Researcher Perceptions of Ethical Guidelines and Codes of Conduct

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Abstract

Ethical codes of conduct exist in almost every profession. Field-specific codes of conduct have been around for decades, each articulating specific ethical and professional guidelines. However, there has been little empirical research on researchers' perceptions of these codes of conduct. In the present study, we interviewed faculty members in six research disciplines and identified five themes bearing on the circumstances under which they use ethical guidelines and the underlying reasons for not adhering to such guidelines. We then identify problems with the manner in which codes of conduct in academia are constructed and offer solutions for overcoming these problems.

Keywords

guidelines; ethics; misconduct; codes of conduct

In the summer of 1999, the Institute for Human Gene Therapy at the University of Pennsylvania was conducting experimental clinical gene therapy trials for OTC deficiency, a rare disorder characterized by an excess of ammonia and orotic acid in the blood, often

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leading to fatal outcomes. After weeks of uneventful trials, Jesse Gelsinger, an 18 year old with the disease, volunteered for the therapy in hopes of getting answers about his illness. Within hours of beginning the trial, Gelsinger suffered a chain reaction in which he developed a fever, a blood-clotting disorder, jaundice, and spiked ammonia levels, and suffered multiple-organ failure, before falling into a brain-dead coma. Gelsinger was dead less than four days after the trial began. A Federal Drug Administration investigation into the proceedings unveiled myriad violations of ethical guidelines and regulations. It was found that the university had failed to report serious side effects from the gene therapy experienced by two previous patients. Additionally, informed consent documents failed to disclose the deaths of monkeys from similar techniques in earlier animal trials. Finally, it was found that the principal investigators and the University of Pennsylvania held a patent for the clinical drug and had a stake in the company producing it, representing a conflict of interest. The Institutional Review Board (IRB) at the University of Pennsylvania approved the study with the requirement that no documents be changed. The approved materials showed consent forms with information regarding the sickness and deaths of animals in prior trials, but the consent forms given to Gelsinger lacked such information (Wilson, 2010). Ultimately, investigation into the case led to major setbacks for scientists working on gene therapy research.

The case of Jesse Gelsinger provides an illustration of how poor ethical decisions such as failing to adhere to ethical guidelines and ethical codes of conduct can lead to severe consequences. Additionally, lapses in ethical judgment from prestigious, credible, and powerful corporate employees can undermine the credibility of their organizations or professions (Bayles, 1981; Frankel, 1989; Savan, 1989; Kerr & Smith, 1995). Indeed, ethical codes of conduct provide a valuable source of information for individuals engaged in ethical decision making (Neukrug, Lovell, & Parker, 1996). A code of ethics is a written, formal document consisting of moral standards and guidelines intended to help guide employee or corporate behavior (Schwartz, 2002; Stevens, 1994). Because of their presumed importance to organizations and research, codes of ethics are common. According to a 1992 study by the Center for Business Ethics, more than 90 percent of large corporations have codes of ethics in place, a substantial increase from the approximately 40 percent of large corporations reporting ethics codes in the 1950s (Fulmer, 1969). Gordon and Miyake (2001) suggest that such codes of conduct can be used to prevent and counteract unethical behavior (e.g. bribery).

Although codes of conduct and ethical guidelines play a critical role in corporate and business contexts, they may be of even more importance with regard to research settings. Each scientific field or discipline has its own set of ethical and professional guidelines or principles (Helton-Fauth et al., 2003; McCabe, Trevino, & Butterfield, 1996). Within these disciplines, ethical guidelines differ in detail and content. For example, the code of ethics for the American Society For Biochemistry and Molecular Biology consists of three brief subsections featuring various obligations to the public, other investigators, or trainees. On the other hand, the ethical principles and code of conduct for psychologists, a field consisting of both researchers and practitioners, contains a preamble, five general principles, and many specific ethical standards covering, in great detail, every aspect of the various psychological disciplines and jobs (American Psychological Association, 2002). The

principles assume a largely interactional focus, with emphasis on respect for humans and their rights, integrity, justice and relational responsibility. Codes of conduct in the computer sciences are much more general and emphasize qualities such as professional competence, honoring of commitments, and respect for electronics (Association for Computing Machinery, 1992). With regard to the Gelsinger case presented earlier, the National Institutes of Health Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules (2013) offers a comprehensive array of guidelines and practices expected to be followed by researchers. Clear stipulations regarding informed consent and full disclosure of conflict of interest were disregarded in the Institute for Human Gene Therapy clinical trial.

