Do Graduate Students and Faculty Differ in How They View Ethical Dilemmas?

Anthony R. Artino, Jr.

University of Connecticut

Paper presented at the 2007 annual meeting of the Northeastern Educational Research Association, Rocky Hill, CT.
Abstract

Now more than ever, scientists need to understand the professional and legal rules regarding the conduct of ethical research. The purpose of the present study was to determine if there are differences in how graduate students and faculty assess ethical dilemmas in the field of educational research. Graduate students \((n = 84)\) and faculty \((n = 38)\) completed an instrument consisting of nine ethical dilemmas, presented in vignettes. Participants were then asked to rate the extent to which they felt the behaviors depicted in the vignettes were unethical. Statistically significant differences were found for the mean ethics ratings of the two groups for two of the nine vignettes. Specifically, graduate students reported lower mean ethics ratings (i.e., they felt the behavior depicted was more unethical; \(p < .05\)) for the vignette focusing on the practice of splitting a single dataset in order to publish multiple manuscripts from a single study. Conversely, graduate students reported higher mean ethics ratings \((p < .001)\) for the vignette regarding a personal relationship between a professor and a graduate student. Effect sizes for the differences in the mean ethics ratings for the multiple manuscripts and inappropriate relationship vignettes were small \(d = .42\) to moderate \(d = .69\), respectively (Cohen, 1988). Data were then analyzed using logistic regression and results confirmed the same two group differences. Taken together, findings from this study suggest that although graduate students and faculty appear to be similar in how they ethically assess research behaviors, important differences do exist. Implications for training in research ethics are discussed.

Key words: logistic regression, professional standards, research ethics, vignettes
Do Graduate Students and Faculty Differ in How They View Ethical Dilemmas?

The entire scientific enterprise is built, in part, on the assumption of honest, ethical behavior on the part of its stewards—the scholars and scientists who develop, conduct, and review research (National Academy of Sciences, 1995; Sailor, 1997). However, troubling reports regarding ethical misconduct among “university presidents, faculty members in fields as diverse as history and the sciences, and biomedical researchers” (Langlais, 2006, ¶ 1) have been commonplace recently, sharing airtime in the media alongside tales of crooked business leaders and greedy politicians. For example, in one of the most egregious cases to date, a professor from South Korea’s top university resigned in 2005 after it was discovered he had fabricated results in his stem cell research; results that were published in the highly prestigious journal, Science, and which had raised hopes of new cures for numerous, hard-to-treat diseases (Wade, 2005).

Problems with irresponsible professional conduct and unethical behavior in the sciences are not limited to biomedical research. In a survey of 3,247 early- and mid-career scientists reported in the journal Nature, Martinson, Anderson, and de Vries (2005) found that one in three scientists admitted to committing at least one of 10 relatively serious acts of professional misconduct. For example, “15.5% said they had changed the design, methodology, or results of a study in response to pressure from a funding source; 12.5% admitted to overlooking others’ use of flawed data; and 7.6% said they had circumvented minor aspects of requirements regarding the use of human subjects” (Wadman, 2005, p. 718). And although the majority of the misbehaviors reported in the survey were not as serious as fraud, their collective effect on the scientific enterprise may be no less destructive (Martinson et al., 2005; Wadman, 2005).
Considering these alarming examples of professional misconduct and unethical research behavior, it has become clear that institutions of higher education have a critical responsibility for educating their students and faculty members regarding ethical obligations and professional standards (Langlais, 2006). To this end, the Council of Graduate Schools and the Office of Research Integrity has funded 10 pilot projects at universities around the country in an attempt to establish “best practices” for educating students and faculty in, “professional standards, ethics, and the skills necessary to identify and make decisions about such issues as conflicts of interest, authorship, ownership and use of data, plagiarism, and mentor relationships and responsibilities” (Langlais, 2006, ¶ 9). Preliminary findings from this endeavor have suggested that, in general, very little is known about how to most effectively convey acceptable ethical standards to graduate students who are entering the sciences (Langlais, 2006).

**Purpose of the Study**

Now more than ever, scientists need to understand the rules and regulations regarding the conduct of ethical research (Sales & Folkman, 2000; Strike et al., 2002). Moreover, the importance of research ethics has been underscored by several recent reports of ethical misconduct (Langlais, 2006; Martinson et al., 2005; Wade, 2005; Wadman, 2005). Finally, as discussed by Sales and Folkman (2000), dramatic shifts have occurred with respect to the “research questions, settings, populations, methods, and societal norms and values” (p. ix) currently being explored by educational researchers. These changes have resulted in emerging ethical issues for social science researchers that did not exist only a few years ago.

Considering these fundamental changes in the practice of educational research, as well as the recent revelations of research misconduct, the purpose of the present study was to determine if there are differences in how graduate students and faculty assess ethical dilemmas. Results
from this study are important because they could yield practical recommendations for research professionals who intend to create formal and informal training programs in ethics and professional standards. Ultimately, such training programs could become critical as institutions of higher education strive to develop more responsible scholars who understand and appreciate the importance of ethical research practices, and who are prepared to serve as ethically responsible role models for future students and other research professionals.

The following research questions and associated hypotheses were addressed in the present study:

**RQ1:** Compared to graduate students, do more faculty members report formal training in ethical research practices?

**H1:** Through the course of their academic and research careers, more faculty members will have received, and thus will report, formal training in ethical research practices than graduate students.

**RQ2:** Compared to graduate students, are faculty members better able to detect research behaviors that are potentially unethical?

**H2:** Due, in part, to their greater experience as researchers, as well as their exposure to more formal training in ethical research practices, faculty members will be more sensitive than graduate students to research behaviors that are potentially unethical. That is, on average, faculty members will rate questionable research behaviors as more unethical than graduate students.

