The Effect of a Research Ethics Course on Graduate Students' Moral Reasoning

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by

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Abstract

A quasi-experimental design was used to determine whether there are differences in sociomoral reasoning, as indicated by the Sociomoral Reflection Objective Measure-Short Form (SROM-SF), between a group of students who completed a research ethics course and a comparable control group. The SROM-SF was administered as a pre-test and post-test to both groups of students, those enrolled in the class (n=20) as well as the control group (n=18). Analysis of Covariance (ANCOVA) on the post-test results of the SROM-SF with the pre-test scores as a covariate indicated significant difference between the groups at the .05 alpha level ($p < .031$). The results of this study concur with other research suggesting that ethics training that includes an interactive component (e.g., discussion g roups that accompany lecture presentations) affects sociomoral reasoning, primarily by preventing the regression in SROM-SF scores evidenced by students in the control group.

Purpose

The purpose of this study was to determine whether there are differences in sociomoral reasoning, as indicated by Gibbs' Sociomoral Reflection Objective Measure-Short Form (SROM-SF), after students completed a research ethics course that utilized a combined lecture and discussion group format.

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Methodology

Subjects in the experimental group, who were exposed to the research ethics class, and subjects in a comparable control group were given the SROM-SF at the beginning of the semester and on the last day of class. usable data were collected from 20 individuals in the experimental group and 18 subjects in the control group. An analysis of covariance (ANCOVA) on the post-semester SROM-SF scores with pre-semester SROM-SF scores as the covariate was used to determine whether there were differences in sociomoral reason between the group completing the research ethics course and the control group. The ANCOVA approach to data analysis was utilized because it increases statistical power (Glass & Hopkins, 1984), beneficial in this case since the sample size was limited by class enrollments in the intact groups. Additionally, this approach was also useful in this study as it can be advantageous in nonrandomized studies in "drawing mora accurate conclusions"; it addresses systematic bias and the reduction of within-group or error variance (Stevens, 1992, p. 325).

Instrument

The instrument used to assess changes in moral judgment was the Sociomoral Reflection Objective Measure-Short Form (SROM-SF) (Basinger & Gibbs, 1987), the "shortest and least demanding" recognition measure of moral judgment" (Gibbs, Basinger, & Fuller, 1992, p. 35) that can be group administered, and is easier and more objective than measures requiring inference on the part of the rater. The questionnaire consists of two moral dilemmas and 48 moral reasoning justifications. This instrument is a shortened version of the Sociomoral Reflection Objective Measure, which has demonstrated sufficient psychometric properties (i.e., construct validity, concurrent validity with production measures of moral reasoning, test-retest reliability, and internal consistency) to serve as an indicator of moral reasoning in adults and most adolescent populations (Gibbs, Arnold, Morgan, Schwartz, Gavaghan, & Tappan, 1984). The psychometric properties of the SROM-SF are comparable to those evidenced with the longer version of this instrument (Basinger & Gibbs, 1987).

Subjects

Whereas student volunteers enrolled in the graduate-level research ethics course served as the experimental group, student volunteers from a graduate-level human resources course comprised the control group. Complete and usable data (i.e., given the exclusion rules for scoring the SROM-SF) were available for statistical analysis

from 20 subjects in the experimental group and 18 subjects in the control group. The experimental group consisted of 10 male and 10 female graduate students enrolled in health and biomedical sciences majors, with a mean age of 27; the control group was comprised of 11 male and seven female graduate students enrolled in business and management majors, with a mean age of 26.

Results and Discussion

The pre-semester and post-semester SROM-SF forms were scored twice by the primary investigator to ensure the accuracy of the two SROM-SF scores assigned to each subject. The raw SROM-SF group data are provided in Table 1. An Analysis of Covariance (ANCOVA) on the post-semester scores with the pre-semester scores as the covariate I significant difference between the groups at the .05 alpha level, corresponding to a $p < 0.031$. The results of this analysis are provided in Table 2.

Although the ANCOVA results indicated a significant difference between the groups on the post-semester SROM-SF scores, with the pre-semester SROM-SF scores as the covariate, it is interesting to note that the control group demonstrated lower SROM-SF scores at the end of the semester than at the beginning of the semester. These results are consistent with those found by Self, Wolinsky, and Baldwin (1989), who used the Gibbs' Sociomoral Reflection Measure (SRM), the instrument used as the basis for the SROM-SF, to study the effect of teaching medical ethics on medical students' moral reasoning. In the study by Self et al. (1989), their control group and a group only exposed to the lecture format also demonstrated diminished scores over time, while the group enrolled in the case-study format ethics course evidence an increase in their moral reasoning scores.

Self et al. (1989) suggested that the gain as opposed to loss in difference scores between groups may indicate that teaching ethics " . . . reduces the widely-noted increase in cynicism and lost of idealism and humanitarianism in medical students; and, if properly attended to through a case-study format, promotes growth of moral reasoning by stimulating cognitive dissonance and encouraging students to think about ethical issues in new and different ways" (Self et al., p. 758). The results of this study suggest that 1) the tendency for individuals to evidence a regression in m oral reasoning scores when they are not exposed to an interactive course in ethics extends beyond medical students to graduate students in other disciplines; 2) an interactive ethics course appears to slightly increase student's sociomoral reasoning as measured by the SROM-SF between students who complete a research ethics course and a comparable group of students who do not receive such training.

The mandates for ethics training seem feasible in addressing the goal of changing students' attitudes since interactive educational interventions in this area appear to influence sociomoral reasoning. However, whether ethics training affects

behavior remains speculative. For example, Blasi (1980) reviewed the literature in this area and concluded that the relationships between actual behavior and Kohlbergian measures of moral reasoning are low to non-existent. Furthermore, research suggests that a single educational intervention (e.g., one class) may not have significant long term effects in modifying beliefs and subsequent attitudes, suggesting that follow-up studies on students exposed to ethics training that involved an interactive component are warranted.

Limitations of this study

1. Students self-selected for inclusion in the study.

2. Sample size was limited by the size of the intact classes and the number of students who volunteered within those groups.

Table 1
Raw Group Scores on the SROM-SF

Group	Group Mean Pre-semester	Group Mean Postsemester	Pre-semester Minus Postsemester
Experimental (n=20)	345.57	348.77	+3.20
Control (n=18)	345.46	335.13	-10.33

Table 2
ANCOVA or Postsemester SROM-SF Scores with Presemester SRO"M-SF Scores as the Covariate

Source of Variation	Sum of Squares	df	Mean Square	F
Covariate (SROM-SF1	1003.218	1	1003.218	2.880
Main Effects (Group)	1754.651	1	1754.651	5.037*
Explained	2757.869	2	1378.934	3.959
Residual	12191.772	35	348.336	
Total	149949.640	37	404.044	

*p<.05 (Sig. of F=0.031)

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