely to act in accordance with their moral reasoning. The U-score measures the relation between a participant's action choice and the particular items that he or she ranked as most important. This score therefore reflects how much a person utilizes his or her modal moral judgment schema, with higher U-scores suggestive of good fit between the action choice and ranked items on the DIT. Although U-scores range from –1 (low utilization) to 1 (high utilization), Thoma, Rest, and Davison acknowledge that scores typically range from –.41 to .77.

In evaluating the internal consistency of the DIT-2 in this study, Cronbach's alpha was computed at the item level for each schema (e.g., consideration of the consistency across DIT rating items specific to particular moral judgment schema), as

Crowson, DeBacker, Thoma, and Derryberry (2005) recently recommended. Internal consistency is acceptable at each schema in this study where $\alpha = .799$ for the Postconventional schema, $\alpha = .734$ for the Maintaining Norms schema, and $\alpha = .709$ for the Personal Interest schema. Analysis of DIT-2 scores only includes those that passed DIT reliability checks (see Rest et al., 1999) are considered.

Attitudes toward human rights. The Attitudes Towards Human Rights Inventory (ATHRI, Getz, 1985) was used to assess individual views on issues related to civil libertarian issues. The 48-item scale focuses on issues such as euthanasia, abortion, free speech, women's roles, homosexuality, and religion in public schools. Responses of agreement and disagreement are made using a 5-point Likert scale, producing scores ranging from 40 to 200. Higher scores are indicative of interest in granting civil liberties, whereas low scores are indicative of disinterest in granting civil liberties. Support for the internal consistency of ATHRI scores is strong in this study with a reported Cronbach's $\alpha = .926$

Moral sensitivity. The REST-CD (Sirin et al., 2003) was used to measure moral sensitivity. In this computerized version of the Racial and Ethical Sensitivity Test (Brabeck et al., 2000), participants view scenarios pertaining to ethical violations within school and classroom situations. Participants view each scenario two times then type in responses to a series of related questions. Each scenario addresses 6 to 9 ethical considerations. Participant responses are coded based on a 3-point coding scheme. A score of 1 indicates no awareness of a particular ethical consideration, a score of 2 indicates a basic awareness of a particular ethical consideration, and a score of 3 indicates an advanced understanding of a particular ethical consideration. Scores are totaled and averaged for each scenario and therefore range from 1 to 3. The three scenarios viewed in this study are residence hall, faculty lounge, and math class. In this study, adequate agreement was seen in rating participant responses, with Cohen's kappa ranging from .71 to .76 among three raters.

Nonprejudice. The Universal Orientation Scale (UOS; Phillips & Ziller, 1997) was used as a measure of nonprejudice. The UOS is a 20-item scale in which responses are made using a 5-point Likert-type scale. Each item measures one's universal orientation, or the perception of self–other similarities. The UOS scores range from 20 to 100, with higher scores indicating nonprejudice. The internal consistency of the UOS is low in the current study, with a reported $\alpha = .619$.

Procedure

Research was conducted across two sessions at a large regional public comprehensive university in the Southeast. In the first session, ranging from 30 to 45 min, par-

ticipants completed the DIT-2, ATHRI, UOS, and demographics survey. For data collected in the summer term and at the beginning of the fall term, paper and pencil versions of each measure were administered. Beginning midway through the fall term, computerized versions of the DIT-2, ATHRI, and UOS were administered to conserve paper and so that reaction times of participants could be examined in a separate study. In the second session, which lasted approximately 1 hr 30 min, participants completed the REST-CD. Informed consent was obtained at the beginning of the first session. Researchers then explained how to complete each measure. Participants then completed each measure. Each participant was assigned a participant number that was used to code all materials to maintain confidentiality. Students from all majors and all class years were eligible to participate.

RESULTS

Tables 1 and 2 note descriptive statistics for major and class year. No anomalies are seen among majors. Minimal progression in moral judgment is observed among the class years.