**Method**

*Ethical Vignettes*

Vignettes, or scenarios, are short narratives that present key information or data pertinent to a situation (Loo, 2003). According to Fritzscbe and Becker (1982), the use of ethical vignettes
has the benefit of allowing the researcher to introduce a greater amount of background information and detail into an ethically questionable issue. Therefore, vignettes are thought to elicit, “a higher quality of data in this type of research than is possible from simple questions” (Tsaliakis & Ortiz-Buonafina, 1990, p. 511). Moreover, vignettes can improve the internal validity of a study by allowing the researcher to control the stimuli presented to respondents (Lyonski & Gaidis, 1991). As a result, many studies of ethical behavior, particularly behavior related to ethical business practices, have used vignettes that present situations requiring participants to indicate their preferred response (Loo, 2003). With these considerations in mind, the use of vignettes was chosen as a viable means of assessing a respondent’s ability to detect behaviors that are potentially unethical in the field of educational research.

Instrument Development

The instrument used in the present study was developed to highlight several ethical dilemmas commonly addressed in ethical standards published by professional research organizations, such as the American Psychological Association (APA, 2002) and the American Educational Research Association (AERA, 2000, 2006). Moreover, each vignette was designed to meet two criteria: (1) it did not require professional expertise to understand; and (2) it attempted to capture an ethical dilemma that young research professionals might realistically encounter in their academic and research careers (see recommendations in McCabe, Dukerich, & Dutton, 1991).

Based on the results of a literature review, initial vignettes were developed and a content validation was completed (DeVellis, 2003). Two content experts were recruited to participate in the content validation. One content expert was a senior faculty member in a department of educational psychology and an instructor for graduate courses in ethics in education and
psychology research. The other content expert, although more junior, was an assistant professor of educational psychology and an ethics researcher with considerable knowledge and experience in the field of academic dishonesty and moral reasoning. Based on feedback from the two content experts, the initial vignettes were edited and final versions were drafted. Table 1 provides brief summaries of each vignette; where applicable, reference to the relevant APA (2002) and AERA (2000) ethics codes are indicated.

For each vignette, respondents were asked to select the extent to which they felt the behaviors depicted in the scenario were unethical. The seven-point Likert-type response scale ranged from 1 (extremely unethical) to 7 (not an ethical issue). In total, the survey contained nine vignettes followed by 10 Likert-scale items and eight background questions. The complete survey is presented in the Appendix.

---

Insert Table 1 Here
---

Procedures

Graduate students and faculty were contacted by the principal investigator and invited to participate in a survey concerning their beliefs about research ethics. The initial recruitment email contained a hyperlink to an anonymous, Web-based survey (see Appendix). Approximately one week after the initial recruitment email, two follow-up emails were sent (roughly one week apart), encouraging individuals to participate in the survey. All recruitment emails emphasized the voluntary nature of the study; however, to encourage participation,

---

1 Vignette 9 contained two Likert-type response options: one that asked respondents to rate the behavior of the graduate student described in the scenario, and one that asked respondents to rate the behavior of the faculty member described in the scenario.
graduate students and faculty were offered entry into a drawing for a $25.00 gift certificate from a local merchant. In total, participants were given approximately three weeks from the date of the initial recruitment email to complete the survey.

**Participants**

Participants for the study included a convenience sample of 84 graduate students (69%) and 38 faculty (31%) from the school of education within a large public university in the northeastern United States. The sample included 85 women (70%) and 37 men (30%). The mean age of the graduate students was 32.3 years ($SD = 10.0$; range 22-71), and the mean age of the faculty was 45.6 years ($SD = 9.7$; range 31-63). Of the graduate students surveyed, 37 (44%) were enrolled in masters degree or sixth-year professional diploma programs and 47 (56%) were enrolled in doctoral programs. Finally, the number of peer-reviewed publications authored by participants in the present study was highly variable. Graduate students reported authorship on an average of 1.43 publications ($Mdn = 0$; $SD = 2.90$; range 0-15); whereas faculty reported an authorship average of 40.97 publications ($Mdn = 18$; $SD = 66.47$; range 0-320), demonstrating that both graduate students and professors were active educational researchers.

**Results**

**Descriptive Statistics**

Table 2 presents descriptive statistics for the 10 ethics ratings collected in the present study. As indicated, eight of the 10 ratings (vignettes 1, 2, 3, 4, 7, 8, 9a and 9b) had means that were below the midpoint of the rating scale (i.e., $< 4.0$). Moreover, these same eight items were positively skewed, and six of the eight items (vignettes 2, 3, 4, 7, 8, and 9b) were severely positively skewed (i.e., the ratio of their skewness statistic to standard error was greater than 3.0; see Tabachnick & Fidell, 2007). The remaining mean ethics ratings (vignettes 5 and 6) were
above the midpoint of the rating scale and were negatively skewed; although their skewness was not as severe as the six items described above (i.e., the ratio of their skewness statistic to standard error was less than 3.0). Taken together, the ethics ratings were not normally distributed, and, as such, were analyzed in the next section using both parametric and non-parametric techniques in an attempt to more fully explore the data.

Group Comparisons

Two-way contingency tables. To answer research question 1, a two-way contingency table analysis was conducted to evaluate whether more faculty members reported formal training in research ethics than graduate students (see Table 3). Participants’ responses to the following three questions were analyzed in this section:

1. “Have you completed the online CITI training that covers the protection of human research subjects? This is the online training required by the Institutional Review Board (IRB).”
2. “At any time in your academic career, have you completed (or taught) a course in research ethics? If you are currently taking a course in research ethics, please answer yes.”
3. “At any time in your academic career, have you completed (or taught) a course in ethics (more generally)? If you are currently taking an ethics course, please answer yes.”

Of the three questions analyzed, only one statistically significant finding emerged: the relationship between participants’ status (i.e., graduate student or faculty member) and their answers to question 1 (i.e., whether or not they had completed online CITI training; Pearson $\chi^2 (1) = 11.55, p < .01$). Of the participants who answered this question, 36 of 38 faculty members (95%) answered yes, as compared to only 54 of 82 graduate students (66%). Interestingly, the
university requires all researchers using human subjects as participants to complete IRB training prior to conducting research with human participants.