In addition to cross-field differences in ethical guidelines, many subdisciplines have their own specialty guidelines and codes of conduct. For example, within the general field of engineering, mechanical engineering (American Society of Mechanical Engineering, 2012), civil engineering (Institution of Civil Engineers, 2008), chemical engineering (American Institute of Chemical Engineers, 2003), and nuclear science (American Nuclear Society, 2003) each have their own set of specific guidelines or codes of conduct.

Codes of ethics and professional guidelines are established for a number of reasons. First, establishing codes and guidelines creates consistent normative standards for researchers of a particular field (Schwartz, 2002). Additionally, codes of conduct are created so as to avoid legal consequences of ethical breaches and to promote public image (Ethics Resource Center, 1990) or to ensure that members of a field maintain a higher standard of conduct than would be called for by law (Backof & Martin, 1991). Researchers create guidelines and formal ethics codes according to what issues are most prevalent as scientific advancements are made (Cressey & Moore, 1983; Lefebvre & Singh, 1992). Ethical codes and professional guidelines are enacted to assure outside parties, such as clients, colleagues, and the public, that integrity will be maintained and that high standards are of utmost priority (Ward, Ward, Deck, & Allen, 1993). Codes may be established with a goal of mediating disputes (Frankel, 1989) or forcing individuals to question their present values (Meyer, 1987).

Despite the prevalence and importance of codes of conduct, studies examining their effectiveness with regard to behavior offer mixed results. Some studies have shown ethical codes to be effective; that is, they achieve their purpose. In an experimental study, Hegarty and Sims (1979) found that graduate student participants who were instructed to make decisions under conditions in which an organizational ethics policy was in place made more ethical decisions than those not consulting an ethics policy. Similarly, in another study, when participants were asked to react to scenarios, it was found that the condition featuring a code of ethics influenced the morality of participants' actions (Laczniak & Inderrieden, 1987), indicating that unethical behavior can be controlled or mitigated through organizational practices and policies. A qualitative study bearing on computer ethics concluded that formal codes of computer ethics impact decision making and are thus important to have (Pierce & Henry, 1996), as long as the codes are effectively communicated throughout the organization and considered legitimate by members.

Given these potential moderators, it is not surprising that other researchers have found a weak or no relationship between these codes and ethical behavior, or otherwise argued against their effectiveness and utility. In their survey study of business students, Cleek and Leonard (1998) found that codes of ethics are not strong enough tools to influence ethical decision-making behavior. The presence of an organizational code of ethics did not correlate with research ethics judgments in a study examining judgments of marketing professionals about ethical issues in marketing research (Akaah & Riordan, 1989). Murphy, Smith, and Daley (1992) found a weak relationship between existence of ethical codes and ethical behavior, indicating that ethical codes, and leadership in particular, do not strongly affect ethical behavior, finding instead that attitudes and organizational size are better predictors of ethical behavior.

The increasing number and types of ethical misconduct violations occurring in scientific research (Van Noorden, 2011) suggests that ethical codes of conduct and professional guidelines are not serving their purpose. How codes are perceived by researchers is important for better understanding their strengths and weaknesses. The ambiguous findings regarding the effectiveness of ethical codes of conduct and professional guidelines led us to examine researchers' awareness of and perceptions about ethical guidelines.

Method

To investigate these research questions, a number of research professionals in various scientific disciplines were interviewed regarding their responses on a test of ethical decision making in the sciences. The content of these interviews was analyzed to identify themes in participants' discussion of codes of conduct and professional guidelines in academic or research settings.