Separate analyses were conducted for each dependent variable to determine if differences existed among the major groups. Given the role of education and age in contributing to moral judgment development (Rest et al., 1986), class year is also employed as an independent variable, whereas age is treated as a covariate in all analyses. In addressing moral judgment development, a 3 (major) × 4 (class year) multivariate analysis of covariance (MANCOVA) was conducted with DIT-2 N2, U, and Type scores as the dependent variables. For major, no significant differences were found at the multivariate level. At the univariate level, there were no significant differences found among major groups for N2, Type, or U-scores. Although no significance is seen for any of the dependent variables, it is interesting to note that least significant differences (LSD) pairwise comparisons revealed that psychology majors had significantly higher Type scores than did education majors ($p = .032$). For class year, no significant differences were seen at the multivariate or univariate level. Similarly, LSD pairwise comparisons reported no significant differences between any classes. No significant interactions were reported. Overall, age was a significant covariate for majors at the multivariate level, $F(3, 135) = 2.785$, $p = .043$, $\eta^2 = .058$. At the univariate level, age was a significant covariate for Type, $F(1, 137) = 5.308$, $p = .023$, $\eta^2 = .037$, and nearly significant for N2, $F(1, 137) = 3.006$, $p = .085$, $\eta^2 = .021$, and U, $F(1, 137) = 3.625$, $p = .059$, $\eta^2 = .026$.

A 3 (major) × 4 (class year) MANCOVA was also conducted on REST Faculty Lounge, Math Class, and Residence Hall scores with age as a covariate to address group differences of majors in moral sensitivity. For major, multivariate tests reported no significant differences. Similarly, univariate tests reported no significant differences among majors. No significant differences were seen between specific

TABLE 1
Means of Dependent Variables by Major

	Education Majors					*Psychology Majors*					*Other Majors*				
	F	*S*	*J*	*Sr*	*Total*	*F*	*S*	*J*	*Sr*	*Total*	*F*	*S*	*J*	*Sr*	*Total*
N2															
M	22.19	32.76	31.67	27.37	29.96	34.83	31.07	30.24	38.84	35.10	27.09	30.46	29.28	28.12	28.12
SD	20.30	15.91	14.89	10.74	14.77	10.88	25.41	12.93	14.90	14.87	11.68	13.37	12.96	14.45	12.76
n	5	15	18	13	51	3	3	12	19	37	25	6	10	21	62
U															
M	.12	.20	.13	.18	.16	.28	.07	.14	.14	.15	.14	.13	.13	.17	.15
SD	.14	.20	.16	.14	.16	.15	.20	.16	.14	.15	.15	.12	.10	.19	.16
n	5	15	18	13	51	3	3	12	19	37	25	6	10	21	62
Type															
M	3.60	3.87	3.56	3.92	3.75	5.33	5.0	4.17	4.89	4.70	3.56	4.67	4.70	4.29	4.10
SD	1.52	2.07	1.82	1.89	1.84	2.89	2.65	1.75	2.02	1.99	1.69	1.96	1.70	1.68	1.73
n	5	15	18	13	51	3	3	12	19	37	25	6	10	21	62
FL															
M	1.37	1.45	1.51	1.77	1.56	1.50	1.42	1.48	1.73	1.61	1.50	1.37	1.48	1.66	1.54
SD	.20	.14	.32	.40	.34	.18	.14	.24	.29	.28	.19	.22	.18	.21	.21
n	4	7	15	11	37	2	3	9	16	30	20	3	5	14	42

MC															
M	1.83	1.69	1.92	2.11	1.92	1.67	2.18	1.72	1.85	1.83	1.65	1.61	1.74	1.97	1.76
SD	.24	.31	.34	.38	.36	.23	.34	.30	.30	.31	.16	.25	.26	.31	.27
n	4	7	15	11	37	2	3	9	16	30	20	3	5	14	42
RH															
M	1.36	1.28	1.42	1.72	1.48	1.50	1.40	1.50	1.67	1.58	1.49	1.37	1.46	1.73	1.56
SD	.23	.16	.23	.36	.30	.08	.26	.21	.27	.25	.17	.06	.21	.28	.24
n	4	7	15	11	37	2	3	9	16	30	20	3	5	14	42
ATHRI															
M	121.8	120.1	122.1	122.8	121.7	130.0	143.7	140.5	140.2	139.7	132.1	131.7	132.4	131.6	131.9
SD	14.24	10.03	16.87	11.89	13.30	20.42	3.79	13.40	20.49	17.37	17.13	29.2	24.06	22.9	20.99
n	5	15	18	12	50	3	3	12	20	38	25	6	10	20	61
UOS															
M	71.25	68.58	63.00	63.69	65.37	76.67	64.00	70.00	66.25	68.08	73.04	64.60	63.56	65.12	68.27
SD	9.07	9.55	7.54	4.68	7.91	4.16	7.81	8.70	7.25	8.00	7.63	13.39	4.85	7.52	8.75
n	4	12	17	13	46	3	3	12	20	38	24	5	9	17	55