Although not specifically associated with the study’s primary research questions, participants were also asked if they had ever observed a research ethics violation while at the university. Of the 82 graduate students who answered this question, 30 (37%) responded yes. Likewise, of the 38 faculty who answered this question, 14 (37%) responded yes. These proportions were not statistically significantly different from one another (Pearson $\chi^2 (1) = .001$, $p = .978$). Altogether, 44 of the 120 participants (37%) who answered this question said yes, they had observed a research ethics violation while at the university.

_Multivariate analysis of variance._ To answer research question 2, a one-way multivariate analysis of variance (MANOVA) was conducted to determine if there were differences in the mean ethics ratings for each vignette when comparing graduate students and faculty. Statistically significant differences were found (Wilks’ Lambda = .81, $F(10, 108) = 2.59$, $p < .01$). Ten univariate $t$-tests were then conducted as follow-up tests to the MANOVA (see Table 4). Results revealed that graduate students reported lower mean ethics ratings (i.e., they felt the behavior depicted was _more_ unethical) for vignette 5 ($p < .05$) than faculty. On the other hand, graduate students reported higher mean ethics ratings (i.e., they felt the behavior depicted was _less_ unethical) for vignette 9b ($p < .001$) than faculty. The effects sizes for the differences in the mean ethics ratings for vignette 5 and vignette 9b were small ($d = .42$) to moderate ($d = .69$), respectively (Cohen, 1988).
Logistic regression. Non-parametric analytic techniques are deemed most appropriate for data that is not normally distributed (Cohen, Cohen, West, & Aiken, 2003). Overall, participants’ scores were severely skewed, some positively and some negatively. Therefore, logistic regression, a non-parametric analysis, was used to explore the data in more detail. Unlike discriminate analysis, logistic regression makes no assumptions about the distributions of the predictor variables; that is, “in logistic regression, the predictors do not have to be normally distributed” (Tabachnick & Fidell, 2007, p. 437). Considering these benefits, logistic regression was used to investigate the unique contribution of the mean ethics ratings for each vignette in predicting group membership (graduate student = 0; faculty member = 1).

Table 5 provides a summary of the logistic regression analysis. As indicated, the addition of the 10 predictors to the model resulted in statistically significant improvements in all measures of model fit (Menard, 2000). For example, the likelihood ratio chi-square test was used to assess the contribution of the 10 predictors to the model. Results indicated that the 10 predictors improved model prediction ($\chi^2 (10) = 25.87, p < .01$). Similarly, the likelihood ratio R-square test was used to assess the proportional reduction in deviance produced by the model with 10 predictors when compared to the null model; results revealed an 18.0% reduction in deviance. Additionally, the classification characteristics of the final model were improved when compared to the null model. Specifically, the model with 10 predictors correctly classified 73.1% of participants as either graduate students or faculty, while the null model correctly classified
68.9% of participants. Finally, results of the Hosmer and Lemeshow goodness-of-fit test indicated that the model with 10 predictors fit the data as well as the saturated model ($\chi^2 (8) = 6.99, p = .54$; Cohen et al., 2003).

As shown in Table 5, mean ethics ratings for vignette 5 ($b = .33, p < .05$) and vignette 9b ($b = -.68, p < .01$) were statistically significant individual predictors of group membership. For vignette 5, holding all other predictors constant, the odds of being a faculty member increased by a factor of 1.39 for every one unit increase in a respondent’s ethics rating for that vignette. Stated another way, the odds of faculty membership were significantly higher as one’s ethics rating on vignette 5 increased (i.e., graduate students rated the behaviors depicted in these vignettes as more unethical than faculty). One the other hand, for vignette 9b, the odds of being a faculty member decreased by half (odds ratio = .51) for every one unit increase in a respondent’s ethics rating for that vignette. In other words, after controlling for the other predictors in the model, the odds of faculty membership were significantly higher as one’s ethics rating on vignette 9b decreased (i.e., faculty members rated the behavior depicted in vignette 9b as more unethical than graduate students). Altogether, results from the logistic regression were consistent with findings from the parametric analyses.

Discussion

Findings from the present study were mixed. With respect to research question 1, results only partially supported the hypothesis that more faculty than graduate students would report formal training in research ethics. Consistent with expectations, 95% of faculty reported that they had completed the online CITI training, as compared to only 66% of graduate students. However, the proportion of faculty who reported that they had completed (or taught) a course in research ethics, or more general ethics, was not statistically significantly greater than the
proportion of graduate students reporting the same. Therefore, in general, the faculty members surveyed in the present study do not appear to have extensively more formal training in research ethics than their graduate students.

Similarly, for research question 2, results only partially supported the hypothesis that faculty members would rate questionable research behaviors as more unethical than graduate students. In fact, only one result supported this hypothesis—faculty ratings on vignette 9b—whereas the opposite trend was found for vignette 5 (i.e., graduate students rated the behavior depicted as more unethical than faculty members). In total, the participants surveyed in the present study do not appear to differ greatly in how they assess ethical dilemmas in the field of educational research. This finding, however, may be related to the results of research question 1. That is, because faculty do not appear to have extensively more formal training in research ethics than graduate students, one might argue that it is not surprising to also find that their sensitivity to questionable research behaviors does not differ greatly from their graduate students.

