

EXPLORING THE IMPACT OF FORMAL EDUCATION ON THE MORAL REASONING ABILITIES OF COLLEGE STUDENTS

FATIMA NATHER, PhD
Kuwait University

The present study was to investigate the patterns of moral reasoning of a sample of college students at Kuwait University, and to examine the effect of education level upon their moral reasoning abilities.

A sample of 90 college male students participated in this study. They ranged in age from 17-25. For the purpose of this study they were divided into four groups according to their level of education: Freshmen (n=30), sophomores (n=25), juniors (n=24), and seniors (n=11). All the participants were Muslims. The Defining Issues Test (DIT), which is based on Kohlberg's cognitive moral development theory, was used as the instrument of assessment of their moral reasoning. The DIT presents situational dilemmas requiring several decisions for each. From these responses, the decision-making process is evaluated, and a P score (principled moral reasoning) is formulated.

Results revealed that the participants operate predominantly at the conventional level of Kohlberg's moral judgment theory. Analysis of Variance also revealed that education did not seem to have affected the moral reasoning stages of the respondents. These findings are discussed in light of the previous related moral judgment literature.

Keywords: College students, Moral Development, Moral Reasoning, Defining Issues Test, Kohlberg's moral judgment theory, P - score.

Introduction and theoretical background

Lawrence Kohlberg's theory of cognitive moral development is perhaps the most widely known theory of moral reasoning (Kohlberg, 1969, 1973, 1984), and it remains the most dominant and cited work in contemporary behavioral science (Trevino, 1992). It was developed based on Piaget's (1932) early work on moral development in children. Kohlberg (1969) in his theory of cognitive moral development emphasized the cognitive basis of moral judgment and its relationship to moral action. Kohlberg saw moralization as a process of internalization of cultural or parental norms (Kohlberg 1976). According to Kohlberg, the development of moral reasoning abilities can be divided into three major levels

and six stages: (1) preconventional level (including stage one: obedience and punishment orientation; and stage two: instrumental purpose and exchange); (2) conventional level (including stage three: interpersonal accord and conformity, and stage four: social accord and system maintenance); and (3) postconventional level (including stage five: social contract, utility, individual rights, and stage six: universal ethical principles). Individuals respond differently to ethical issues in accordance with their stage of moral reasoning, and those who are at a higher moral stage are more likely to resist the pressure of conforming to the judgments of others. Kohlberg's theory has been used extensively to examine the levels of moral reasoning abilities of

students and professionals (Jones, Massey, & Thorne, 2003). For more than 50 years, Kohlberg's theory has stimulated research and influenced thinking about morality and moral development (Cummings, Dyas, Maddux, & Kochman, 2001; Wygant & Williams, 1995).

DIT as a Measurement of Moral Reasoning

The Defining Issues Test (Rest, Narvaez, Bebeau, & Thoma, 1999) has been used extensively to measure moral reasoning. Rest's Defining Issues Test (DIT) is the instrument most widely used to assess moral development and place individuals within a Kohlberg level. The DIT assesses recognition, comprehension, and preference. The DIT presents several moral dilemmas to test-takers, who are asked to respond to questions about each dilemma. A P-Score, the percentage of Stage 5 and 6 principled reasoning people use in responding to the dilemmas, is calculated from the results and represents their current level of moral reasoning development.

Research using DIT indicates that using certain educational methods such as volunteer service combined with reflection in journal writing, discussions, and readings can enhance moral judgment (Bebeau, 1991; Duckett & Ryden, 1994; Narvaez, 2001; Rest, *et al.*, 1999). The research thus far suggests that the type of education one has, and the content and form of moral education, are related to the development and enhancement of moral reasoning as measured by the DIT.

Numerous studies have examined factors that might influence the development of moral judgment. Findings show that although age is associated with stage of moral reasoning, the best correlate is level of schooling. Junior high school students have P Scores that average 21.9 (percent); senior high school students, 31.8; adults in general, 40.0; college students, 42.3; graduate students in business, 42.8; medical students, 50.2; law students,

52.2; liberal Protestant seminarians, 59.8; and graduate students in moral philosophy and political science, 65.2.

In recent years, a considerable amount of quantitative data has been collected on the development of students during the college years (Cooper, Healy, & Simpson, 1994; Cornelius, 1995; Hunt & Rentz, 1994; Kilgannon & Erwin, 1992; King & Kitchener, 1994; Marcia, 1980, 1993; Taub, 1995).