Note. F = freshman, S = sophomore, J = junior, Sr = senior; N2 = Defining Issues Test (DIT) N2 score, U = DIT U-score, Type = DIT Type score, FL = Racial and Ethical Sensitivity Test (REST) Faculty Lounge score, MC = REST Math Class score, RH = REST Residence Hall score, ATHRI = Attitudes Towards Human Rights Inventory score, UOS = Universal Orientation Scale score.

TABLE 2
Means of Dependent Variables by Class

	All Majors			
Variable	*F*	*S*	*J*	*Sr*
N2				
M	27.05	31.97	30.64	31.78
SD	13.06	15.82	13.55	14.57
U				
M	.15	.17	.13	.17
SD	.15	.18	.14	.16
Type				
M	3.60	3.87	3.56	3.92
SD	1.52	2.07	1.82	1.89
FL				
M	1.48	1.43	1.50	1.72
SD	.19	.15	.27	.30
MC				
M	1.68	1.78	1.83	1.96
SD	.18	.36	.32	.34
RH				
M	1.47	1.33	1.45	1.70
SD	.17	.17	.22	.29
ATHRI				
M	130.4	125.9	130.2	132.9
SD	16.89	17.88	19.30	20.66
UOS				
M	73.16	66.90	65.34	65.20
SD	7.47	10.08	7.91	6.73

Note. F = freshman, S = sophomore, J = junior, Sr = senior; N2 = Defining Issues Test (DIT) N2 score, U = DIT U score, Type = DIT Type score, FL = Racial and Ethical Sensitivity Test (REST) Faculty Lounge score, MC = REST Math Class score, RH = REST Residence Hall score, ATHRI = Attitudes Towards Human Rights Inventory score, UOS = Universal Orientation Scale score.

majors on LSD pairwise comparisons. For class year, significant differences were seen at the multivariate level, $F(9, 288) = 3.662$, $p < .000$, $\eta^2 = .103$. At the univariate level for class, significance was seen for Faculty Lounge, $F(3, 96) = 7.241$, $p < .000$, $\eta^2 = .185$, Math Class, $F(3, 96) = 3.164$, $p = .028$, $\eta^2 = .090$, and Residence Hall, $F(3, 96) = 8.580$, $p < .000$, $\eta^2 = .211$. LSD pairwise comparisons showed that significance on Faculty Lounge is the result of seniors significantly outperforming freshmen ($p < .003$), sophomores ($p < .001$), and juniors ($p < .001$). LSD pairwise comparisons showed that significance on Math Class is the result of seniors significantly outperforming freshmen ($p < .014$) and juniors ($p < .021$). LSD pairwise comparisons showed that significance on Residence Hall was the result of seniors outperforming freshmen ($p < .009$), sophomores ($p < .000$), and ju-

niors ($p < .000$). No significant interactions were reported. Overall, age was nonsignificant as a covariate at both the multivariate and univariate level.

A 3 (major) × 4 (class year) analysis of covariance (ANCOVA) was conducted on ATHRI scores with age as a covariate. Significant differences were found among major groups, $F(2, 136) = 6.397$, $p = .002$, $\eta^2 = .086$. LSD pairwise comparisons revealed that psychology majors scored significantly higher than education majors ($p = .001$). Other majors also scored significantly higher than education majors ($p = .012$). For class year, no significant differences were seen. Similarly, LSD pairwise comparisons revealed no significant differences between groups. No significant interactions were reported. Overall, age was not a significant covariate.

A 3 (major) × 4 (class year) ANCOVA was also performed on UOS scores with age as a covariate. No significant differences were seen among major groups. LSD pairwise comparisons did not reveal any significant differences between any of the majors. For class year, significance was reported, $F(3, 126) = 6.397$, $p = .002$, $\eta^2 = .086$. LSD pairwise comparisons indicated that significance was the result of differences favoring freshmen over sophomores ($p < .007$), juniors ($p < .002$), and seniors ($p < .001$). Overall, age was not a significant covariate.