Of course, this conclusion assumes that formal training in research ethics does, in fact, affect one’s sensitivity to ethical dilemmas. Some scholars, however, have called into question this assumption (see, for example, Sailor, 1997; Tangney, 2000; Whitbeck, 1995). For instance, Sailor (1997) surveyed 390 doctoral students regarding their ethics training and then measured their responses to 44 ethical dilemmas. Overall, Sailor found, “no evidence that education of Ph.D. students in research ethics has any effect on the strictness of their stated ethical standards” (p. iv). Therefore, it may be, as Anderson, Louis, and Earle (1994) have suggested, that scientists’ ethical beliefs and behaviors are guided more by their own personal ethical standards and individual failures of judgment, than by the standards and expectations of their institution or profession, as explicitly addressed in the context of formal training in ethical research practices.
**Group Differences**

A group difference was found between graduate students and faculty members on their mean ratings for vignette 5 (two publications for the price of one). In particular, graduate students reported a lower mean ethics rating than faculty ($d = .42$, a small effect size; Cohen, 1988). It is interesting to note that vignette 5 is the only scenario that was not directly linked to an ethical standard, as outlined by either APA (2002) or AERA (2000). That being said, so-called *piecemeal publication* is explicitly addressed in the APA’s publication manual (2001). The manual states, “data that can be meaningfully combined within a single publication should be presented together to enhance effective communication” (p. 352). The manual goes on to say that whether the publication of two or more reports based on the same dataset constitutes piecemeal publication is a matter of editorial judgment. In any case, graduate students seemed to feel that the behavior depicted in vignette 5 was more unethical than faculty members; a difference that may be related to graduate students’ relative inexperience with research publication practices.

Despite group differences for vignette 5, the mean ratings for both groups were above the midpoint of the scale (i.e., $> 4.0$). Moreover, the combined mean ethics rating for vignette 5 was the second *least* unethical of the nine scenarios presented (see Table 2); indicating that, in general, participants did not have strong ethical qualms about vignette 5. Nonetheless, it seems as though graduate students and faculty interpreted this item differently. Such a disparity may highlight ethical differences that may emerge as a result of variation in personal experience and/or rank within the university. Ultimately, this group difference may signify the need to provide more guidance to graduate students and faculty alike, as they attempt to determine the
ethical issues that *may be* involved in the practice of splitting up data from one study in an effort to publish multiple manuscripts.

In support of the hypothesis that faculty members would rate questionable research behaviors as more unethical than graduate students, a group difference was found between the mean ratings for vignette 9b (inappropriate relationship on the part of the professor). Specifically, faculty members reported a lower mean ethics rating than graduate students ($d = .69$, a moderate effect size; Cohen, 1988). It seems that faculty members were much more sensitive to, and critical of, the professor’s contribution to the relationship depicted in the scenario. Moreover, the difference found may be related to faculty members’ more complete understanding of the professor’s professional responsibility in such a situation—a responsibility that is clearly articulated in the ethical principles of both APA (2002) and AERA (2000). For example, APA (2002) ethical principle 7.07, *Sexual Relationships with Students and Supervisees*, clearly states, “Psychologists do not engage in sexual relationships with students or supervisees who are in their department, agency, or training center or over whom psychologists have or are likely to have evaluative authority” (p. 10). The issue is addressed a second time in APA principle 3.03, *Multiple Relationships*, as well as in the AERA (2000) standards (Part VI, *Students and Student Researchers*, Standard 1), although AERA’s guideline is much less explicit.

Considering the difference found in the mean ethics ratings for vignette 9b, results seem to suggest that graduate students might benefit from formal and/or informal instruction regarding exactly what is and is not considered an appropriate student-faculty relationship. This recommendation is particularly relevant if one considers the extent to which students and faculty interact on a regular basis both inside and outside the laboratory. As Tabachnick, Keith-Spiegel,
and Pope (1991) have observed, “sometimes, what with so many social and other types of activities available to both students and faculty on and off campus, boundary blurring seems practically built into the academic system” (p. 514). That being said, it is worth noting that graduate students surveyed in this study did not rate the professor’s behavior as depicted in vignette 9b as “ethical” (i.e., the mean rating for graduate students was 2.99). However, the variability of graduate student ratings of vignette 9b were quite high, $SD = 2.18$, as compared to the variability of the faculty ratings ($M = 1.74; SD = 1.03$).

Prevalence of Research Ethics Violations

Many participants surveyed in the present study reported that they had observed questionable research behaviors while at the university. Specifically, of the 120 participants who answered this question, 44 (37%) indicated yes, they had observed a research ethics violation. Moreover, the proportions of graduate students and faculty members who responded yes were the same. It is interesting to note that this proportion is very similar to the results of a survey conducted by the American Physical Society (see survey description in Langlais, 2006). In their survey of junior faculty (those receiving their Ph.D. within three years), the researchers found that 39% of faculty reported that, “as graduate students or postdoctoral fellows, they had observed or had personal knowledge of ethical violations” (Langlais, 2006, ¶ 4). The question becomes, are such proportions cause for concern? Although this question may be difficult to answer empirically, it seems fair to say that such noteworthy proportions may indicate a considerable erosion of professional standards and ethics (Langlais, 2006).

Overall Vignette Rankings

All nine vignettes employed in the present study were developed to include questionable ethical behaviors. It was reassuring to note, then, that overall, eight of the 10 mean ethics ratings
collected were below the midpoint of the rating scale (i.e., < 4.0). That is, eight mean ratings were closer to the low end of the response scale (extremely unethical) than to the high end of the scale (not an ethical issue). There were two exceptions to this finding: vignette 5 (two publications for the price of one) and vignette 6 (authorship for all). As discussed above, the unethical nature of vignette 5 is ambiguous, at worst, and may be non-existent, at best. Therefore, it is not surprising to find that the overall mean rating for this item was closer to the high end of the scale (not an ethical issue) than to the low end.