Formal Education and Moral Reasoning

A number of studies have found formal education to have a significant positive correlation with moral judgment (Izzo, 2000; Marnburg, 2001; McNeel, 1994; Perez-Delgado & Oliver, 1995; Rest, 1988; Rest, Narvaez, Bebeau, & Thoma, 1999; Walker, Rowland, & Boyes, 1991; Windsor & Cappel, 1999). Formal education is a predictor of more complex moral reasoning because individuals who seek higher education tend to be people who enjoy learning, are interested in self-growth, prosper in intellectually and socially stimulating environments, and are more interested and involved in community and societal issues (Rest, 1994). Rest, Deemer, Barnett, Spickelmier & Volker (1986) noted that formal education and age account for 30-50% of the variance in DIT scores in referencing 30 published articles that address the impact of these factors on moral judgment growth. As Rest *et al.* (1986) illustrated in discussing a 10-year longitudinal study considering moral judgment development as assessed by the DIT, formal education provided the greater contribution of these two correlates. Specifically, Rest *et al.* (1986) noted DIT scores starting at high school and at three subsequent points during a 10-year span. Participants were divided into three education groups: those with a high degree of education after high school (e.g., college graduates and pursuit of graduate education), those with a moderate amount of education after high

school (e.g., some college matriculation but no completion), and those with a low amount of education after high school (no or minimal college matriculation). Although differences in DIT scores were minimal among these groups at the initial testing, significant differences were seen among groups at the final testing. As Rest *et al.* (1986) stated, The high group continues to increase over time, the mediate group increases some and then levels off, and the low group actually increases only for the two years immediately following high school, then falls off.... In other words, whether a person continues schooling seems to determine his general course of development after high school. (p. 34)

Because of these findings, Rest *et al.* (1986) set the stage for consideration of what it is about formal education that fosters moral judgment development. Concordantly, other researchers have followed (Derryberry & Thoma, 2000; Pascarella & Terenzini, 1991). Rest *et al.* (1986) concluded that moral judgment develops in conjunction with advances in general social development that accompanies formal education. Pascarella and Terenzini acknowledged that formal education fosters the use of postconventional thinking due to certain within-college effects such as individual experiences, academic major, residential arrangement, and moral educational interventions. The works of Rest *et al.* (1986) and Pascarella and Terenzini (1991) agree that the type of person who chooses to go to college, or the type of person that college helps one to become, may have greater impact on moral judgment development rather than academic experience or specific courses of instruction.

The impact of higher education on student's moral reasoning is well-documented (Kohlberg, 1966, 1984; Pascarella & Terenzini, 1991; Rest, 1979, 1986). The literature indicates that significant gains in both principled moral reasoning and overall stage growth are related to age and educational level (Biggs & Barnett, 1981; Rest, 1979a,

1986). A longitudinal study by Loxley and Whitely (1986) reported freshman to senior gains of 11.14 points on the Defining Issues Test (DIT) and Rest (1979b) showed students gained almost 5 percentage points on the DIT after two years of college. Several studies suggest that the majority of moral development occurs during the first year of college (Loxley & Whitely, 1986; Menkowski & Strait, 1983; Rest, 1986; Rest & Thoma, 1985).

A vast amount of research on moral reasoning of college students has been done in Western countries; however, little work has been done in the Middle East in general and in Kuwait in particular. The purpose of this research is to examine the patterns of moral reasoning using a sample of College students from Kuwait University, and to explore the impact of the demographic variable of education on their moral reasoning abilities.

The following two research questions guided this study: (a) what are the patterns of moral reasoning of a sample of college students from Kuwait? and (b) Are there significant differences between the 4 education groups of college students 'P scores as measured by the DIT?

Method

Participants

A sample of 90 college male students participated in this study. They ranged in age from 17-25. (Mean=19.54, SD=4.23). For the purpose of this study they were divided into four groups according to their level of education: Freshmen (n=30), Sophomores (n=25), Juniors (n=24), and Seniors (n=11). All the participants were Muslims.

Instrument

The Defining Issues Test (DIT) developed by James Rest (1979b), was employed in this study. The DIT is a technically strong, reliable measure of moral reasoning in the field to date. The Defining Issues Test places individuals on a developmental continuum,

rather than at a particular developmental stage (Rest, 1986, 1988). The full DIT consists of six hypothetical moral dilemmas, but this study utilized the short form which consists of three dilemmas. The reliability of the DIT is good. The DIT has been used in over 500 studies and has been found to have good psychometric properties (Davidson and Robbins, 1978). The reliability of the DIT is strong with test-retest correlations ranging from .70 to .80 and Cronbach alpha ranging from .76 to .83 (Rest *et al.*, 1999). Rest (1979), Thoma *et al.* (1999), and Rest *et al.* (1999) have reported on a variety of studies that support the DIT's validity. For the short version used in this study, the test-retest correlations range from .58 to .77 for the P score. The Chronbach's alpha is .76 for the P score (Rest, 1986, 1988).