Bivariate correlations were considered to address how ATHRI scores related to the other considered indexes and also class year and age in each major group (see Table 3). As Table 3 denotes, no significant correlations with ATHRI scores were seen among the education and other majors. DIT N2, REST Math Class, and REST Faculty Lounge scores significantly correlated with ATHRI scores among psychology majors. As such, linear regression analyses were conducted for each majors group in which ATHRI scores served as the dependent variable and N2, Math Class, and Faculty Lounge were entered as predictors. As noted in Table 4, no significant predictors were seen for the education and other majors, and the R^2 was nonsignificant in both groups. For the psychology majors, N2 scores were significant predictors of ATHRI scores and the R^2 was significant.

DISCUSSION

The purpose of this study was to further address whether the moral development of education majors differs from those in other majors. Prior study had mainly compared education majors from a single institution to composites from a variety of institution types. Furthermore, comparisons of education majors with specific majors have rarely occurred. Thus, this study addressed how an institution's education majors compared to psychology majors and a group of designated other majors from the same institution while also accounting for class year and age. As prior study had mainly focused on moral judgment development, this study also addressed a variety of constructs pertinent to moral development and moral functioning, including moral sensitivity, nonprejudice, and human rights attitudes.

TABLE 3
Correlation Matrices

	Psychology Majors							
	ATHRI	*Faculty*	*Math*	*Residence*	*N2*	*UOS*	*Class*	*Age*
Education majors[a]								
ATHRI	1.000	.437*	.380*	.050	.476**	.121	–.003	–.210
Faculty	.067	1.000	.458*	.503**	.293	–.255	.394*	.106
Math	.190	.405*	1.000	.267	.287	–.330	–.010	–.031
Residence	.063	.439**	.588**	1.000	.248	–.190	.339	.308
N2	.072	.116	.273	.025	1.000	–.249	.225	–.022
UOS	.173	–.133	.041	.031	.317	1.000	–.372	–.255
Class	.079	.391*	.354*	.502**	.013	–.336	1.000	.436
Age	.090	.163	.328	.245	–.096	–.376*	.627**	1.000
Other majors[a]								
ATHRI	1.000							
Faculty	.102	1.000						
Math	–.231	.425**	1.000					
Residence	–.093	.313*	.575**	1.000				
N2	–.067	.185	.316*	.437**	1.000			
UOS	.033	.142	–.232	–.173	–.088	1.000		
Class	.004	.321*	.519**	.416**	.069	–.462	1.000	
Age	.096	.193	.450**	.365*	–.058	–.213	.590**	1.000

Note. N2 = Defining Issues Test N2 score; ATHRI = Attitudes Towards Human Rights Inventory score; UOS = Universal Orientation Scale score.

[a]Bottom diagonal.

*$p < .05$. **$p < .01$.

TABLE 4
Summary of Linear Regression Analyses
for Variables Predicting ATHRI Scores

Major/Variable	*B*	*SE B*	β	*t*	*Sig.*	R^2	*p*
Education						.025	.829
N2	.030	.160	.032	.185	.854		
Faculty	–.765	7.418	–.019	–.103	.918		
Math	5.817	7.266	.152	.800	.429		
Psychology						.343	.011
N2	.406	.194	.354	2.095	.046		
Faculty	16.215	11.353	.260	1.428	.165		
Math	8.908	10.185	.159	.875	.390		
Other majors						.106	.210
N2	.005	.236	.004	.022	.982		
Faculty	26.374	15.424	.288	1.710	.095		
Math	–23.422	12.408	–.332	–1.888	.066		

Note. ATHRI = Attitudes Towards Human Rights Inventory score. Sig. = significance. N2 = Defining Issues Test N2 score.