On the other hand, vignette 6, which had the highest overall mean rating, is a different story. Vignette 6 addresses authorship—an issue that one could argue is more clearly articulated in the ethical standards of APA (2002) and AERA (2000) than any other. For example, AERA (2000), Part III, Intellectual Ownership, Standard 1c, clearly states, “Clerical or mechanical contributions to an intellectual product are not grounds for ascribing authorship. Examples of such technical contributions are: typing, routine data collection or analysis, routine editing, and participation in staff meetings” (p. 6). The APA standard is equally explicit, and can be found in both their ethical principles document (APA, 2002) and their publication manual (APA, 2001). Despite these clear guidelines, it appears that both graduate students and faculty did not consider the practice of giving authorship credit to minor contributors as a significant ethical issue; mean scores were 5.14 (SD = 1.80) and 5.08 (SD = 1.70), respectively. This finding is not completely unexpected, as authorship issues are an oft-cited problem in academia (see, for example, Goodyear, Crego, & Johnston, 1992). Furthermore, this result may be related to the “publish or perish” culture common to many large research institutions. Clearly, however, this finding seems to indicate the need to provide more formal training on issues of authorship, as well as more widespread discussions among academic leaders and educational researchers regarding the
increasing pressures to publish and the culture of questionable behaviors and ethical lapses that may occur, in part, as a result of such pressures (Martinson et al., 2005).

**Limitations and Future Directions**

One major limitation of the present study is the relatively small convenience sample utilized. Although significant differences were found in respondents’ ethics ratings for *some* of the vignettes, the nature of the sample limits the extent to which these findings can be generalized to other graduate students and faculty. For instance, it is possible that these results are unique to the individuals surveyed and the specific school of education and university setting investigated in the present study (Shadish, Cook, & Campbell, 2002). Future research should include larger, more diverse samples to help improve the external validity of these findings.

A second limitation of the present investigation is the use of vignettes to study respondents’ sensitivity to ethical dilemmas. Although vignettes offer numerous benefits to the ethics researcher (see discussion in the method section of this report), vignettes, “being very brief descriptions of situations, present a limited amount of information for what, in the real world of work, are complex situations and dilemmas for participants” (Loo, 2003, p. 177). Therefore, the vignettes methodology offers only a very simplified version of complex issues that, in scholarly practice, may not have clear-cut, unambiguous solutions (Strike et al., 2002).

**Conclusions**

Notwithstanding the limitations of the present study, results provide some insight into how graduate students and faculty assess ethical dilemmas. Despite some differences, the two groups, on the whole, seem to share a common ethical sensitivity to the dilemmas presented in these vignettes. Moreover, results from the present study confirm the prevalence of a significant number of ethics violations, as observed and reported by graduate students and faculty. Finally,
in the case of authorship, the findings of this study highlight discrepancies between educational researchers’ beliefs and the professional ethics codes that many of them purport to follow.

Ultimately, results from the present study help to expose ethical issues within educational research that may warrant further investigation. Although some might argue that the questionable behaviors depicted in this study represent only minor infractions, these ethical lapses should be considered no less important. As Martinson et al. (2005) have declared, “mundane ‘regular’ misbehaviors present greater threats to the scientific enterprise than those caused by high-profile misconduct cases such as fraud” (p. 737). If one accepts this argument, then it is apparent the scientific community can no longer afford to ignore such behaviors.
References


### Table 1

**Nine Vignettes and Their Corresponding Professional Ethics Code(s)**

<table>
<thead>
<tr>
<th>Vignette</th>
<th>Summary of the Scenario Presented</th>
<th>APA Ethics Code&lt;sup&gt;a&lt;/sup&gt;</th>
<th>AERA Ethics Code&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Typical data set</td>
<td>A professor and his student stretch the truth in a conference manuscript by describing their most complete data set as “a typical data set.”</td>
<td>5.01a; 8.10a</td>
<td>Part I, Standard 2; Part VI, Standard 3</td>
</tr>
<tr>
<td>2. Remove outliers</td>
<td>A graduate student decides that if she finds any outliers in her survey data, she will simply delete them from her data set.</td>
<td>5.01a</td>
<td>Part I, Standard 2 &amp; 6</td>
</tr>
<tr>
<td>3. No recommendation</td>
<td>When informed that his star student will be taking a job outside of academia, an unhappy adviser tells the student that he cannot write him a very strong recommendation.</td>
<td>7.06b</td>
<td>Part I, Standard 8 &amp; 9; Part VI, Standard 1 &amp; 5</td>
</tr>
<tr>
<td>4. No IRB needed</td>
<td>Two professors decide to survey their class without IRB approval, with the idea that if they find something interesting and want to publish it, they can always get IRB approval after the fact.</td>
<td>8.01</td>
<td>Part II, Standard 4</td>
</tr>
<tr>
<td>5. Two publications for the price of one</td>
<td>A newly minted Ph.D. decides that with all the variables she has collected in her dissertation research, she can split them up and get two publications out of her data, instead of just one.</td>
<td>&lt;sup&gt;b&lt;/sup&gt;See note.</td>
<td>–</td>
</tr>
<tr>
<td>6. Authorship for all</td>
<td>An accomplished professor ensures that all of her students are included in lab publications; even those whose only contribution to a given project amounts to data collection or data entry.</td>
<td>8.12a; 8.12b</td>
<td>Part I, Standard 2; Part III, Standard 1c</td>
</tr>
<tr>
<td>7. Stay in the study</td>
<td>A graduate research assistant strongly encourages a study participant to stay in an experiment by informing her that the professor gets very annoyed when students drop from his studies.</td>
<td>8.04a</td>
<td>Part II, Standard 5 &amp; 6</td>
</tr>
<tr>
<td>8. Make me second author</td>
<td>An adviser suggests to her student that she be added to the byline of his abridged dissertation manuscript since she knows the journal editor very well and is confident this will improve his chances of publication.</td>
<td>8.12a; 8.12c</td>
<td>Part III, Standard 1i</td>
</tr>
<tr>
<td>9a. Inappropriate relationship (student)</td>
<td>A young assistant professor and his graduate student – both single and looking for companionship – begin an intimate relationship. Respondents are asked to consider the ethical nature of the student’s behavior.</td>
<td>3.05</td>
<td>–</td>
</tr>
<tr>
<td>9b. Inappropriate relationship (professor)</td>
<td>The scenario is the same as above; however, in this case, respondents are asked to consider the ethical nature of the professor’s behavior.</td>
<td>3.05; 7.07</td>
<td>Part I, Standard 11</td>
</tr>
</tbody>
</table>

<sup>Note</sup>. The actual vignettes used in the survey were more detailed than the summaries presented here.