Procedure

The short Arabic version of the Defining Issues Test (short form) was administered to 90 students during the class. The Arabic version of the short form of the DIT includes three dilemmas: "Heinz and the Drug", "Escaped Prisoner", and "The Doctor's Dilemma". The data were collected in one session ranging from 30 to 40-minutes. Participants also provided demographic information about academic classification (freshman, sophomore, etc...)

The participants were asked to rate and rank a set of twelve statements for each dilemma, Participants respond to three sets of questions for each dilemma. The first section required the participants to decide if the character in the dilemma a) should take action or b) should not take action. Participants are also given option c) cannot decide. The second set of questions contains 12 forced-choice questions about the dilemmas. The final section required that the participants rank what they view as the four most important statements in the previous section. The principled moral reasoning (P) scale is composed of Stages 5a, 5b, and 6 of the DIT test and broadly

Table 1: Mean scores and standard deviations of the stages for the Whole sample (N=90)

STAGES	MEAN	SDs
2	4.16	5.25
3	18.36	10.54
4	35.86	13.12
5A	18.05	8.74
5B	3.65	5.10
6	7.60	5.85
A-score	5.31	5.50
P-score	29.30	10.44

corresponds to Stages 5 and 6 on Kohlberg's scale. The P-score assesses the extent to which individuals believe that laws represent social contracts between individuals and society (Stage 5) or that there are universal principles (justice, equality of human rights, and respect for dignity of individuals) that are sometimes not compatible with existing laws (Stage 6). The protocols of the DIT were then scored by hand following the standard scoring procedure recommended by Rest (1986). The Principled Morality Percentage Score (P% Score), the most widely used index of moral judgment, was employed as the primary criterion measure in this study.

Results

What are the patterns of moral reasoning of a sample of college students from Kuwait?

Table 1 shows the mean stage scores for the DIT for the sample of the participants in this present study. As can be seen, for the entire sample, the scores for the conventional level are apparently higher than for the postconventional level of moral judgment development. (Stages 3 and 4=54.22; stages 5A+5B+6 (P-score) = 29.30.

The above table reveals that stage 4 moral orientation received the highest mean score 35.86 with a standard deviation of 13.12. This result indicates that stage 4 orientation is

Table 2. Mean scores and Standard deviations for moral reasoning scores of the four educational groups.

Groups	N	Mean	SD
Freshmen	30	29.00	12.57
Sophomores	25	29.37	08.88
Juniors	24	29.63	10.66
Seniors	11	25.50	11.06

salient as a common pattern of moral thinking of the sample at large. As can be seen, for the entire sample, the scores for the conventional level are apparently higher than for their post-conventional level.

For the moral judgment indices, P scores and standard deviations ($M = 29.30$, $SD = 10.44$) are lower than published norms in general Rest (1979).

The low score of the P index in the present study may be attributed to the absence of exposure of participants to the higher levels of their current moral standards, as it is understood from the perspective of the theory of cognitive development for moral judgment (Kohlberg, 1976; 1984; Rest, 1979)

Are there significant differences between the 4 educational level groups of college students' P scores as measured by the DIT?

For the purpose of examining the research question related to the impact of the students' formal level of education on their moral reasoning, the sample was divided into four groups according to their level of education: Freshmen ($n=30$), Sophomores ($n=25$), Juniors ($n=24$), and Seniors ($n=11$).

The findings from Table 2 indicate that on the Defining Issues Test (DIT) of moral reasoning the Freshmen subjects obtained a mean score of 29.00 with a standard deviation of 12.75; the Sophomores obtained a mean score of 29.37 with a standard deviation of 08.88; the Juniors obtained a mean score of

Table 3. Analysis of Variance for Moral reasoning score of the four educational groups

Source	DF	Sum of squares	Mean Square	F
Between groups	3	157.25	52.41	.42
Within groups	86	10721	124.66	
Total	89			

29.63 with a standard deviation of 10.66.; and the Seniors obtained a mean score of 25.50 with a standard deviation of 11.06.