In terms of moral judgment development overall, no significant differences among the three groups of majors were seen, and no distinctions in moral judgment development were seen among class years. However, pairwise comparisons revealed that DIT Type scores of psychology majors were significantly higher than those of education majors. In making sense of this difference, one must examine the descriptive statistics to accurately make inferences. Although inferential statistics support a quantitative effect, the effect does not amount to much qualitatively speaking. This is because a mean Type score of 3.75 for education majors indicates that the majority are either transitioning toward or consolidated on the Maintaining Norms moral judgment schema, whereas a mean Type score of 4.70 supports that the majority of psychology majors are either consolidated on or beginning to transition away from the Maintaining Norms moral judgment schema. However, the modal schema for both groups (as well as the group of other majors) is the Maintaining Norms schema. Therefore, the moral judgment schema that is emphasized in reasoning about moral situations does not differ between these majors.

It is important to note, however, that these moral judgment developmental distinctions between these two groups indicate that those in the psychology majors were more likely to consider items pertaining to the Postconventional schema in taking the DIT. These distinctions simply indicate trends in moral reasoning and do not suggest that the psychology majors are likely to behave in a more moral manner than the education majors, as prior study has suggested (Cummings et al., 2001). In fact, there is research that supports that those in transitional phases of moral judgment fail to act in certain situations, whereas those in consolidated phases are more prone to take action given the overall utility and accessibility of the modal moral judgment schema (Derryberry & Thoma, 2005a). Such a scenario does not appear likely for the participants in this study, however, as utilization of the modal moral judgment schema is similar among groups, as indicated by a lack of significance among groups in DIT U-scores.

At the same time, these phase distinctions may have contributed to the differences in ATHRI scores. In considering the ATHRI scores, a moderate main effect is seen that revealed distinctions favoring psychology majors over education and other majors in addition to other majors over education majors. Indeed, similar findings were reported in Derryberry et al. (2005). As Rest et al (1999) note, human rights attitudes such as those reflected in ATHRI scores are impacted by postconventional reasoning. Given that the psychology majors are starting to emphasize information pertaining to the Postconventional moral judgment schema (as their Type scores suggest), it makes sense that they have higher ATHRI scores than do those in the other two groups. It is important to remember, however, that such a distinction is a macromoral distinction, not a micromoral distinction. To be sure, how ATHRI scores pertain to classroom performance is un-

known at this point. Similarly, whereas the ATHRI scores of the psychology majors may be attributable to their increased reference of the Postconventional moral judgment schema, it is not known nor has it been examined in this study whether these scores are the result of their major. For example, it could be that their ATHRI scores are higher as a result of the same reasons that attracted these individuals to choose psychology as a major in the first place. Thus, such scores might be the result of their own dispositional interests and orientations rather than the result of a specific contextual situation (e.g., choosing a specific major).

For the micromoral constructs as measured by REST indexes and UOS scores, no significant differences were seen among majors. However, unlike the macromoral constructs considered in this study, some significant differences are noted among class years on both. For example, seniors have significantly stronger scores than most other classes on all three of the REST indexes. Thus, although it appears in this study that major has little to do with trends in REST scores, it seems that advanced matriculation may. Interestingly, the exact opposite is seen for UOS scores. As is the case with REST scores, negligible differences are seen in the nonprejudice of those in the three major groups. However, freshmen are significantly more nonprejudiced than other classes. Certainly, future study should address these trends further. Assuming such trends hold true in future study, it seems a worthwhile endeavor to determine what it is about advanced matriculation that may result in heightened moral sensitivity and lessened nonprejudice. In making such a recommendation, it is important to mention that heightened moral sensitivity and lessened nonprejudice is not necessarily counterintuitive. As Phillips and Ziller (1997) noted, nonprejudice is not the opposite of prejudice nor do low UOS scores indicate prejudicial tendencies. Instead, those that are low in nonprejudice have a tendency to see the distinctions in people rather than to focus on similarities. Consequently, it may be that an ability to focus on such distinctions is an important aspect of moral sensitivity.

