Integrating Research Ethics Into the Introductory Psychology Course Curriculum

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Faculty at 2 universities integrated 6 case studies on research ethics into their introductory psychology curricula. Students who received the ethics modules were better able to identify ethical issues and consider moral ambiguities than students who received standard instruction. Students and faculty favorably evaluated the curriculum, and students indicated that ethics instruction increased their interest in research psychology and scientific ethics.

Psychology faculty have long recognized the importance of integrating ethics into the early education of college students as an effective means of fostering the values and standards that guide responsible scientific practice and of encouraging critical thinking about ethical issues for those who will become research psychologists or who will continue to be consumers of knowledge generated by psychological science (American Psychological Association [APA], 1992; Association of American Colleges, 1985; Baum et al., 1993; Hobbs, 1948; McGovern, 1988). However, surveys of psychology course offerings and reading materials suggest that there are major gaps in the coverage of research ethics in introductory psychology textbooks (e.g., Korn, 1984; Matthews, 1991; Warwick, 1980). For example, although we found mention of research ethics in 100% of 14 introductory psychology textbooks published between 1990 and 1994, these mentions were restricted to an average of 3 pages (range = 1–8 pp.) appearing at the end of chapters covering research methodology and Milgram's (1963) classic obedience study. Thus, discussion of research ethics in introductory textbooks remains tangential to presentation of core material, and introductory psychology instructors have little guidance in how to integrate the teaching of ethical issues into the course. The broad educational goal of the project described later was to develop and evaluate didactic materials that would help introductory psychology instructors teach students to identify ethical issues in human and animal research, consider moral ambiguities that arise within various experimental contexts, and to generate alternative ethical approaches to specific research designs.

The report of the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research (NCPHSBBR; 1978), known as the Belmont Report, identified three fundamental ethical principles as relevant to research with human participants: (a) beneficence (promotion of welfare and avoidance of harm), (b) respect for persons (protection of privacy and self-determination), and (c) justice (fair and equal treatment). These principles also are reflected in the APA's (1992) ethical standards related to research with human and animal participants. However, the complexity of issues examined by research psychologists often gives rise to situations for which the Belmont Report principles and APA ethical standards appear ambiguous or contradictory when applied to specific situations (e.g., Fisher, Hoagwood, & Jensen, 1996; Fisher & Tryon, 1990; Kitchener, 1986; Sieber, 1992). Accordingly, Celia B. Fisher developed six ethics cases and accompanying student focus questions to encourage introductory psychology students to recognize and critically evaluate ethical issues in experimentation with human and animal participants and to consider multiple bases and alternative perspectives on ethical problems posed by different scientific approaches to psychological issues (Jonsen & Toulmin, 1988; Whitbeck, 1987, 1992).

Curriculum

Case Studies

The curriculum consisted of six case study teaching modules based on a broad sample of "classic" empirical studies cited in a majority of introductory psychology textbooks (e.g., McConnell & Gorenflo, 1989). The case study format complements the instructor's pedagogical goals by being suitable for both coverage of ethical issues and extended discussion of research design and the topical domain addressed by the study. The first case study asked students to consider whether harm can come to participants or to society when social psychologists stage crises in public places (Piliavin & Piliavin, 1972). This was followed by case presentations on animal experimentation (Hubel, 1959) and the use of aversive procedures with human participants (Watson & Rayner, 1920). Two additional cases required critical thinking about ethical issues in socially sensitive (Scarr & Weinberg, 1976) and deception research (Schacter & Singer, 1962). The last case study drew attention to ethical issues associated with randomized clinical trials (RCT) research with participants with psychological disorders (Elkin et al., 1989).

Critical Thinking Questions

Students received a workbook that included (a) a brief abstract of each study; (b) a more detailed description of each experiment including the purpose of the study, primary hy-

pothesis, participants, procedure, results, and conclusions (Fisher & Fyrberg, 1994); and (c) homework assignments composed of four sets of focus questions requiring students to critically evaluate ethical issues derived from the Belmont Report (NCPHSBBR, 1978) and the APA Ethics Code (1992). The first set of questions focused on the scientific validity and social value of the study. This was followed by questions highlighting potential research risks within the context of the need for experimental control. The third set of questions targeted protections and threats to participant autonomy and privacy. The final set of questions addressed the tension between the investigator's dual responsibility to conduct well-controlled experiments and protect participant welfare.