To ascertain the significance of the differences on moral scores for the four education groups, an analysis of variance (ANOVA) was performed. The ANOVA was tested at the level .05 for significant results. Table 3 below displays the data for the analysis of variance.

Results of the analysis of variance shown in Table 3 indicate that there is no significant difference between moral reasoning scores for the four educational groups. The obtained F test 0.42 indicates a non-significant difference at the level .05 [$F(3, 86) = .42$, $p < .05$].

Discussion

The major purpose of the present study was to investigate the impact of formal education on the moral reasoning scores of a sample of college students in the state of Kuwait. It was also possible to examine the stage scores from the results of the DIT as shown in Table 1. Examination of the moral reasoning scores indicates that the participants demonstrated a preference for stage 4, the morality of rules and study to the social order. This finding is in line with the contentions of Rest and Narváez (1994) that most people, including tertiary students, primarily use the moral reasoning of Conventional Stages 3 and 4. (Rest & Narváez, 1994; Rest *et al.*, 1999).

The analysis of the results of the four education groups revealed no significant differences between the mean P-scores of their

moral reasoning. In other words, education seemed to bear no significant importance in terms of influence on moral reasoning. Rest (1979a, p.2.1) reported that the formal education, particularly college and graduate school education, shows the most consistent and powerful relationship to the moral reasoning as measured by the DIT. Rest (1979b) provides substantial data to support the connection that educational level is a powerful predictor of variance in the DIT scores. He reviewed studies which have been performed using the DIT as the assessment tool of moral reasoning. He concluded in his review of these studies that moral reasoning seems to be more e highly related to education than age. "Cognitive restructuring of one's moral thinking seems to be more related to formal education than to the passage of years" (Rest, 1979b, p.112). However, formal education seems to have no association effect with the P-score in the present study. The findings of this research coincide with the results of Munhall's (1980) study wherein no significant differences in levels of moral reasoning were noted between baccalaureate students at four different levels on undergraduate education. Roell's (1980) findings with regard to the relationship between educational level and moral reasoning suggest that the academic year classification may not be as strongly associated with principled moral reasoning as previous research indicates. He found no significant differences at the three levels of undergraduate education and graduate level participants. In another study Griffore and Lewis (1978) did not find that moral reasoning as assessed by the P-score was related to the educational attainment of teachers. Bloom (1976) reported that master's degree candidates in education as being less capable of high level of moral reasoning than other groups of college students. These findings might suggest that regardless of education, the subjects find it necessary to adapt to what

they perceive to be the demands of their beliefs. In terms of Rest's theory, this finding on educational variable would be interpreted as showing how moral reasoning (measured by the DIT) is influenced by the extent of a participant's formal education. Rest, however, does not think moral reasoning is necessary related to the specific type of education, and as he states "Age and education do not tell the whole story" (Rest, 1979b, p.113).

The lack of significant impact of education on moral reasoning in the present study may be attributed to several factors. One such factor could be the unequal distribution of participants in the four educational levels (Freshmen (n=30), Sophomores (n=25), Juniors (n=24), and Seniors (n=11). Another factor which might have affected the presence of relationship between moral reasoning and education could be the homogeneity with regard to religious affiliation of the participants in this present study (all participants were Muslims).

Lawrence's (1978) empirical study and Alston's views (1971) suggest that despite education, moral development is determined by a person's culture and other aspects of one's theology. Contrary to Kohlberg's assertion, logical superiority is not the only important factor at work in determining preference for moral arguments. Theological superiority, as defined by one's religious ideology, may override our conceptual adequacy.

The findings of the present research are consistent with many previous studies that found no differences related to the impact of educational level on moral judgment development. (Beltramini *et al*, 1984; Bouhmama, 1988; Hawkin and Cocanougher, 1972; White, 1999). Other studies, however, demonstrated a positive relationship between levels of moral reasoning and education. Dukerich; Nichols; Elm., & Vollrath. (1990), Rest (1979a); Rest & Thoma (1985) and Rest *et al*. (1986) suggest that exposure to higher levels of education can result in an individual using

higher levels of moral reasoning to solve ethical problems and therefore expect to see an increase in moral reasoning level as the level of education increases.

Rest *et al.* (1986:57) suggest that education is a surrogate variable for other kinds of life experiences and moral judgment accompanies "a growing awareness of the social world and one's place in it".