Although few differences are seen among majors on the considered dependent variables, differing relationships with ATHRI scores are seen among groups. As mentioned earlier, prior research supports that human rights attitudes—such as those measured by the ATHRI—can be an outcome relevant to the various micro- and macromoral developmental indexes considered in this study (Colby & Damon, 1992; Crowson, 2004; Derryberry & Thoma, 2005b; Hart & Fegley, 1995; Monroe & Epperson, 1994; Rest et al., 1999). For the education and other majors, none of the considered constructs significantly related to ATHRI scores, whereas significant relationships with ATHRI scores were seen for DIT N2, REST Faculty Lounge, and REST Math Class scores for psychology majors. Thus, regression analyses were conducted to examine how DIT N2, REST Faculty Lounge, and REST Math scores accounted for ATHRI score variance. As the regression analyses note, these scores combine to predict a negligible amount of ATHRI score variance for the education majors ($R^2 = .025$) and a moderate amount of ATHRI score

variance for other majors (R^2 = .106). In both groups, none of the variables provides significant contributions to ATHRI scores (see Table 4). For psychology majors, however, these indexes are somewhat stronger in accounting for ATHRI score variance (R^2 = .343) though N2 scores provide the only significant contribution (see Table 4). These analyses therefore support the findings of Derryberry et al. (2005), who found that the moral judgment development of education majors does not account for much variance in human rights attitudes and also supports the findings of Cummings et al. (2001), who found evidence that the moral judgment development of education majors can relate to certain moral consequences. At the same time, these analyses do not support that the human rights attitudes of education majors may be more readily influenced by the micromoral factors addressed in this study.

Although the implications of these findings are important, it is important to acknowledge limitations of this study. First, it should be noted that there are some psychometric concerns regarding two of the measurements employed in this study. For the UOS, internal consistency is somewhat low. This does not mean that this scale should be excluded from this study, however. Instead, based on the descriptive statistics in addition to the reported Cronbach's alpha, it should be inferred that as a whole those in this sample are neither strong nor low in terms of nonprejudice. For the REST, interrater agreement is not particularly high. However, it is acceptable and is similar to agreement reported in other publications (see Brabeck et al., 2000).

Another limitation of this study is the use of the ATHRI as a moral developmental outcome. Although this scale has been successfully employed and is recognized as measuring an important moral developmental outcome (Derryberry & Thoma, 2005a, 2005b; Rest et al., 1999), it is important to note that the ATHRI pertains to macromoral issues. Furthermore, the issues it addresses are not issues that teachers have to face in the classroom. As mentioned earlier, the moral issues that teachers face more likely would be categorized as micromoral. In addressing the findings of this study, then, it is important not to generalize these findings to classroom issues. In addition, it is important to note that such findings should not be generalized to all institutional types. Indeed, it would be interesting to see if similar trends exist at other types of institutions such as liberal arts colleges and universities affiliated with specific religions.

This study is also limited in that it is simply one cross-sectional study that addresses differences and relationships among various majors at one institution. Therefore, this study has not examined the influence of major across a variety of different institutions. Instead, it has only examined differences among various majors at one university. There could be a variety of reasons for the negligible differences in this study that could have little to do with major and more to do with characteristics of the university itself such as institution type, the academic capabilities of the students attending the particular institution, general educational require-

ments that could counter any effects of major, and so on. To be sure, the fact that minimal differences exist among class years in terms of moral judgment development provides some preliminary confirmation of this. As we addressed, there was a need for better cross-sectional study comparing education majors at the same institution. At the same time, there is no guarantee that the trends observed in this study will necessarily be duplicated in similar studies at other institutions. Thus, we recommend continued study. Most important, however, we are adamant that future research must also involve longitudinal study if the goal of future research is to move from addressing differences among majors to understanding influences of majors.

Although not necessarily a limitation, the low DIT-2 and REST scores of all participants in this study are lower than what might be anticipated for college students. However, it should not be presumed that they are the result of a lack of motivation to reflect true ability on the participants' part (e.g., due to extra credit incentives for participation) nor do they reflect a deficiency in character on the part of the participants. As noted, internal consistency for all of the included measures is acceptable. Where DIT-2 scores are concerned, not only does its scoring involve passing a battery of reliability checks, but the DIT format is noted to be resistant to faking or portraying other viewpoints (Rest et al., 1999). In addition, a decline in DIT scores has been observed lately, and regional trends in college student DIT scores have been noted, with Southeastern college students generally scoring lower (Thoma, 2005). Furthermore, those from large comprehensive regional universities generally score lower on the DIT (Pascarella & Terenzini, 1991). Thus, the low DIT-2 scores of those in this sample are somewhat expected. Furthermore, they do not reflect moral ineptitude, as those who make decisions based on the Maintaining Norms schema are very focused on upholding and adhering to law and order. Where REST-CD scores are concerned, it is conceivable that the requirement of written responses might cause fatigue, which could prevent reflection of the participant's true ability. However, we feel that low scores on the REST-CD have more to do with its emphasis on specific ethical violations that occur in educational settings rather than decreased motivation or a lack of ethical sensitivity. Specifically, within the coding scheme for the REST-CD, certain issues are more linked to specific issues relevant to the education profession. Without experience in professional educational settings, it may be difficult for an individual to recognize these ethical violations.