Sample

The sample of this study consisted of 64 faculty members at a large southwestern university. Of these, 37 were male and 27 were female. Additionally, 15 faculty members were assistant professors, 28 faculty members were associate professors, 20 faculty members were full professors, and one faculty member was an adjunct professor. Professors were recruited from six disciplines comprised of related fields of study: performance (e.g. drama, theatre, architecture) ($n = 10$), biological sciences (e.g. botany, biochemistry) ($n = 6$), health sciences (e.g. medicine, dentistry) ($n = 22$), humanities (e.g. history of science, philosophy) ($n = 5$), physical sciences (e.g. engineering, geology) ($n = 7$), and social sciences (e.g. sociology, economics) ($n = 14$). Faculty members were recruited to participate in a study of ethical decision making by the graduate liaisons of their departments following a presentation regarding the purpose of the study.

Ethical Decision-Making Instrument

In order to identify researchers' perspectives regarding ethical codes of conduct and professional guidelines, it was necessary to induce thinking regarding their decision making in ethically ambiguous situations. To do this, participants were asked to complete an ethical decision-making instrument developed by Mumford and colleagues (2006). This instrument

presents participants with a number of field-relevant scenarios containing ethical dilemmas and asks them to choose how the main character in the scenarios should respond from a set of multiple response options. This approach was favored over an explicit interview about guidelines because it encouraged participants to discuss their perceptions of research guidelines within the context of ethically-loaded hypothetical scenarios, thus likely producing more honest, less socially desirable responses.

The creation of this instrument was guided by review and discussion of codes of conduct across fields of study, which led to the categorization of four broad dimensions of ethical behavior in the sciences: 1) data management, 2) study content, 3) professional practices, and 4) business practices. In order to tap these four dimensions, six equivalent measures were created with each measure intended to address a particular discipline of study (e.g. physical sciences, biological sciences, humanities, performance, health sciences, and social sciences). Although the scenarios differ in content based on field of study, they present test-takers with similar ethical situations.

Each measure consisted of between four and seven scenarios, each with approximately five follow-up questions. Each question in the instrument presented approximately eight response options and asks test-takers to select the two options that they believe represent the best ways to respond to the ethical dilemma presented in the scenario. An example scenario, question, and possible responses are shown in Table 1. Each response was coded by experts as either low (1 pt.), medium (2 pts.), or high (3 pts.), with low responses representing poor responses and high representing good responses to the ethical dilemma featured in the scenario.

Evidence of construct validity for these instruments, including divergent and convergent validity evidence, as well as correlations with measures of expected causes and outcomes of ethical decisions, is available in a summary article by Mumford et al. (2006).

In the present study, participants completed online versions of their field-specific instruments via Qualtrics, a web-based survey tool. For example, engineers completed the physical sciences version of the instrument to ensure that the material presented in the scenarios was relevant to their research and professional experiences. Upon completing their respective surveys, participants were given scores for each scenario based on the number of low, medium, and high response options they selected for those scenarios. Each participant also received an overall ethical decision-making score for the entire instrument, representing an average score across each of the included scenarios. To identify scenarios most likely to represent instances of lower and higher ethical decision making, for each participant, only scenarios on which a participant scored more or less than a half standard deviation above his or her own average score were extracted for subsequent interviewing. These scenarios are of particular importance because they represent participants' good and poor ethical decisions relative to their overall level of ethical decision making.

Think-Aloud Protocol Interviews

Following a one-week lag period, participants participated in a think-aloud protocol interview in which they were asked questions regarding their reasoning for selecting their

answers on scenarios identified as examples of poor or good ethical responses. A pool of four interviewers, industrial-organizational psychology graduate students familiar with the ethical decision-making literature, carried out the one-on-one interviews. To prepare for the interviews, interviewers underwent a thorough training process. This process involved interviewers practicing interviewing one another, with recordings of the interviews reviewed for consistency via consensus agreement. After establishing a consistent interview procedure, interviewers piloted the interview protocol on two faculty volunteers. These pilot interviews were also recorded, transcribed, and reviewed for consistency. Following approval of faculty pilot interviews, the formal interview process with real participants commenced. These interviews were also recorded and transcribed for subsequent analysis.