In view of these conflicting findings on the impact of formal education on the moral judgment development, it may be difficult to issue a clear verdict in favor of or against the contentions of Rest 1979; & Rest and Tahoma, 1985 that the level of formal education has an impact upon moral judgment development cannot be rendered. Perhaps this issue needs additional research to eliminate this inconsistency and to clarify the effect of the variable of education in the field of moral development literature.

References.

- Alston, W.P. (1971). Comments on Kohlberg's "From is to ought", in T.Mischel (Ed) *Cognitive development and epistemology*. New York: Academic Press, pp. 269-284.
- Bebeau, M.(1991). Can ethics be taught? A look at the evidence. *Journal of the American College of Dentists*, 58(1), 7-15
- Betramini,R.F., Peterson,R.A., & Kormetsky,G. (1984). Concerns of college students regarding business ethics. *Journal of Education for Business*, 3, 195-200.
- Biggs, A.; & Barnett. (1981). Moral judgment development of college students. *Research in Higher Education*, 14(2), 91-102
- Bloom, R.B. (1976). Morally speaking who are today's teachers? *Phi Delta Kappan* 57, 624-625
- Bouhmama, D. (1988). Relation of formal education to moral judgment development. *Journal of Psychology*, 122 (2), 155-158.
- Cooper, D. K., Healy, M. A., & Simpson, J. (1994). Student development through involvement: Specific changes over time. *Journal of College Student Development*, 35, 98-102.
- Cornelius, A. (1995). The relationship between athletic identity, peer and faculty socialization, and college student development. *Journal of College Student Development*, 36, 560-573.
- Cummings, R., Dyas, L., Maddux, C. D., & Kochman, A. (2001). Principled moral reasoning and behavior of preservice teacher education students. *American Education Research Journal*, 38(1), 143-158.
- Davison, M. C. and Robbins, S. (1978). The Reliability and Validity of Objective Indices of Moral Development. *Applied Psychological Measurement* 2, 391-403.
- Derryberry, W. P., & Thoma, S. J. (2000). The friendship effect: It's role in the development of moral thinking in students. *About Campus*, 5(2), 13-18.
- Duckett, L. & Ryden, M. (1994) Education for ethical nursing practice. In J. Rest & D. Narvaez (Eds.), *Moral development in the professions: Psychology and applied ethics* (pp. 51-69). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Griffore, R.J., & Lewis, J. (1978). Characters of teachers' moral judgment. Educational R Dukerich, J. M., Nichols, M. L., Elm, D. R., & Vollrath, D. A. (1990). Moral reasoning in groups: Leaders make a difference. *Human Relations*, (43), 473-493.
- esearch Quarterly; 3(3), 183-201.
- Hawkins,D.I. & Cocanougher ,A.B. (1972). Student evaluations of the ethics of marketing practices: The role of marketing. *Education Journal of marketing*, 36, 61-64.
- Hunt, S., & Rentz, A. L. (1994). Greek letter group members involvement and psychosocial development. *Journal of College Student Development*, 35, 289-295.
- Izzo, G. (2000). Compulsory ethics education and the cognitive moral development of sales people: A quasi-experimental assessment. *Journal of Business Ethics*, 28, 223-241.
- Jones, J., Massey, D. W., & Thorne, L. (2003). Auditors' ethical reasoning: Insights from past research and implications for the future. *Journal of Accounting Literature*, 22, 45-103.
- Kilgannon, S., & Erwin, T. D. (1992). A longitudinal study about the identity and moral development of Greek students. *Journal of College Student Development*, 33, 253-259.
- King, P. M., & Kitchener, K. S. (1994). Development of reflective judgment. San Francisco: ossey-Bass.
- Kohlberg, L. (1966). Moral education in the schools: A developmental view. *The School Review*, 74:1-30.
- Kohlberg, L. (1969). Stage and Sequence: Cognitive-Developmental Approach to Socialization. In: Goslin, D.A. (Ed.). *The Handbook of Socialization Theory and Research*. New York: Rand McNally.
- Kohlberg, L. (1973). Continuities in childhood and adult moral development revisited. In: Baltes, P.B. & Schaie, K.W. (Eds.). *Life-span Development Psychology: Personality and Socialization*. New York: Academic Press.