Instructor's Manual

An instructor's guide for leading class discussions and grading student homework assignments included summaries of ethical issues specifically relevant to the particular experiment under study, a list of additional readings, standards relevant to research with human and animal participants from the APA's Ethics Code (1992), and three test questions and guides for grading. Piloting, student focus groups, and faculty workshops contributed to the final set of case summaries, student focus questions, and test questions.

Method

Participants

The initial sample consisted of 585 students enrolled in a total of 24 introductory psychology sections taught during fall and spring semesters at Fordham University, New York and Loyola University, Chicago. Half of the sections received the ethics-enhanced instruction and half the sections received standard ethics instruction. Although all instructors using the ethics curriculum assigned the student focus questions as homework assignments and led student discussions, the amount of time allotted to each ethics module varied as a function of differences in class size (range = 17–75 students) and teaching format (primary focus in small laboratory sections or a portion of the main lecture). Standard ethics instruction typically included a brief overview of informed consent requirements and the ethical issues associated with Milgram's (1963) use of deception in his classic obedience study. Both the enhanced and standard instructional groups received pretest and posttest questionnaires.

Instruments and Procedure

Pretest and posttest research ethics vignettes. The three test vignettes included a deception study using a Milgram-like procedure with school-aged children (Shanab & Yahya, 1977), an animal aversive conditioning study (Routtenberg & Lindy, 1965), and an RCT study with a nursing home population (Langer, 1983). For each vignette students answered two questions.

The first question (Part A) asked students to describe three ethical procedures or modifications they would use to protect the welfare and rights of the research participants in the study. Scores were on a 4-point scale ranging from 0 (*no credit*) to 3 (*full credit*) for inclusion of ethical procedures specific to the study design and population (e.g., forewarning and dehoaxing, proper care and housing of animals, health monitoring and provision of postexperimental treatment). The second question (Part B) asked students to give ethical reasons for why they would or would not conduct the study in its original form or with their modifications. A full-credit (2 points) response required articulation of the tension between a psychologist's responsibility to conduct well-controlled scientifically valuable studies and the obligation to protect the rights and welfare of research participants. Mention of only one side of this issue merited a score of 1; failure to address the moral dimensions of conducting research (e.g., simply a reiteration of the results of the study) received no credit.

Students received an explanation of the project at the beginning of the semester and either a grade or extra credit (at the discretion of their instructors) for their performance on the posttest exam. Consequently, some students chose not to take the tests, to answer only some of the questions, or failed to distinguish between Parts A and B of their answers. To ensure reliability of scoring we rated only essays of students who answered all portions of both the pre-and posttests (182 and 131 for the ethics-enhanced and standard instructional sections, respectively). Raters were blind to the instructional group. (Interrater reliability calculated on half of pretests and posttests yielded $\kappa = .84$; Cohen, 1968).

Student and faculty curriculum evaluations. At the end of the semester, students ($n = 332$) and instructors ($n = 7$) participating in the enhanced ethics instruction classes completed a 14-item evaluation questionnaire on the clarity, value, and difficulty of course material, and how well the ethics modules fit in the introductory psychology curriculum.

Curriculum Evaluation

We evaluated the impact of the curriculum in three different ways: scores on student essays, student course evaluations, and instructor curriculum evaluations. The major results of this project were derived through planned comparison tests on student essay scores following the significant Test × Condition interaction, $F(1, 305) = 16.49$, $p < .04$, derived from a 5-factor analysis of variance (ANOVA) on pretest–posttest, instructional condition, vignette, semester, and university. As predicted, significant posttest improvement emerged only for students who received the ethics-enhanced instruction (critical diff. $= .28$, $p < .01$; effect sizes for pretest–posttest differences were $d = .44$ and .05 for the enhanced and standard instructional conditions, respectively; see Table 1). Significant Instructional Class × Test interactions also emerged from 5-factor ANOVAs used to separately examine student knowledge of specific ethical procedures (Part A) and their ability to weigh scientific responsibility and participant welfare (Part B), $F(1, 305) = 12.07$, $p < .001$, and $F(1, 305) = 6.23$, $p < .02$. Although the mean scores for each part suggested

Table 1. Student Scores and Standard Deviations on Pretest and Posttest Essays With Respect to Knowledge of Specific Ethical Procedures (Part A), Ability to Weigh Scientific Responsibility and Participant Rights and Welfare (Part B), and the Combined Score