Content Analysis

Transcribed interviews were then content analyzed. To be more specific, all participant discussion of ethical codes, professional guidelines, and codes of ethics was identified and analyzed for thematic content. To isolate portions of the transcripts in which participants discussed codes of conduct or professional guidelines, keywords associated with these topics were devised and utilized. Keywords associated with codes of conduct and professional guidelines were listed and reviewed by subject matter experts in ethical decision-making and revised to accommodate their suggestions. A list of these keywords can be found in Table 2. NVivo 9, a computer-based qualitative analysis program, was then used to search all interview transcripts for words on the keyword list. Text surrounding these keywords was extracted and assessed for relevance by the coders, who reached consensus agreement.

Text identified as relevant to codes of conduct or professional guidelines was then sorted into categories, each labeled as a theme present in the discussion of codes of conduct or professional guidelines by researchers. These themes were reviewed by three faculty subject matter experts, in order to confirm that the excerpts related to codes of conduct or professional guidelines and that the thematic groupings reflected distinct, meaningful categories.

Results

NVivo analysis of transcript content identified a total of 22 text excerpts from the 64 faculty interviewees as dealing concretely with issues involving codes of conduct, ethics codes, or professional guidelines. These 22 excerpts were sorted into five general themes: 1) expressing ignorance regarding guidelines, 2) use of ethical guidelines when a clear rule is available and consequences are substantial, 3) deference to professional norms over field-relevant ethical guidelines, 4) use of one's internal compass in absence of clear guidelines, and 5) thinking of guidelines as flexible, idealistic, and representing a best-case scenario. Further discussion of each theme is presented below. It should be noted that any quotes used as examples in the following sections represent close approximations of relevant quotes from faculty interviews. Actual quotes have been slightly adjusted or generalized to protect confidentiality.

Expressing Ignorance or Lack of Knowledge Regarding Guidelines

Six of the 22 identified excerpts involved participants expressing ignorance or lack of knowledge regarding guidelines. Individuals responding in this manner tended to be ignorant of specific guidelines in their respective fields. Examples similar to participant responses include, "There may be a guideline regarding this issue, but I couldn't point it out to you," "I'm not sure what the rules are here at the university," and "I don't know if there are any written guidelines; I think most people just make their best guess." Interestingly, it appears that individuals are actually aware of their ignorance regarding codes of conduct and professional guidelines, as illustrated in the above remarks and similar responses, such as "I didn't know about consulting professional guidelines," and "I just don't know if they're written down anywhere. I don't know if the primary professional association guidelines in my field tells you that or not." These individuals display a lack of knowledge about field-relevant guidelines and codes of conduct.

Use of Ethical Guidelines When Clear Rule is Available and Consequences are Substantial

Two of the 22 identified excerpts involved individuals referring to ethical guidelines that are clear and penalties potentially serious. Responses falling under this theme tend to refer to guidelines when they believe a clear, concrete rule is available, and when consequences may be substantial and costly. Discussion in this area typically revolved around issues involving informed consent, conflict of interest, and authorship/ownership rights. Some example statements include, "I think most journals have a policy in place and tell you who should be on the paper," "It is important to describe all the possible risks in the informed consent form because that is something we are required to do," and "… checking the guidelines, I think this is very important because codes usually say something about avoiding conflicts of interest." The emphasis in these statements is on adhering to known, clear rules in situations with potentially serious consequences.

Deference to Professional Norms Over Field-Relevant Guidelines

Four of the 22 excerpts involved participants favoring the norms of their profession over official guidelines of the field. Thematic analysis revealed that many researchers defer to professional norms rather than ethical guidelines in a given field. For example, "This is more a matter of professional responsibility than one of ethics," There aren't really ethical guidelines here; it's more of a culture thing," and "I'm not sure if my field's professional society has rules about multi-author papers, but I wouldn't consult a handbook anyway because it's more culture issue." Here respondents appear to downplay the importance of guidelines in favor of more subjective, easier-to-follow norms within the field.

Use of Internal Compass in Absence of Clear Guidelines or Norms

Of the 22 excerpts, seven involved individuals using some sort of internal compass when clear guidelines are unavailable. When researchers cannot identify clear guidelines to follow and are unable to fall back on clear professional norms, they appear to use their own internal moral compasses to guide their decision making. An example of this tendency is illustrated in the following exemplar quotes, "It is your responsibility to be fair and honest with regard to your data," and "There's no specific guideline I can point to here; it's more of a general

understanding of ethics." Here individuals appear to be guided by their own preset values and remain uninfluenced by norms and guidelines, either due to ignorance regarding them or lack of explicit guidelines.