<sup>a</sup>Codes listed refer to ethical standards as published by the American Psychological Association (APA; 2002) and the American Educational Research Association (AERA; 2000).

<sup>b</sup>Although not specifically addressed in the ethical standards of APA or AERA, so-called piecemeal publication is addressed on pages 352-353 of the APA publication manual (2001).
## Table 2

**Descriptive Statistics for Each of the Nine Vignettes, as well as the Mean Ethics Rating**

<table>
<thead>
<tr>
<th>Rank Order</th>
<th>Vignette</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7. Stay in the study</td>
<td>122</td>
<td>2.07</td>
<td>1.60</td>
<td>1.86</td>
<td>2.81</td>
</tr>
<tr>
<td>2</td>
<td>8. Make me second author</td>
<td>122</td>
<td>2.20</td>
<td>1.49</td>
<td>1.19</td>
<td>0.55</td>
</tr>
<tr>
<td>3</td>
<td>3. No recommendation</td>
<td>122</td>
<td>2.37</td>
<td>1.77</td>
<td>1.34</td>
<td>0.81</td>
</tr>
<tr>
<td>4</td>
<td>9b. Inappropriate relationship (professor)</td>
<td>122</td>
<td>2.60</td>
<td>1.98</td>
<td>1.12</td>
<td>0.02</td>
</tr>
<tr>
<td>5</td>
<td>2. Remove outliers</td>
<td>122</td>
<td>2.79</td>
<td>1.96</td>
<td>1.02</td>
<td>-0.13</td>
</tr>
<tr>
<td>6</td>
<td>4. No IRB needed</td>
<td>121</td>
<td>2.93</td>
<td>1.92</td>
<td>0.77</td>
<td>-0.60</td>
</tr>
<tr>
<td>7</td>
<td>9a. Inappropriate relationship (student)</td>
<td>122</td>
<td>3.54</td>
<td>2.08</td>
<td>0.38</td>
<td>-1.13</td>
</tr>
<tr>
<td>8</td>
<td>1. Typical data set</td>
<td>120</td>
<td>3.90</td>
<td>1.60</td>
<td>0.45</td>
<td>-0.49</td>
</tr>
<tr>
<td>9</td>
<td>5. Two publications for the price of one</td>
<td>122</td>
<td>4.96</td>
<td>2.03</td>
<td>-0.54</td>
<td>-1.11</td>
</tr>
<tr>
<td>10</td>
<td>6. Authorship for all</td>
<td>122</td>
<td>5.12</td>
<td>1.76</td>
<td>-0.57</td>
<td>-0.90</td>
</tr>
<tr>
<td></td>
<td>Mean Ethics Rating</td>
<td>122</td>
<td>3.25</td>
<td>.93</td>
<td>.48</td>
<td>.41</td>
</tr>
</tbody>
</table>

*Note. Vignettes are ranked from the lowest mean rating (i.e., the most unethical behaviors) to the highest (i.e., the least unethical behaviors). The response scale ranged from 1 (extremely unethical) to 7 (not an ethical issue).*
### Table 3

Differences between Graduate Students’ and Faculty Members’ Responses to Background Questions

<table>
<thead>
<tr>
<th>Completed online CITI training?</th>
<th>Graduate Students</th>
<th>Faculty</th>
<th>Pearson Chi-Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>Yes</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>82</td>
<td>54</td>
<td>65.9</td>
<td>38</td>
</tr>
<tr>
<td>Completed (or taught) research ethics course</td>
<td>82</td>
<td>28</td>
<td>34.1</td>
</tr>
<tr>
<td>Completed (or taught) general ethics course?</td>
<td>83</td>
<td>35</td>
<td>42.2</td>
</tr>
<tr>
<td>Observed research ethics violation?</td>
<td>82</td>
<td>30</td>
<td>36.6</td>
</tr>
</tbody>
</table>

*Note. *p < .01.*
### Table 4

*Results of t-Tests Comparing Graduate Student and Faculty Ethics Ratings for Each Vignette*

<table>
<thead>
<tr>
<th>Vignette</th>
<th>Graduate Students</th>
<th>Faculty</th>
<th>t</th>
<th>df</th>
<th>Cohen's d</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>M</td>
<td>SD</td>
<td>N</td>
<td>M</td>
</tr>
<tr>
<td>1. Typical data set</td>
<td>83</td>
<td>3.99</td>
<td>1.70</td>
<td>37</td>
<td>3.70</td>
</tr>
<tr>
<td>2. Remove outliers</td>
<td>84</td>
<td>2.73</td>
<td>1.99</td>
<td>38</td>
<td>2.92</td>
</tr>
<tr>
<td>3. No recommendation</td>
<td>84</td>
<td>2.45</td>
<td>1.88</td>
<td>38</td>
<td>2.18</td>
</tr>
<tr>
<td>4. No IRB needed</td>
<td>83</td>
<td>2.99</td>
<td>2.00</td>
<td>38</td>
<td>2.79</td>
</tr>
<tr>
<td>5. Two publications for the price of one</td>
<td>84</td>
<td>4.70</td>
<td>2.02</td>
<td>38</td>
<td>5.53</td>
</tr>
<tr>
<td>6. Authorship for all</td>
<td>84</td>
<td>5.14</td>
<td>1.80</td>
<td>38</td>
<td>5.08</td>
</tr>
<tr>
<td>7. Stay in the study</td>
<td>84</td>
<td>2.15</td>
<td>1.70</td>
<td>38</td>
<td>1.87</td>
</tr>
<tr>
<td>8. Make me second author</td>
<td>84</td>
<td>2.13</td>
<td>1.48</td>
<td>38</td>
<td>2.37</td>
</tr>
<tr>
<td>9a. Inappropriate relationship (student)</td>
<td>84</td>
<td>3.69</td>
<td>2.12</td>
<td>38</td>
<td>3.21</td>
</tr>
<tr>
<td>9b. Inappropriate relationship (professor)</td>
<td>84</td>
<td>2.99</td>
<td>2.18</td>
<td>38</td>
<td>1.74</td>
</tr>
</tbody>
</table>

*Note. Cohen’s d is only reported for comparisons that exhibited statistically significant differences.*

* *p < .05. **p < .001.*
### Table 5

**Logistic Regression Results Predicting Group Membership (graduate student = 0; faculty member = 1).**

The Independent Variables were the 10 Ethics Ratings for the Nine Vignettes.