Given the noted limitations and trends of this study, some specific future directions are recommended. First, as noted, replication of this study at other universities, as well as longitudinal studies, is strongly encouraged. Future study must also focus on how the moral development of education majors may translate to tangible outcomes that are relevant to the types of morally driven issues that teachers must

face on a daily basis. Until such issues are examined, we will not truly understand the full extent of the moral developmental capacities and capabilities of education majors, regardless of the reasons for these capacities. In addition, future study should continue to focus on delineating the moral development of a variety of majors. At the same time, however, if distinctions are noted favoring a specific major, a more concentrated focus must be made in trying to ascertain the reasons for observed distinctions. As we acknowledge, only until it is fully empirically explored how the academic and extracurricular experiences associated with a specific major differ from others in translating to the moral growth of its students will we be truly prepared to provide answers about the role of academic major.

In conclusion, then, the findings of this study support that the moral development of education majors cannot be described as strongly lagging behind that of other majors from the same institution. In fact, although this study has shown that their moral development can be slightly lower than psychology majors, it has shown that their development can parallel those in other majors from the same institution. Although the differences that exist can have ramifications that pertain to the consideration of macromoral issues such as attitudes about human rights and civil liberties, it should be acknowledged that these ramifications do not solely apply to education majors. In addition, it should not be presumed that any differences seen are the product of factors specific to the matriculation of those in education majors. Although the moral developmental capacities of education majors may be a little clearer as a result of this study, it is hoped that this study is recognized as but a preliminary step toward a more comprehensive examination of the moral development of not just education but all academic majors.

ACKNOWLEDGMENTS

An earlier version of this article was presented at the Annual Meeting of the American Educational Research Association, April 15, 2005, Montreal, CA.

REFERENCES

Brabeck, M. M., Rogers, L. A., Sirin, S., Henderson, J., Benvenuto, M., Weaver, M., et al. (2000). Increasing ethical sensitivity to racial and gender intolerance in schools: Development of the racial ethical sensitivity test. *Ethics & Behavior, 10,* 119–137.

Chang, F. (1994). School teachers' moral reasoning. In J. R. Rest & D. Narvaez (Eds), *Moral development in the professions* (pp. 71–83). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Colby, A., & Damon, W. (1992). *Some do care: Contemporary lives of moral commitment.* New York: Free Press.

Colby, A., & Kohlberg, L. (1987). *The measurement of moral judgment.* Cambridge, England: Cambridge University Press.

Crowson, H. M. (2004). Human rights attitudes: Dimensionality and correlates. *Ethics & Behavior, 14,* 235–253.

Crowson, H. M., DeBacker, T. K., Thoma, S. J., & Derryberry, W. P. (2005, November). *Reliability and the DIT-2: Revisited.* Paper presented at the Annual Meeting of the Association for Moral Education, Cambridge, MA.

Cummings, R., Dyas, L., Maddux, C. D., & Kochman, A. (2001). Principled moral reasoning and behavior of preservice teacher education students. *American Educational Research Journal, 38,* 143–158.

Derryberry, W. P., & Thoma, S. J. (2005a). Functional differences: Comparing moral judgment developmental phases of consolidation and transition. *Journal of Moral Education, 34,* 89–106.

Derryberry, W. P., & Thoma, S. J. (2005b). Moral judgment, self-understanding, and moral actions: The role of multiple constructs. *Merrill-Palmer Quarterly, 51,* 67–92.

Derryberry, W. P., Wilson, T., Snyder, H., & Barger, B. (2005). Moral judgment differences in education and liberal arts majors: Cause for concern? *Journal of College and Character.*

Diessner, R. (1991). *Teacher education for democratic classrooms: Moral reasoning and ideology critique.* Paper presented at the Annual Meeting of the Association for Moral Education, Athens, GA.