Thinking of Guidelines as Flexible and Idealistic

Three of the 22 excerpts featured interviewees thinking about guidelines as flexible and idealistic. Individuals responding in this fashion tend to think that guidelines are not concrete and hard-set rules, but rather idealistic responses to situations in a best-case scenario context. Some example responses include, "The hardhat rule is often not for safety, it's for social needs to let you know the roles of individuals on site," and "You're not going to make it very far in the real world if you can't find a way to cut a corner." These responses illustrate a tendency of individuals to assume they are above guidelines as they currently stand, and a tendency to disregard them.

Discussion

Before turning to the implications of the present study, several limitations should be noted. First, due to the participants' knowledge that they were participating in a study on ethical decision making, they may have perceived pressure to respond in a manner that portrayed them and their responses regarding ethical codes of conduct and professional guidelines in a positive light. However, given the neutral or negative framing of many responses, the effects of this issue are likely minimal.

Second, participants discussed prescribed scenarios designed to direct their thinking within an instrument of ethical decision making, rather than their own personal experiences dealing with codes of conduct or professional guidelines, which may have limited the range of situations they discussed regarding ethical codes. Because many responses dealt with codes of conduct or professional guidelines in a general light and not specific to the scenarios, however, it is likely that these themes represent the mindsets regarding guidelines typically present among research professionals in academia (e.g. not knowing the guidelines, not knowing if guidelines exist, knowing when to apply certain guidelines). Participants also often talked about their own experiences related to those identified in the ethical decision-making scenarios.

Findings

Despite the noted limitations, the present study provides some valuable insight into how researchers think about ethical codes of conduct and research guidelines. Thematic analysis of interview content revealed five general themes regarding researchers' use of professional norms and guidelines. These themes do not represent specific, mutually-exclusive approaches an individual may take when thinking about guidelines, but rather different perspectives regarding norms and guidelines. The first identified theme deals with the tendency for researchers to express ignorance regarding guidelines, which is congruent with findings by House & Seeman (2010). For example, they indicate their lack of awareness about the existence of such guidelines or their naivety when it comes to how and when to use them. Due to their lack of knowledge regarding professional guidelines, individuals

exhibiting this thought pattern are at higher risk for failing to adhere to norms, codes of conduct, and professional guidelines than those who have such knowledge. However, this risk may be reduced by the apparent self-awareness regarding their ignorance of guidelines. In actual ethical situations, this self-awareness might prompt individuals to seek out relevant field or organizational guidelines.

A second way researchers talked about ethical guidelines was with regard to their use under specific conditions. That is, individuals will use guidelines when they are clear and concrete, providing definitive courses of action and when consequences for not adhering to such guidelines are serious. Some ethical dilemmas are more serious in nature than others and therefore concrete guidelines surrounding behavior in such situations are made more salient by professional associations within a field and by research organizations. Researchers are often more aware of and adhere to these well-advertised guidelines because they know the harm that can potentially result from failing to adhere to them. However, these kinds of guidelines may overshadow guidelines for less serious kinds of unethical behavior, resulting in either a lack of guidelines or less emphasis on and circulation of such guidelines when they exist.

When individuals do not have clear-cut, concrete guidelines to consult, they will defer to professional norms within their field. Individuals operating with this mindset may minimize the importance of formal codes of conduct and professional guidelines in favor of social and cultural norms. Unwritten norms in a field may be deemed equally acceptable as official rules and guidelines, and thus represent a viable alternative to individuals confronted with ethically loaded situations when clear, formal rules are unavailable. However, this belief could lead to complications as what is considered socially acceptable by individuals of a common profession may not necessarily represent the best course of action. Additionally, this could be complicated by the variability of norms across disciplines (Anderson et al., 2007; House & Seeman, 2007), which carries an implicit inconsistency of what is considered appropriate.