<table>
<thead>
<tr>
<th>Vignette</th>
<th>b</th>
<th>SE</th>
<th>Wald $\chi^2$</th>
<th>df</th>
<th>p</th>
<th>OR</th>
<th>95% CI for OR</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Typical data set</td>
<td>-.23</td>
<td>.15</td>
<td>2.28</td>
<td>1</td>
<td>.13</td>
<td>.79</td>
<td>.59</td>
<td>1.07</td>
<td></td>
</tr>
<tr>
<td>2. Remove outliers</td>
<td>.06</td>
<td>.13</td>
<td>.21</td>
<td>1</td>
<td>.65</td>
<td>1.06</td>
<td>.82</td>
<td>1.36</td>
<td></td>
</tr>
<tr>
<td>3. No recommendation</td>
<td>-.10</td>
<td>.15</td>
<td>.43</td>
<td>1</td>
<td>.51</td>
<td>.91</td>
<td>.68</td>
<td>1.21</td>
<td></td>
</tr>
<tr>
<td>4. No IRB needed</td>
<td>-.09</td>
<td>.13</td>
<td>.54</td>
<td>1</td>
<td>.46</td>
<td>.91</td>
<td>.71</td>
<td>1.17</td>
<td></td>
</tr>
<tr>
<td>5. Two publications for the price of one</td>
<td>.33</td>
<td>.14</td>
<td>5.62</td>
<td>1</td>
<td>.02</td>
<td>1.39</td>
<td>1.06</td>
<td>1.82</td>
<td></td>
</tr>
<tr>
<td>6. Authorship for all</td>
<td>-.07</td>
<td>.15</td>
<td>.19</td>
<td>1</td>
<td>.66</td>
<td>.94</td>
<td>.70</td>
<td>1.26</td>
<td></td>
</tr>
<tr>
<td>7. Stay in the study</td>
<td>-.13</td>
<td>.18</td>
<td>.52</td>
<td>1</td>
<td>.47</td>
<td>.88</td>
<td>.63</td>
<td>1.24</td>
<td></td>
</tr>
<tr>
<td>8. Make me second author</td>
<td>.14</td>
<td>.17</td>
<td>.63</td>
<td>1</td>
<td>.43</td>
<td>1.15</td>
<td>.82</td>
<td>1.60</td>
<td></td>
</tr>
<tr>
<td>9a. Inappropriate relationship (student)</td>
<td>.31</td>
<td>.17</td>
<td>3.50</td>
<td>1</td>
<td>.06</td>
<td>1.36</td>
<td>.99</td>
<td>1.89</td>
<td></td>
</tr>
<tr>
<td>9b. Inappropriate relationship (professor)</td>
<td>-.68</td>
<td>.22</td>
<td>9.62</td>
<td>1</td>
<td>.00</td>
<td>.51</td>
<td>.33</td>
<td>.78</td>
<td></td>
</tr>
</tbody>
</table>

**Model Summary Statistics**

\[ \chi^2 (10) = 25.87, p < .01 \]

- Likelihood Ratio Chi-Square
- Likelihood Ratio R-Square
- % Correctly Classified

**Note.** $b =$ unstandardized regression coefficient; OR = odds ratio; CI = confidence interval.
Appendix

Research Ethics Survey

**PLEASE ANSWER ALL ITEMS HONESTLY. YOUR ANSWERS WILL REMAIN ANONYMOUS.**

Below you will find nine vignettes each describing a research scenario that may or may not contain an ethical dilemma. Please use the scale provided to evaluate the behaviors described in each scenario. As much as possible, try to imagine yourself in these situations and honestly consider what you might do.

*Vignette 1:* Professor Smith and his first-year graduate research assistant, John, are preparing a paper describing their research. The abstract for this paper was accepted for presentation at a major conference in their field. Reading over the paper, John points out that Professor Smith has described a certain data set as "a typical data set" and says, somewhat hesitantly, "I thought that was our most complete data set." Professor Smith tells John that calling the data set a typical data set is just a way of speaking. John looks at him with concern but thinks to himself, “he’s been doing this a lot longer than me” and goes with it.

I feel Professor Smith's actions are...

<table>
<thead>
<tr>
<th>extremely unethical</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>not an ethical issue</th>
<th>7</th>
</tr>
</thead>
</table>

*Vignette 2:* Mary is preparing a survey for her dissertation research. Based on past experience, she anticipates that when she is scoring the results she will find an occasional data point that suggests the respondent did not correctly interpret the question (for instance, if the answer is several orders of magnitude off from the other survey responses). Mary decides that if she finds any such outliers, she will simply delete them from her data set.

I feel Mary's planned actions are...

<table>
<thead>
<tr>
<th>extremely unethical</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>not an ethical issue</th>
<th>7</th>
</tr>
</thead>
</table>

*Vignette 3:* Mark, an outstanding student, is married and his wife is expecting their second child. Although he has been well-groomed by his advisor for a career in academia, he now realizes he would like to take a job in industry so he can better support his growing family. When he asks his advisor, Professor Academic, for a recommendation it becomes clear that his decision is not welcomed news. Professor Academic wants Mark to continue in academia, carrying on the important work they've begun together. He tells Mark that his recommendation for him to an industry position will not be very strong since all he really knows is Mark's outstanding contributions to the research they've been doing.

I feel Professor Academic's behavior is...