Getz, I. (1985). The relation of moral and religious ideology to human rights. Unpublished doctoral dissertation, University of Minnesota.

Gibbs, J. C. (1995). The cognitive developmental perspective. In W. M. Kurtines & J. L. Gewirtz, *Moral development: An introduction* (pp. 27–48). Needham Heights, MA: Allyn and Bacon.

Goodlad, J., Soder, R., & Sirotnik, K. A., (1990). *The moral dimensions of teaching.* San Francisco: Jossey-Bass.

Hart, D., & Fegley, S. (1995). Prosocial behavior and caring in adolescence: Relations to self-understanding and social judgment. *Child Development, 66,* 1347–1359.

Lampe, J. R. (1994, April). *Teacher education students' moral development and ethical reasoning processes.* Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA

McNeel, S. P. (1994). College teaching and student moral development. In J. R. Rest & D. Narvaez (Eds.), *Moral development in the professions* (pp. 27–49). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Monroe, K. R., & Epperson, C. (1994). "But what else could I do?" Choice, identity, and cognitive-perceptual theory. *Political Psychology, 15,* 201–226.

Narvaez, D., & Rest, J. (1995). The four components of acting morally. In W. M. Kurtines & J. L. Gewirtz (Eds.), *Moral development: An introduction* (pp. 385–400). Needham Heights, MA: Allyn and Bacon.

Pascarella, E. T., & Terenzini, P. T. (1991). Moral development. In E. T. Pascarella & P. T. Terenzini (Eds.), *How college affects students* (pp. 335–368). San Francisco: Jossey-Bass.

Phillips, S. T., & Ziller, R. C. (1997). Toward a theory and measure of the nature of nonprejudice. *Journal of Personality and Social Psychology, 12,* 420–434.

Rest, J. (1979). *Development in judging moral issues.* Minneapolis: University of Minnesota Press.

Rest, J. (1986). *Moral development: Advances in research and theory* (pp. 28–58). New York: Praeger.

Rest, J., Deemer, D., Barnett, R., Spickelmier, J., & Volker, J. (1986). Life experiences and developmental pathways. In J. Rest (Ed.), *Moral development: Advances in research and theory* (pp. 28–58). New York: Praeger.

Rest, J., & Narvaez, D. (1995). *Moral development in the professions*. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Rest, J., Narvaez, D., Bebeau, M., & Thoma, S. (1999). *Postconventional thinking: A neo-Kohlbergian approach.* Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Rest, J., Thoma, S., & Edwards, L. (1997). Designing and validating a measure of moral judgment: Stage preference and stage consistency approaches. *Journal of Educational Psychology, 89,* 5–28.

Schlaefli, A., Rest, J., & Thoma, S. (1985). Does moral education improve moral judgment? A meta-analysis of intervention studies using the Defining Issues Test. *Review of Educational Research, 55,* 319–352.

Sirin, S. R., Brabeck, M. M., Satiani, A., & Rogers-Sirin, L. (2003). Validation of a measure of ethical sensitivity and examination of the effects of previous multicultural and ethics courses on ethical sensitivity. *Ethics & Behavior, 13, 221–235.*

Strange, B. L. (1977). Levels of moral reasoning in education undergraduates. *Saskatchewan Journal of Educational Research and Development, 8,* 29–35.

Thoma, S. J. (1986). Estimating gender differences in the comprehension and preference of moral issues. *Developmental Review, 6,* 165–180.

Thoma, S. J. (2005). Research using the Defining Issues Test. In M. Killen & J. Smetana (Eds.), *Handbook of moral development* (pp. 67–91). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Thoma, S. J., & Rest, J. R. (1999). The relationship between moral decision-making and patterns of consolidation and transition in moral judgment development. *Developmental Psychology, 35,* 1–16.

Thoma, S. J., Rest, J. R., & Davison, M. L. (1991). Describing and testing a moderator of the moral judgment and action relationship. *Journal of Personality and Social Psychology, 61,* 659–669.

Walker, L. J. (1980). Cognitive and perspective-taking prerequisites for moral development. *Child Development, 51,* 131–139.

Yeazell, M. I., & Johnson, S. F. (1988). Levels of moral judgment of faculty and students in a teacher education study: A micro study of an institution. *Teacher Education Quarterly, 15*(1), 61–70.