A fourth theme identified revealed instances where individuals relied on their existing moral compasses and values when clear professional norms are absent, which is consistent with a finding by House and Seeman (2010) which indicated that individuals rationalize their decisions with phrases like "it just seems to be the right thing." The effectiveness of this tendency with regard to ethical behavior is presumably contingent upon the individual's moral standards. That is, how the individual decides to proceed with a course of action depends on his or her subjective view of what is right and what is wrong. As a result, such individuals may act in a way that would be incongruent with how the majority of professionals in their field would act in the same situation.

A fifth and final theme is the view that guidelines need not be taken seriously; i.e., they are merely guidelines and not rules. These individuals may view guidelines as flexible and able to be adjusted to fit their own biases and judgments. For example, these individuals may think that their own opinion of how something should be done supersedes the established norm or guidelines, such as having the notion that safety can be sacrificed for efficiency, despite what the rules dictate. On the other hand, it is certainly possible that some guidelines

are archaic and no longer represent the best course of action, and individuals who approach use of such guidelines with flexibility may, in fact, take a better, or more ethical, course of action.

Practical Implications

The findings flowing from this study have some interesting practical implications for ethical codes of conduct, professional norms, and professional guidelines. Professional societies and organizations need to find better ways of communicating guidelines and helping researchers use them appropriately. This can help be achieved in a number of ways. First, researchers can better utilize guidelines by being able to recognize ethical elements of situations. This basic tenet is in accordance with what Eriksson, Hoglund, and Helgesson (2008) referred to as an interpretation problem with applying the directives of ethical regulations in ethical situations. This problem posits that there is a gap between the rules and the practice they are intended to regulate. An individual must always interpret the rules appropriately to assess their applicability to a particular situation. Additionally, an individual must have an ethical foundation from which to base interpretations. A potential solution to this may be through an institutional ethics training program designed to instruct individuals how to recognize ethical situations and provide them with a framework with how to work through dilemmas to reach the best possible outcome.

Another way professional societies and organizations can better communicate guidelines and help researchers use them appropriately is by developing clearly worded guidelines and codes. Specifically, guidelines need to be written in such a way that they can be readily encoded. That is, heuristics should be created using short, clear definitions attached to explanations of importance. Some examples of current APA guidelines and proposed simplified heuristics are presented in Table 3. Utilizing heuristics rather than complex, overly detailed explanations of guidelines will allow individuals to readily retain ethical guideline information. Individuals will be more knowledgeable of guidelines when relevant situations arise. Thus, these individuals will be better equipped to handle situations calling for ethical decision making.

In the event that professional guidelines or formal codes of conduct do not exist, an awareness of professional norms needs to be encouraged. It is the responsibility of the organization or professional society to communicate to its members what is expected of them, even if it is done in an informal manner. This may best be done as part of the socialization process into the professional society or organization. For example, when an employee enters into an institution, he or she should be made aware of professional norms from a number of sources, including peers and leaders.

Finally, researchers can use guidelines and ethical codes more appropriately if they receive practice in or explicit guidance in understanding how to use guidelines and codes in decision making. This may be attained by implementing a practice section into the aforementioned ethics training program, specifically designed to give individuals the opportunity to practice interpreting and applying professional guidelines of their respective field. Additionally, this program could give them guidance in how to respond when clear, formal guidelines and codes do not exist. It is important for researchers to understand that they are guidelines, not

laws, but that in some cases guidelines may also be laws and it is important to recognize the difference.

Future Research

While the present effort provides useful implications with regard to codes of conduct and professional guidelines, further research can seek to determine the most effective strategies for developing such codes and guidelines. The solutions proposed above are purely exploratory at this point, and experimental studies may provide causal insight into whether short, clear, heuristic-based codes of conduct and professional guidelines influence subsequent ethical decision making. Furthermore, it may be interesting to examine whether individuals operating under heuristic codes better encode and adhere to guidelines than individuals operating under the more traditional, complex descriptions. Similarly, it is worth investigating the effectiveness of an ethics training program on communicating guidelines and norms and helping researchers to use them more appropriately. The research conducted in this study can be expanded upon by broadening the sample to include individuals who are not strictly researchers, such as applied professionals and corporate employees. Finally, future research efforts should seek to develop effective methods for increasing awareness about professional norms in order to give researchers a framework from which to act when guidelines and formal codes are absent.