<table>
<thead>
<tr>
<th>extremely unethical</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>not an ethical issue</th>
<th>7</th>
</tr>
</thead>
</table>

*Note: The first three scenarios were adapted from the Online Ethics Center for Engineering and Science at Case Western Reserve University. Retrieved March 2, 2007, from http://onlineethics.org/reseth/scenarios.html.*
Vignette 4: Professors James and Johnson are preparing for an upcoming course they are co-teaching. Both professors are interested in surveying their class regarding students’ study habits and how those habits relate to their attitudes about the course. The professors decide to develop an anonymous survey to be given to their class. However, because time is short, they decide to bypass IRB approval. Professor James is a bit concerned about this decision, but Professor Johnson says it’s really not an issue since it is likely they will only use the results of the survey to improve their class. He goes on to say that if they do find something interesting, and want to publish it, they can always just get IRB approval after the fact. Professor James agrees and they proceed with the plan.

I feel the professors’ actions are…

| extremely unethical | 1 | 2 | 3 | 4 | 5 | 6 | not an ethical issue | 7 |

Vignette 5: Kim just defended her dissertation and is ecstatic. She now wants to pare down her dissertation and submit it to a reputable journal. As she thinks about her approach to getting her first publication, she determines that with all the variables she has collected, she can probably split them up and get two publications out of her data. Even though all her variables fit into one theoretical framework and were selected to answer one overarching research question, she figures, as a young scholar looking for work in academia, splitting her data is probably a good way to strengthen her CV. She talks with her advisor and she agrees.

I feel Kim’s planned actions are…

| extremely unethical | 1 | 2 | 3 | 4 | 5 | 6 | not an ethical issue | 7 |

Vignette 6: Professor Rockstar’s research lab is very well respected within the university. In just one year she and her graduate students have conducted more than seven research projects and have written over 10 manuscripts that are scheduled to appear in an array of outstanding journals. In an effort to help her students build their CVs, Professor Rockstar ensures that all five members of her lab are included as authors on each and every manuscript. And while the order of authorship is usually dependent on each member’s contribution, all five students are always included in lab publications; even those students whose only contribution to a given project amounts to data collection or data entry.

I feel Professor Rockstar’s behavior is…

| very unethical | 1 | 2 | 3 | 4 | 5 | 6 | not an ethical issue | 7 |

Vignette 7: Professor Allan and his team are in the midst of an exciting, experimental research project involving students from one of Professor Allan’s classes. About half way through the study, a participant approaches Sam, one of Professor Allan’s graduate research assistants, and asks to withdraw from the experiment. Knowing how upset Professor Allan can get, Sam encourages the student to stay on. Moreover, Sam reminds the student about the iPod drawing at the end of the study and also tells her that Professor Allan tends to get very annoyed when students drop from his experiments. After considering Sam’s advice, the student decides she’ll finish the study.

I feel Sam’s behavior is…

| extremely unethical | 1 | 2 | 3 | 4 | 5 | 6 | not an ethical issue | 7 |
Vignette 8: Steve has just completed his doctoral dissertation and is preparing an abbreviated version of it for submission to a premier journal in the field. Just before mailing in his manuscript, Steve sends it to his major advisor, Assistant Professor Weber, for a review. After providing Steve with a few recommended edits, Dr. Weber suggests to him that she be added to the byline as the second author since she knows the journal editor very well and is confident this will improve his chances of publication. Steve has never heard of such a thing and is a little disheartened. Regardless, he’s very hesitant to disagree with Dr. Weber. After all, Steve still needs a favorable recommendation from her to help kick-start his academic career. Ultimately, he agrees, and Steve submits his abridged dissertation manuscript with Dr. Weber as the second author.

I feel Dr. Weber’s behavior is…

| extremely unethical | 1 | 2 | 3 | 4 | 5 | 6 | not an ethical issue | 7 |

Vignette 9: Dr. Thompson, a young assistant professor, and Jill, his graduate research assistant, have been working together for about one year on a series of research projects. Recently, due to a looming grant proposal deadline, Dr. Thompson and Jill have been working late in the lab. During one of their late-night sessions, Dr. Thompson and Jill break from their work, order take-out, and, for the first time since Jill started her doctoral program, discuss non-work-related issues. It soon becomes clear that they have many things in common, including being “single and looking.” Following their friendly conversation, Jill senses that it is up to her to make the first move. She asks Dr. Thompson (now “Bill” to her) to walk her to her campus apartment. Once there, she invites him in for a “night cap.” Dr. Thompson is surprised, but pleasantly so, and the two head up to Jill’s room.

I feel Jill’s behavior is…

| extremely unethical | 1 | 2 | 3 | 4 | 5 | 6 | not an ethical issue | 7 |

I feel Dr. Thompson’s behavior is…

| extremely unethical | 1 | 2 | 3 | 4 | 5 | 6 | not an ethical issue | 7 |

Background Questions:

1. Are you male or female?
   a. Male
   b. Female

2. Are you a graduate student or a faculty member?
   a. Graduate Student (masters or sixth-year diploma)
   b. Graduate Student (doctoral)
   c. Faculty

3. What is your age?
   ____________________________ Years

4. Approximately how many peer reviewed publications have you authored in your academic career? Please include peer reviewed journals, edited book chapters, and stand-alone books that are currently published or in press. Include all manuscripts for which you are listed as one of the authors.
   ____________________________ Manuscripts
5. Have you completed the online CITI training that covers the protection of human research subjects? This is the online training required by the Institutional Review Board (IRB).
   a. Yes
   b. No

6. At any time in your academic career, have you completed (or taught) a course in research ethics? If you are currently taking a course in research ethics, please answer “yes.”
   a. Yes
   b. No

7. At any time in your academic career, have you completed (or taught) a course in ethics (more generally)? If you are currently taking an ethics course, please answer “yes.”
   a. Yes
   b. No

8. Have you ever observed a research ethics violation while at the University of Connecticut?
   a. Yes
   b. No

Thank you for taking the time to complete my survey!