Exploring the Impact of Formal Education On the Moral Reasoning Abilities... / 477

- Kohlberg, L. (1976). Moral stages and moralization: The cognitive developmental approach. In: Lickona, T. (Ed.). *Moral development and behavior*. New York: Holt, Rinehart & Winston.
- Kohlberg, L. (1984). *Essays on moral development: Vol. 2. The Philosophy of Moral Development*. San Francisco CA: Harper & Row.
- Lawrence, J. A. (1980). Moral judgment intervention studies using the defining issues test. *Journal of Moral Education*, 9, 14-29.
- Loxley, J. C., & Whitely, J. M. (1986). *Character development in college students. Volume II: The curriculum and longitudinal results*. Schenectady, NY: Character Research Press.
- Marcia, J. E. (1980). Identity in adolescence. In J. Adelson (Ed.), *Handbook of adolescent psychology* (pp. 1590-187). New York: John Wiley & Sons.
- Marcia, J. E. (1993). The status of the statuses: Research review. In J. E. Marcia, A. S. Waterman, D. R. Matteson, S. L. Archer, & J. L. Orlofsky (Eds.), *Ego identity: A handbook for psychosocial research* (pp. 205-240). New York: Springer.
- Marnburg, E. (2001). The questionable use of moral development theory in studies of business ethics: Discussion and empirical findings. *Journal of Business Ethics*, 32, 275-283.
- McNeel, S. (1994). College teaching and student moral development. In J. Rest, & D. Narvaez (Eds.), *Moral development in the professions: Psychology and applied ethics* (pp. 27-49). Hillsdale, NJ: Erlbaum.
- Menkowski, M., & Strait, M. (1983). A longitudinal study of student change in cognitive development and generic abilities in an outcome-centered liberal arts curriculum. *Final Report to the National Institute of Education*, (Report No. 6). Milwaukee, WI: Alverno College, Office of Research and Evaluation.
- Munhall, P. (1980). Moral reasoning levels of nursing students. *Image*, 12(3), 57-61.
- Narvaez, D. (2001). Moral text comprehension: Implications for education and research. *Journal of Moral Education*, 30(1), 43-54.
- Pascarella, E. T., & Terenzini, P. (1991). *How college affects students: Findings and insights from twenty years of research*. San Francisco: Jossey-Bass.
- Perez-Delgado, E., & Oliver, J. (1995). The influence of age and formal education on moral reasoning in a sample from Spain. *Journal of Moral Education*, 24(1), 65-72.
- Piaget, J. (1932). *The moral judgment of the child*. London: Routledge and Kegan Paul.
- Rest, J.R. (1979a). The impact of higher education on moral judgment development. Minnesota Moral Research Projects: *Technical Report #5*.
- Rest, J.R. (1979b). *Development in judging moral issues*. University of Minnesota Press.
- Rest, J. (1988). Why does college promote development in moral judgment? *Journal of Moral Education*, 17(3), 183-193.
- Rest, J. (1986). *Moral Development: Advances in Research and Theory*. New York: Praeger
- Rest, J. (1994). Background: Theory and research. In J. Rest & D. Narvaez (Eds.), *Moral development and the professions: Psychology and applied ethics* (pp. 1-26). Hillsdale, NJ: Lawrence Erlbaum.
- Rest, J.R. & Narvaez, D. (Eds.) (1994). *Moral development in the professions: Psychology and applied ethics*. Hillsdale, NJ: Lawrence Erlbaum.
- 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.R., & Thoma, S.J. (1985). Relation of moral judgment development to formal education *Developmental Psychology*, 21, 709-714.
- Rest, J., Narvaez, D., Bebeau, M., & Thoma, S. (1999). *Postconventional moral thinking: A neo-Kohlbergian approach*. Mahwah, NJ: Lawrence Erlbaum.
- Roell, M.S.N. (1980). Moral development levels of university educated graduate and undergraduate nursing students. *Unpublished doctoral dissertation*, University of Marquette, WI
- Taub, D. J. (1995). Relationship of selected factors to traditional-age undergraduate women's development of autonomy. *Journal of College Student Development*, 36, 141-151.
- Trevino, L. (1992). Moral Reasoning and Business Ethics: Implications for Research, Education, and Management. *Journal of Business Ethics*, pp. 445-459.
- Walker, H., Rowland, G., & Boyes, M. (1991). Personality, personal epistemology, and moral judgment. *Psychological Reports*, 68, 767-772.
- White, R. (1999). Are Women More Ethical? Recent Findings on the Effects of Gender upon Moral Development. *Journal of Public Administration Research and Theory*, 9 (3), 459-471.
- Windsor, J., & Cappel, J. (1999). A comparative study of moral reasoning. *College Student Journal*, 33, 281-288.

Copyright of College Student Journal is the property of Project Innovation, Inc. and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.