Conclusion

The present effort sought to determine under what circumstances researchers adhere to ethical codes of conduct and professional guidelines, as well as determine the underlying reasons researchers have for not adhering to codes of conduct and professional guidelines. Thematic analysis of interviews with researchers in six disciplines of study revealed five primary themes regarding codes of conduct and professional guidelines: 1) expressing ignorance regarding guidelines, 2) use of ethical guidelines when a clear rule is available and consequences are substantial, 3) deference to professional norms over field-relevant ethical guidelines, 4) use of internal compass in absence of clear guidelines, and 5) thinking of guidelines as inflexible, idealistic, and representing a best-case scenario.

Additionally, we identified some implications of these findings for better communicating and applying extant codes of conduct and professional guidelines. For example, professional guidelines and codes of conduct may not be properly communicated to members of professional societies and organizations. Specifically, professional guidelines as they are currently constructed may be overly complex and written in excessive detail. A better approach is suggested, in which professional guidelines and codes of conduct are written in brief, clear descriptions so as to provide heuristics for researchers to easily encode and recall them when necessary. Additionally, an ethics training program can serve as a solution to the disconnect between an organization's guidelines and employees' ability to use them appropriately. Finally, we propose a socialization approach to communicating how and when to use professional norms as an appropriate replacement when formal guidelines and codes of conduct are not readily available or known. We hope that the present effort provides valuable insight into how researchers view codes of conduct and professional

guidelines, as well as provides an impetus for policy-makers to see the need to improve codes and guidelines so as to maximize their effectiveness.

Acknowledgments

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Table 1

Example Ethical Decision-Making Measure Scenario and Questions

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Livingston works in the College of Engineering of a big research university which develops modest power navigational radars that are commonly used by small marine vessels. The EPA's Radiation Protection Program has funded three of the College of Engineering research projects that examine ways to decrease exposure to microwave radiation by varying the rotation speed, wavelength, and other factors. These three projects were developed jointly with two other universities which work closely together to produce the final product. Livingston is the principal investigator for one of these projects

1   Livingston disagreed with the research protocol submitted with the initial proposal to the EPA's Radiation Protection Program, but went along with the other principle investigator's (PI) suggestions so they could meet the submission deadline. He believes that substantial revisions are needed to obtain more accurate data. The new protocol he suggests will address half of the originally proposed research questions and will enable a number of new questions to be examined. What action should Livingston take? Choose <u>two</u> from the following:

   a.   Inform the contract monitor that changes are needed and submit a request (M)

   b.   Implement the changes he believes are necessary for his project (L)

   c.   Meet with the PIs and the contract monitor to discuss changes that are needed (H)

   d.   Inform the other PIs that he is making changes to the protocol (L)

   e.   Inform the other PIs that changes are needed and meet with them to obtain consensus (M)

   f.   Develop a proposal with the PIs outlining needed changes and submit to the contract monitor (H)

   g.   Inform the contract monitor that he has implemented the changes (L)

   h.   Develop a proposal without input from the other PIs and submit to the contract monitor (M)

Note. Item responses are labeled to indicate whether they represent low-quality (L), medium-quality (M), or high-quality (H) responses to the ethical decision-making scenario. The quality designations are only presented on the measure key; they are not visible to participants.

Table 2

Ethical Guidelines Keywords

- Research guidelines
- Ethical guidelines
- Research practices
- Codes of conduct
- Ethical codes
- Code of ethics
- Protocol
- Standard
- Procedure
- Policy
- Policies
- Organizational rules
- Rule
- Rules
- Practices
- Conduct
- Canon
- Constitution
- Ethics
- System
- Law
- Bylaws
- Principles

Table 3

Proposed heuristics for current APA guidelines

Current APA Guideline	Proposed Simplified Heuristic
Before recording the voices or images of individuals to whom they provide services, psychologists obtain permission from all such persons or their legal representatives.(See also Standards 8.03, Informed Consent for Recording Voices and Images in Research; 8.05, Dispensing With Informed Consent for Research; and 8.07, Deception in Research.)	Obtain permission before recording; otherwise you cannot use it for research purposes.
Psychologists do not file or encourage the filing of ethics complaints that are made with reckless disregard for or willful ignorance of facts that would disprove the allegation.	Evaluate facts and evidence before filing.