	Enhanced Ethics Instruction				Standard Instruction			
	Pretest		Posttest		Pretest		Posttest	
Test Component	Scores	*SD*	Scores	*SD*	Scores	*SD*	Scores	*SD*
Part A (range = 0–3)	.91	.72	1.26	.73	.88	.70	1.02	.70
Part B (range = 0–2)	.80	.61	.87	.61	.84	.54	.76	.62
Full test (range = 0–5)	1.69	1.00	2.13	1.03	1.72	.92	1.79	1.20

Table 2. Means and Standard Deviations for Student and Teacher Evaluations of the Enhanced Ethics Instructional Modules

	Student Evaluations[a]		Instructor Evaluations[b]	
Curriculum Features	*M*	*SD*	*M*	*SD*
Difficulty				
Brief summaries	3.13	.70	2.86	1.07
Extended summaries	3.08	.56	3.14	0.69
Student focus questions	3.19	.68	3.43	0.53
Value				
Extended summaries	2.74	.88	2.00	0.58
Student focus questions	2.70	.88	2.57	1.13
Class discussions	2.43	.94	2.14	0.90
Instructor's guide for grading homework	—	—	2.71	1.11
Instructor's guide for grading homework	—	—	2.25	0.96
Workload compared to other courses	2.82	.61	2.29	0.76
Additional Topics				
Relevance of exam questions	2.17	.60	1.71	0.49
Compatibility	2.13	.65	2.00	0.00
Increased interest in psychological research	2.32	.76	—	—
Increased interest in scientific ethics	2.36	.73	—	—
Consider using modules in future	—	—	1.00	1.00
Consider using modules on practice	—	—	1.86	0.69

Note. Judgments were made using 5-point scales for difficulty, ranging from 1 (*very elementary*) to 5 (*very difficult*); value, ranging from 1 (*excellent*) to 5 (*poor*); and workload, ranging from 1 (*much heavier*) to 5 (*much lighter*). Judgments on additional topics were made using a 4-point scale ranging from 1 (*strongly agree*) to 4 (*strongly disagree*).
[a] $n = 332$. [b] $n = 7$.

posttest improvement for the ethics-enhanced instruction group, this pattern was significant only for Part A when Scheffé tests were applied (critical diff. = .31, $p < .01$; effect sizes for differences between pretest and posttest performance for Parts A and B were $d = .48$ and .12, respectively). A perusal of the means for Part A responses to the deceptive research posttest vignette written by students in the standard instructional classes suggests that the presence of ethics coverage on the Milgram (1963) experiment in a majority of introductory psychology textbooks also enhances knowledge of ethical issues and procedures related to deception research.

As illustrated in Table 2, students and faculty participants in the ethics-enhanced classes responded favorably toward the curriculum and judged the instructional and testing materials to be appropriate for introductory psychology students. Faculty agreed that the ethics modules complemented and enhanced the introductory psychology curriculum and strongly agreed that they would use the modules in the future. Perhaps most importantly, students agreed that the topics discussed increased their interest in scientific ethics and research aspects of psychology.

Concluding Comments

Our findings demonstrate that expanded instruction in the ethics of scientific psychology using the case study method can be easily incorporated into introductory psychology classes. Ethics-enhanced instruction increased student awareness of particular ethical procedures used to protect participant's rights and welfare and to a lesser extent increased student sensitivity to the importance of considering both scientific responsibility and participant welfare in ethical decision making. The small gain in the ability to move beyond a single fixed approach to an ethical problem toward the construction of ethical resolutions that connect alternative views reflected in posttest scores on Part B is consistent with evidence indicating that although college experiences can produce gains in moral judgments (Rest

& Narvaez, 1994), immersion in ethics education may be required to change college students' epistemic assumptions and reflective judgments (King & Kitchener, 1994).

In addition to enhancing introductory students' awareness of ethical guidelines and ethical decision-making skills for research with animal and human participants, this project demonstrated that the case study approach can increase students' interest in research ethics and in scientific psychology. In the future, case study instructional formats for introductory psychology classes should be used as pedagogical tools for broadening students' understanding and sensitivity not only to research ethics but also to the full spectrum of professional and scientific ethical challenges confronting psychologists.

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Notes

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